

Department of Medicine

**2010 Annual Report**  
60th Anniversary Special Edition



University of British Columbia, Vancouver, Canada

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University of British Columbia  
Department of Medicine  
2010 Annual Report

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Professor and Eric W. Hamber Chair  
Head, UBC Department of Medicine  
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# MESSAGE FROM THE PRESIDENT AND VICE-CHANCELLOR



*Stephen J. Toope  
President and Vice-Chancellor  
The University of British Columbia*

The establishment of the Department of Medicine in 1950 was a particularly significant occurrence in the history of UBC, one that not only exemplified the university's aspiration to become a comprehensive medical-doctoral institution, but also its overall commitment to serving fundamental human needs both within and beyond provincial borders. Not surprisingly, the following 60 years of the department's growth and evolution were marked by countless examples of achievement, but none of greater overarching importance than the time-intensive acquisition of a critical mass of extraordinary human talent, by far the most precious asset within any leading academic entity. Today, the entire university community takes great pride in knowing that the calibre of human talent that resides in the UBC Department of Medicine is as fine as exists anywhere in the world, and it is this which is at the heart of the department's exemplary and noble service to three generations of Canadians.

While the 60th anniversary year was clearly worthy of acknowledgement, those on the front lines of medical training, research and clinical practise are keenly aware that we cannot afford to look backward too long. Indeed, the sustainability of quality health care amidst a burgeoning and aging population is at the top of our national worry list, hence no output of academia is more widely understood, or more relevant to the rank and file of citizenry. In this light, perhaps the most gratifying aspect of this momentous juncture is not so much what has been achieved in the past, but what we are positioned to contribute in the future. With an enviable stock of extraordinarily accomplished faculty, students and alumni, and 60 years of cumulative experience upon which to draw, UBC has much to offer in not only facing, but leading the response to fundamental human needs that have not changed since 1950, save for nearing an unprecedented level of acuteness.

At the same time, it seems clear that our future success in training medical practitioners and conducting leading edge research depends not solely upon those inside these walls, but also upon a much wider range of participants: political leaders, public administrators, the private sector, social agencies, non-profit organizations, donors, and indeed, the leadership team of this university. Our graduates must also be encouraged to contribute to the task before us, not only as practising physicians, but also by continuing research in their areas of interest, and by assisting in training ever increasing numbers of future students.

In the meantime, let us pause and proudly reflect upon six decades of achievement and service, but only momentarily, for the challenges that lay ahead are even greater than those behind.

# MESSAGE FROM THE DEAN



Gavin C.E. Stuart,  
MD, FRCS  
Vice Provost Health, UBC  
Dean, Faculty of Medicine

I would like to congratulate the Department of Medicine on completing its 60th year educating students, pursuing research and caring for patients.

Under the leadership of Dr. Graydon Meneilly, the Department has made tremendous strides in its development, distinguishing itself across a broad swath of the health care spectrum. With over 550 faculty members in 17 divisions, the Department has grown to meet the needs of Faculty of Medicine's growing and increasingly distributed enrolment. At the same time, it still managed to successfully compete for \$42 million in peer-reviewed funding.

It's not hard to find examples of the Department's research accomplishments in 2010, and impossible to mention them all here. Among the few that immediately spring to mind:

- The department's participation in the Alzheimer's Disease Neuroimaging Initiative, led by Assistant Professor and Vancouver Coastal Health neurologist Robin Hsiung. This ground-breaking study, funded by the U.S. National Institutes of Health, is recruiting hundreds of volunteers to define the subtle changes that take place in the brains of older people before overt symptoms of the condition appears.
- The department's ranking as No. 3 in the world by Science-Watch.com for research into chronic obstructive pulmonary disease, just behind Imperial College London and Harvard University. That ranking is due in part to the prolific work of two members of the Department, Professors Don Sin and Peter Pare.

- The awarding of "Junior Doctor of the Year" to Evan Wood, a Clinical Associate Professor, by the BMJ Group, publisher of the BMJ (British Medical Journal). Dr. Wood, Co-Director of the Urban Health Research Initiative at the BC Centre for Excellence in HIV/AIDS and former Chief Resident of the Department's Internal Medicine Residency Program, has made his mark by evaluating supervised injection facilities and influencing major revisions to HIV treatment guidelines.

Such recognition, however, is secondary to our ultimate measure of success – a healthier population. On that score, the Department's contributions are unmistakable. Even while educating and researching, its faculty members care for patients with a variety of conditions, including brain diseases, arthritis and AIDS, and in so doing, demonstrate the Faculty of Medicine's crucial role in improving the efficiency and sustainability of BC's health care system.

The six decades of teaching, research and service rendered by the Department have helped make the Faculty of Medicine what it is today. I am confident, based on what I've seen in 2010 alone, that the Department's contributions will only keep growing, and I eagerly anticipate their impact on our students, on the medical literature and the health of our population.

Sincerely,

A handwritten signature in black ink that reads "Gavin C.E. Stuart MD, FRCS".

Gavin C.E. Stuart, MD, FRCS  
Vice Provost Health, UBC  
Dean, Faculty of Medicine



Graydon S. Meneilly, MD, FRCPC, FACP  
Professor & Eric W. Hamber Chair  
Department of Medicine

It is my pleasure to present this special edition annual report, commemorating the 60th anniversary of the Department of Medicine at the University of British Columbia. The Department was founded in 1950 by Dr. Robert Kerr, the first Professor and Head of the UBC Department of Medicine. A major event in the Department's history was the establishment of the Eric W. Hamber Chair. Created in 1966 by Mrs. Eric W. Hamber as a memorial to her husband, the Honourable Eric W. Hamber, former lieutenant-governor of BC and UBC chancellor, the Chair is the first perpetually endowed and fully supported professorship or chair at UBC. It is a fitting memorial to the late Mr. Hamber, who gave the strongest support as Chancellor of the University to the founding of the UBC Faculty of Medicine. Dr. Robert Kerr was the first holder of the University's first fully endowed chair. Today the Department houses 513 clinical faculty and 116 academic faculty members distributed among several teaching hospitals and University sites throughout the Province, 17 divisions, and 365 postgraduate trainees and fellows in Core Internal Medicine and in the medical specialties and subspecialties. Members of the Department supervise over 175 graduate students through the Experimental Medicine Program. The Department remains the largest in the Faculty of Medicine and the largest single department at the University of British Columbia. This report highlights some of the outstanding work and achievements of our department members over the past year, and also takes a look back at the history of the Department and its divisions. We hope you will find it to be interesting and useful.

I would like to take this opportunity to thank Dr. Paul Man, Associate Head, UBC Department of Medicine and Chair, Department of Medicine at Providence Health Care, and Dr. Michael Barnett, Associate Head, UBC and VGH Department of Medicine, for all of their contributions. Dr. Man and Dr. Barnett are absolutely integral to the function of the Department and all of its strategic initiatives.

The Department holds regular external reviews of all divisions as a means of facilitating continuing divisional renewal and accountability. The following reviews were held in 2010:

- *Division of Geriatric Medicine, September 14, 2010*  
Reviewers: Dr. Michael Barnett, Clinical Professor and Head, UBC Division of Hematology and Associate Head, UBC Department of Medicine, and Dr. Daniel Tessier, Professor and former Head, Sherbrooke Geriatric University
- *Divisions of General Internal Medicine and Community Internal Medicine, October 25 – 26, 2010*  
Reviewers: Dr. Ehud Ur, Professor and Head, UBC Division of Endocrinology and Dr. Robert Herman, Professor of Medicine, Division of General Internal Medicine, University of Calgary.

- *Division of Respiratory Medicine, December 16 – 17, 2010*  
Reviewers: Dr. Jon Stoessel, Professor and Head, UBC Division of Neurology and Dr. Denis O'Donnell, Professor, Division of Respiratory & Critical Care Medicine, Queen's University

These divisions will work to integrate the recommendations of the reviewers into their strategic objectives.

Endowed chairs and Canada Research Chairs bring prestige not only to the department and institution, but also to the faculty member upon whom this honour is bestowed. These chairs also provide the financial support to attract the best and brightest of medicine's future generation. The UBC Department of Medicine has had phenomenal success in securing endowed chairs and Canada Research Chairs. An update from each of our chairs is included in this report. The Department's most recently appointed Canada Research Chair is Dr. Helen Tremlett, Associate Professor in the Division of Neurology, who was appointed a Tier 2 Canada Research Chair in Neuroepidemiology and Multiple Sclerosis. Dr. Tremlett will investigate the possible underlying factors driving the disease's progression – from genes to the environment – and whether it is affected by current MS drugs. The research will ultimately lead to an individualized approach to the treatment of MS.

The foundation of all activities in a Department of Medicine is exemplary patient care. Maintaining the highest quality of care has been challenging due to resource constraints but our members continue to surpass expectations for excellence in meeting the evolving needs of British Columbia's citizens. In the last year we have worked hard to implement an innovative lower mainland-wide program for COPD, continued to implement the regional stroke strategy and began to implement a region-wide program for thromboprophylaxis.

Once again the Department was extremely successful in attracting research support, receiving \$42,518,606 in peer reviewed grants and \$10,859,915 in non-peer reviewed grants. The number of high profile peer reviewed papers by members of the Department continues to increase. The Department published 1,100 peer reviewed papers in the last year in journals of the highest impact including the *New England Journal of Medicine*, the *Lancet*, *Annals of Internal Medicine*, the *Journal of the American Medical Association* and many others. These research contributions highlight the fact that many groups within the Department are among the best in the world in their area of expertise. The Department has also been successful in fundraising for research activities through the VGH & UBC Hospital Foundation and the St. Paul's Hospital Foundation.

In 2010, our faculty received 3 CIHR Salary Awards.

Recruitment and retention are a large part of our business. In 2010, we appointed 2 Assistant Professors, 1 Associate Professor, 6 Clinical Associate Professors, 38 Clinical Assistant Professors, 18 Clinical Instructors, 1 Adjunct Professor, 11 Associate Members, 3 Associate Members (External) and 3 faculty received Emeritus status. We promoted 32 faculty members and reappointed 4.

There were two changes in divisional leadership in the past year. Dr. Jon Stoessel was appointed Head, UBC Division of Neurology, as of October 1st, 2010. Dr. Stoessel is a Professor of Medicine, Canada Research Chair (Tier 1) in Parkinson's Disease, and Director of the Pacific Parkinson's Research Centre and National Parkinson Foundation Centre of Excellence. In 2007 he was named as a Member to the Order of Canada in the field of Health Care in recognition of a lifetime of distinguished service. He had been the Acting Head, Division of Neurology, since January 1st, 2009.

Dr. Peter Phillips was appointed Head, UBC Division of Infectious Diseases, effective October 1st, 2010. Dr. Phillips is renowned as an outstanding clinician, committed leader and talented teacher, and is well-known for his role as the Medical Director of the HIV/AIDS Unit at St. Paul's Hospital.

I would like to express a sincere thank you to Dr. Neil Reiner, who stepped down from his role as Head, Division of Infectious Diseases in 2010, for doing an outstanding job of leading the division during his appointment.

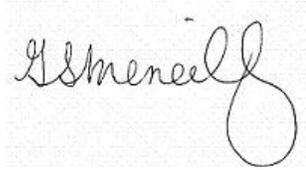
The Department is fully committed to excellence in teaching. Our undergraduate program was the first in North America to distribute the entire 4-year curriculum across three geographically distinct sites including the Island Medical Program, Northern Medical Program and the Vancouver Fraser Medical Program. A fourth site, the Southern Medical Program, will be added in 2011. Enrolment has more than doubled since we began using this unique model of distributed education in 2004. In the postgraduate realm, we have the second largest internal medicine training program in Canada. We continue to attract the highest quality trainees from around the country, and our program is becoming widely known for innovation in teaching quality improvement. In the subspecialty area we continue to have some of the best training programs in the country and attract high quality trainees from around the world.

Due to financial constraints, the Department made the difficult decision to discontinue the Continuing Medical Education Program in early 2010. I would like to thank Dr. John Mancini, Program Director and Ms. Kathy Standeven, Program Administrator for all of the hard work they have put into this outstanding program over the years.

As we look towards the future, the most significant challenge facing the Department continues to be the lack of a stable alternative funding plan to fund its academic mission. Despite this and other challenges, the future of academic medicine holds many great things. We are on the cusp of being able to apply the results of the human genome project to the bedside. The era of personalized medicine is upon us. The role of the internist will expand in the future due to increasing complexity of care of both inpatients and outpatients, and the use of information technology will transform our profession. Internists will have readily available to them fully integrated electronic medical records with decision support that will allow them seamless access to all of the information about their patients from all sources and allow them to provide state of the art evidence-based care at all times. The integrated use of hand-held ultrasound devices

will substantially enhance physical diagnosis skills at the bedside and allow us to do procedures which we used to do routinely but have passed on to other disciplines.

In closing I would like to take this opportunity to once again acknowledge the contributions of all faculty and staff and to thank them for their dedication and contributions to the success of the Department of Medicine.



Sincerely,  
Graydon S. Meneilly, MD, FRCPC, FACP  
Professor and Eric W. Hamber Chair  
Head, Department of Medicine

## CHAIR'S HIGHLIGHTS

The Department extends its warmest congratulations to these outstanding individuals who received the following Departmental faculty recognition awards: the Fay R. Dirks Awards for Excellence in Teaching were awarded to Dr. Iain McCormick (General Internal Medicine) and Dr. Charles Li (Hematology); the Martin M. Hoffman Awards for Excellence in Research were awarded to Dr. Nadia Khan (General Internal Medicine) and Dr. Jaime Guzman (Physical Medicine & Rehabilitation); the Donald M. Whitelaw Awards for Outstanding Grand Rounds were given to Dr. Dean Johnston (Neurology) and Dr. Larry Dian (Geriatric Medicine); the Master Teacher Awards were given to Dr. Mark Tyndall (Infectious Diseases) and Dr. Saul Isserow (Cardiology).

In addition, members of the department were recognized by the Faculty of Medicine and other bodies for their excellence in teaching and research. Some of the special honours and awards received by our members in 2010 are:

- Dr. Robert Brunham, Professor, Division of Infectious Diseases, received the Order of British Columbia
- Dr. Ken Gin, Clinical Professor & Head, Division of Cardiology, received the UBC Killam Teaching Prize
- Dr. Andrew Ignaszewski, Clinical Professor & Head, Division of Cardiology, received the Faculty of Medicine Award for Excellence in Clinical Teaching
- Dr. Barry Kassen, Clinical Professor & Head, Division of General Internal Medicine
- Faculty of Medicine Award for Career Excellence in Clinical Teaching
- Royal College of Physicians & Surgeons of Canada Prix d'excellence Award
- Dr. Julio Montaner, Professor & Head, Div. of AIDS
- Albert Einstein World Award of Science
- Prix Galien Canada Research Award
- Order of British Columbia
- Dr. Jim Spence, Clinical Assistant Professor, Division of Community Internal Medicine, received FoM Award for Excellence in Community Practice Teaching
- Dr. Keith Walley, Professor, Division of Critical Care Medicine, received the UBC Killam Research Prize
- Dr. Graham Wong, Clinical Associate Professor, Division of Cardiology, received the Faculty of Medicine Award for Excellence in Clinical Teaching
- Dr. Roger Wong, Clinical Professor, Division of Geriatric Medicine, was elected President, Canadian Geriatrics Society

# HEADS & DIRECTORS

## HEADS & DIRECTORS

### DEPARTMENT HEADS

Graydon S. Meneilly, MD, FRCPC, FACP  
Professor and Eric W. Hamber Chair  
Head, Department of Medicine, University of British Columbia  
Head, Department of Medicine, Vancouver Hospital

S. F. Paul Man, MD, FRCPC  
Chair, Department of Medicine  
Providence Health Care

### UBC ASSOCIATE HEADS

Dr. Michael Barnett, Associate Head of Medicine, Vancouver Acute  
Dr. S. F. Paul Man, Associate Head of Medicine, Providence Health Care  
Dr. Don Sin, Associate Head Research (until June 30, 2010)

### UBC DIVISION HEADS

#### AIDS

#### Allergy & Immunology

#### Cardiology

#### Community Internal Medicine

#### Critical Care Medicine

#### Endocrinology

#### Gastroenterology

#### General Internal Medicine

#### Geriatric Medicine

#### Hematology/Bone Marrow Transplantation

#### Infectious Diseases

#### Medical Oncology

#### Nephrology

#### Neurology

#### Physical Medicine & Rehabilitation

#### Respiratory Medicine

#### Rheumatology

Dr. Julio Montaner

Dr. Robert Schellenberg

Dr. Kenneth Gin Head, UBC Division of Cardiology at Vancouver Hospital

Dr. Andrew Ignaszewski Head, UBC Division of Cardiology at St. Paul's Hospital

Dr. Barry Kassen (Acting)

Dr. Najib Ayas

Dr. Ehud Ur

Dr. Eric Yoshida

Dr. Barry Kassen

Dr. Janet McElhaney

Dr. Michael Barnett

Dr. Neil Reiner *(until September 30, 2010)*

Dr. Peter Phillips *(effective October 1, 2010)*

Dr. Charles Blanche

Dr. David Landsberg (Acting)

Dr. Jon Stoessl

Dr. Andrea Townson

Dr. J. Mark FitzGerald

Dr. Kamran Shojania

### EDUCATIONAL PROGRAM DIRECTORS & ASSOCIATE DIRECTORS

#### Clinical Investigator Program

#### Continuing Medical Education Program

#### Graduate Studies Program in Experimental Medicine

#### HIV/AIDS Research Program

#### Postgraduate Education Program

Dr. Anita Palepu

Dr. G. B. John Mancini

Dr. Vince Duronio

Dr. Julio Montaner

Dr. J. Mark Roberts

#### Associate Directors:

Dr. Roger Wong

Dr. Parvathy Nair

Dr. Rose Hatala

Dr. Janet Kushner-Kow, Clerkship Director

#### Associate Directors:

Dr. Grant Stiver

Dr. Debbie Rosenbaum, 3rd year Discipline-Specific Site Leader, SPH

Dr. Jim Busser, Discipline-Specific Site Leader, VGH

Dr. Abeer Jamal, 4th year Clerkship Director

Dr. Joanna Law, Assessment Director

#### Undergraduate Education Program

## Quality Education

### Goal

*Undergraduate program - outpatient component*

**Develop an outpatient component as challenging, attractive, and beneficial as the inpatient CTU component, to fully round out the high quality of third year education in Internal Medicine.**

### Action

*a) Determine faculty members' availability for accepting a third year student on any half day per week, at least once per month, for at least a few months per year.*

*b) Schedule students to shadow faculty members in their clinics.*

*c) Create faculty and student orientation packages, including assessment and evaluation procedures.*

*Internal Medicine Resident Rotation Schedule*

**To release the Internal Medicine Resident rotation schedule earlier to benefit residents and facilitate scheduling external rotations in a more timely manner.**

*a) Move to a template schedule for in-house rotations only for PGY3s and PGY2s and then complete the elective requests for the 3s and 2s. With the PGY3 and PGY2 rotations complete, then create a full template schedule for incoming PGYs. The templates will enable us to move towards earlier notification to both residents and faculty of the scheduled rotation assignments for the upcoming year, and also alleviate the workload associated with the scheduling.*

*General Internal Medicine Training Sites*

**Ensure there are adequate GIM training sites to support our significantly increased resident population.**

*a) Meet with subspecialty physicians primarily in Victoria, but also in Kelowna and Royal Columbian to develop training sites for resident rotations.*

# Research Excellence

Goal	Action
<p><b><i>Institutional support</i></b></p> <p>The department will more effectively manage the processes of grant facilitation, assistance with grant submission, ethics facilitation and research budget management to provide adequate support to its faculty for their research activities.</p>	<p><i>a) Create a departmental research coordinator position to provide institutional support to faculty members with regards to grant facilitation, assistance with grant submission, ethics facilitation and research budget management, and to provide assistance to the Associate Head, Research.</i></p>
<p><b>Maximize protected time for research for junior faculty.</b></p>	<p><i>a) Continue to pursue a departmental Academic Alternative Funding Plan (AFP) so that a framework can be developed to protect the time of faculty members engaged in research.</i></p> <p><i>b) Coordinate strategies for maximizing protected time with the establishment and monitoring of career paths by the recruitment committee and the faculty member's mentor.</i></p>
<p><b>Identify areas of research focus.</b></p>	<p><i>a) Hold an external review of research efforts in the department to obtain insight on future directions.</i></p> <p><i>b) Create a strategic research advisory committee with clearly defined terms of reference to advise the departmental executive on priorities for the allocation of research resources in a given timeframe.</i></p>
<p><b>Encourage trainees to become clinician scientists and support trainees to become faculty members.</b></p>	<p><i>a) Develop a program to identify students and trainees who have excellent potential early in their career.</i></p> <p><i>b) Develop a longitudinal pathway to ensure their success and guarantee them support at the end of their training.</i></p>

# Outstanding Service

Goal	Action
<p><b><i>Commemorative Symposium – 60th Anniversary</i></b></p> <p><b>Organize a commemorative symposium event to honour the UBC Department of Medicine’s 60th anniversary.</b></p>	<p><i>Create a working group to brainstorm ideas, plan and organize this special event.</i></p>
<p><b><i>Staff Awards</i></b></p> <p><b>Create an awards program to recognize staff members in the department who consistently go above and beyond their regular work expectations to provide quality work, service, initiative/innovation, and teamwork.</b></p>	<p><i>Establish a working group to develop the program. The working group will meet over several weeks to discuss ideas and research staff award programs; decide on categories, plaques and amounts of financial prizes; and draft terms of reference and nomination forms for the awards. Once finalized and approved, the terms of reference and forms will be posted the departmental website, and a call for nominations for the first round of these awards will be sent out on behalf of the Department Head.</i></p>
<p><b><i>Academic Faculty Salary and Funding Plan</i></b></p> <p><b>Develop individual 5 year salary and funding plan for all Academic Faculty for the period April 1, 2009 to March 31, 2014.</b></p>	<p><i>Complete salary forecasting using information obtained from university financial and HR databases. Salary increases will be estimated at 5% per year and benefits will be estimated according to the percentage of benefits recorded on FMS for each faculty member. RPBs will be used for obtaining information on funding from external sources e.g. granting agencies. A summary of any potential funding shortfalls will be created for the Department Head’s review. Each division head will be informed about the potential funding shortfalls in their division. The Department Head, Division Heads and Finance Manager will develop resolutions to ensure that there will be sufficient funding for all academic salaries.</i></p>

# Outstanding Service

Goal	Action
<p><b>Recruitment</b></p> <p>Establish recruitments as a joint responsibility and undertaking of the department and the given division while enhancing the efficiency and timeliness of departmental recruitment processes and the efficiencies and effectiveness of the complex interactions between the department and the Dean's office.</p>	<p>a) Ensure that recruitments are undertaken within the framework of department and division human resources strategic plans.</p> <p>b) Ask divisions to share recruitment plans with the department executive.</p> <p>c) Establish realistic timelines for each recruitment.</p> <p>d) Establish a departmental recruitment committee to enhance overall coherence of recruitment activities.</p> <p>e) Fully utilize the HR recruitment process flow chart not only as a time audit tool but also as an educational tool for faculty and staff .</p> <p>f) Streamline AARPT processes.</p>
<p><b>Career paths</b></p> <p>Establish an explicit understanding between the recruit and the recruiter of the expected career path and methodology for gauging success, with written documentation at the time of appointment.</p>	<p>a) Delineate explicit career paths early in the recruitment process and implement monitoring processes to identify unsatisfactory performance in a timely manner and to assist the faculty member if necessary.</p> <p>b) Familiarize new faculty members with the expectations of research, educational and clinical career paths to provide context for an understanding of their own expectations.</p> <p>c) Ensure that the division head meets regularly with the new faculty member and that the mentor is fully aware of the planned career path and is involved as appropriate in discussions about progress and efforts to improve.</p> <p>d) Provide both a general framework and discipline specific guidelines.</p>
<p><b>Mentoring</b></p> <p>Modify the existing mentoring program to increase its effectiveness. A feasible mentoring plan will be developed for each new tenure track and grant tenure track recruit during the recruitment process. The plan will be specified in the appointment letter and in place prior to the first day of the new recruit's appointment.</p>	<p>Create a departmental mentoring committee and appoint a new program director to lead the committee in implementing the Task Force recommendations.</p>

# 2009 STRATEGIC INITIATIVES

## Progress Update

### Goal

**Enhance the quality and impact of teaching for undergraduate students.**

### Action

*Provide 2nd year medical students at VGH an opportunity to conduct a complete history and physical examination of an outpatient, to complement the high quality of 2nd year education in the Clinical Skills History and Physical Exam teaching sessions.*

*Create a challenging outpatient component to fully round out the high quality of 3rd year education in Internal Medicine. A quality outpatient clinic teaching model could be later instituted at expansion sites where existing limited ambulatory experience is currently challenged.*

### PROGRESS STATEMENT

*The scheduling breakdown of students assigned to 50% in-patients and 50% out-patients is dependent on out-patient availability and continues to be a work in progress. To-date, faculty, students and out-patients have provided positive feedback with this initiative. Effective January 2010, 50% of bedside teaching sessions at VGH were booked with Ambulatory patients at the Clinical Skills site located on the 2nd Floor of GLDHCC. The outpatient component is continuing in 2011.*

*Clinic mentors were hired and in place for September 2009 with program assistants at VGH and SPH in place by late November 2009. RCH added a 2 week ambulatory rotation in January, 2010. Each site has developed different approaches influenced by the infrastructure differences across the hospitals but with a unified educational objective. The two year pilot has been extended 1 additional year.*

**Expand educational enrichment opportunities, including international learning.**

*Establish a long-term sustainable partnership between the UBC Department of Medicine and the Donald Fraser Hospital in Limpopo Province, South Africa to provide training opportunities in international health to residents.*

### PROGRESS STATEMENT

*In December 2008, through the CEDAR Foundation, the department has received 5 years of funding which supports the travel and associated costs. Effective June 30, 2011 we have sent a total of 13 teams consisting of 31 Residents, 30 Faculty & 1 Nurse Practitioner to the Donald Fraser Hospital, Limpopo Province, South Africa. In July 2011 a retreat is being planned to discuss continued commitment and future planning for South Africa.*

# Research Excellence

## Goal

**Advance the research mission of the Department.**

## Action

*Create a Research Task Force.*

*Conduct a department-wide survey of all faculty members to gain insight on issues that inhibit research productivity.*

*Create working groups to address each issue and recommend actions to successfully resolve these issues.*

## PROGRESS STATEMENT

*A Research Task Force was created in the fall of 2008 to identify issues that inhibit research productivity, prioritize them, and move them forward over the next couple of years. The Task Force made a number of recommendations to the departmental executive and the Department continues to work on implementing these recommendations.*

**Set responsible, effective financial management practices for all research project grants in the Department.**

*Develop an internal research deficit policy in conjunction with UBC's Policy 90.*

## PROGRESS STATEMENT

*The final version of the research deficit policy was presented to and approved by the UBC Department of Medicine Executive committee in October 2009. It can be found online at [www.medicine.ubc.ca](http://www.medicine.ubc.ca).*

# Outstanding Service

## Goal

**Make the Department of Medicine “a great place to work” and be the place of choice for outstanding faculty and staff.**

## Action

*Ensure processes and supports are in place to recruit first choice applicants.*

*Provide faculty and staff with professional development opportunities.*

*Ensure that all academic and administrative department members have the training and support they require to be effective.*

## PROGRESS STATEMENT

*The Department has developed a faculty recruitment committee that reviews and approves all new academic positions prior to advertising.*

*New division heads and administrators attend orientation sessions to learn about university business practices.*

**Cultivate a healthy, inspiring workplace that promotes well-being, resilience and commitment.**

*Begin expanding the department’s multiple award-winning Health & Wellness Program to the divisional staff.*

## PROGRESS STATEMENT

*Staff members from the divisions were invited to sit on the Health & Wellness Committee and to share information about the program with the staff in their areas. Attendance at departmental Health & Wellness events has since doubled.*

**Provide effective, timely communications to our department members and external partners.**

*Update the annual report to give it a fresh, modern look and an easier to read format.*

## PROGRESS STATEMENT

*August 24, 2009 – hot off the press! The newly revised edition of the 2008 Annual Report was published and distributed. It’s a hit! The new look and updated contents have received nothing but positive feedback. Special thanks to Sabina Fitzsimmons for creating the document.*

## Goal

**Ensure economic sustainability of the Department by aligning resources with its vision and strategic plan and deploying them in a sustainable and effective manner.**

### PROGRESS STATEMENT

**Develop and move forward patient care initiatives through the Regional Medical Council.**

### PROGRESS STATEMENT

## Action

*Continue to pursue a departmental alternative funding plan.*

*Develop a five-year funding plan for all academic salaries in the Department.*

*Complete UBC Financial Certification Program.*

*The Division of General Internal Medicine and Dr. Graydon Meneilly continue to pursue an alternative funding plan for this division.*

*The five year funding plan for academic faculty salaries is being worked on by the departmental finance team.*

*The Department received financial certification from the University, enabling the finance team to directly process various payment documents (excluding honoraria), rather than submit them to UBC for processing. The impact of this is huge; turnaround times for payments have decreased from six weeks to just three days.*

*Enhance stroke care delivery and its alignment with Canadian best practices for stroke care by supporting the regional stroke strategy.*

*Develop a systems approach to improving COPD management across the lower mainland.*

*The Department of Medicine continues to support the development of these initiatives through the RMC.*

# LEADERSHIP HISTORY



**Dr. Robert Bews Kerr**  
**July 1, 1950 – June 30, 1974**

A native of Hamilton, Ontario, Dr. Kerr obtained his MD from the University of Toronto in 1933. He did his internal medicine training in Toronto and London, UK, where he undertook fundamental research in diabetes with Sir Charles Best and Sir Harold Hinsworth. Dr. Kerr was in the Royal Canadian Army Medical Corps from 1940-1945 during World War II. He was made lieutenant-colonel and spent 4 years in Europe, where he was made an Officer of the Order of the British Empire in 1945 for his services. The citation particularly noted that he cared for 430 diphtheria cases in Belgium and managed to save all but one life. After serving overseas in World War II, he returned to the University of Toronto, where he was Head, Department of Therapeutics from 1947 to 1950. In 1950 he moved to Vancouver and became the founding head of the Department of Medicine at the University of British Columbia. He was a role-model as a teacher and a clinician to UBC medical students from 1950 to 1974. He was named the Eric W. Hamber Professor of Medicine in January, 1967, the first holder of the University's first fully endowed chair.

Dr. Kerr served on the council of the Royal College of Physicians and Surgeons from 1961 to 1970 and was the President of the College from 1966 to 1968. He also served on the Medical Council of Canada from 1951 to 1972. As chairman of the qualifications committee from 1965 to 1967 and later as President in 1968, he helped the Council develop a new examination system to cope with the influx of physicians wanting Council qualifications. He was honored with the title of Master of the American College of Physicians and Surgeons in 1968. Among his many achievements, he improved the relationships between the internists in Canada and the United States.

From 1951 to 1974 Dr. Kerr was on the medical advisory committee of the British Columbia Tuberculosis Association. He also sat on the research grant committee of the Canadian Tuberculosis and Respiratory Disease Association. His areas of interest are Internal Medicine and Diabetes Mellitus.

In 1974, he stepped down as Head of the UBC Department of Medicine, retired, and became a Professor Emeritus on September 12, 1974. During his retirement he became a historian of the medical profession.

As one of the founding members of the UBC Faculty of Medicine, Dr. Kerr's vision will continue to have a lasting impact on the future of medical education at the University of British Columbia.

**Dr. E. Douglas Wigle**  
**January 1, 1974 – June 31, 1974**

(No photo available)

Dr. Wigle joined the University of British Columbia in 1974 as the Eric W. Hamber Chair of the UBC Department of Medicine and a member of the Division of Cardiology. After a short 7-month term he stepped down from this role and returned to the University of Toronto, where he became Director of the Division of Cardiology at Toronto General Hospital, until he stepped down in 1986. Dr. Wigle is a renowned leader, described by some of his colleagues as one of the "fathers of modern cardiology". In 2007 Dr. Wigle was appointed to the Order of Canada. He is currently an Emeritus Professor in the Division of Cardiology, Department of Medicine at the University of Toronto.

**Dr. R. W. Lauener**  
**October 1, 1974 – June 30, 1976**  
**(acting)**

(No photo available)

A native of Trail, British Columbia, Dr. Lauener obtained his MD from the University of British Columbia in 1956. He received a Schering Medical Research Fellowship in 1960 and became a fellow in 1961. The following year he was appointed as a faculty member in the Department of Medicine, and was promoted to Professor in 1981.

His many administrative roles include Acting Head, Department of Medicine from July 1, 1974 to June 30, 1976; Deputy Head, VGH Department of Medicine from November 6, 1980 to November 5, 1983; Associate Dean, Undergraduate Medical Education from March 1, 1973 to June 30, 1994; and Acting Head, Division of Internal Medicine from March 1, 1990 to June 30, 1995.

Held in the highest esteem as an excellent internist, Dr. Lauener's areas of interest include General Internal Medicine, Endocrinology and Acute Care, with particular interest in thyroid disease, calcium metabolism and renal disease.

An outstanding teacher, he received the Best Teacher Award as selected by the VGH House Staff for six consecutive years. He received the Killam Teaching Award from the Faculty of Medicine in 1992.

The Faculty of Medicine now offers a Roland W. Lauener Scholarship for 3rd year medical students with outstanding performance in internal medicine and excellent communication skills. In addition, the Lauener Room at VGH was named in his honour.



**Dr. John H. Dirks**  
**July 1, 1976 – June 30, 1987**

Dr. Dirks received his BSc (Med), MD from the University of Manitoba in 1957, a Fellowship in Medicine in 1963 from the Royal College of Physicians and is a Fellow of The Royal Society of Canada (1982). He trained in nephrology research at the NIH in 1963-1965, was an MRC Canada grantee from 1965-1987 for his work in renal pathophysiology and has published 155 peer-reviewed papers. He has held a number of major Professorships at McGill University, UBC, and the University of Toronto, and has held major academic administrative positions as Director of Nephrology at McGill (1965-1976), Head Department of Medicine at UBC (1976-1987), Dean of Medicine University of Toronto (1987-1991) and Dean-Rector of Aga Khan University in Pakistan (1994-1996). He Chaired the International Society of Nephrology Commission for the Global Advancement of Nephrology (COMGAN) from 1994 to 2005. A major educational-clinical outreach program in over 100 countries, ISN COMGAN sponsors 50 - 55 post-graduate programs each year, attended by over 15,000 physicians worldwide. A major mission of ISN to prevent chronic kidney disease has been launched and is now a major educational research endeavour with major regional meetings and linkages to numerous international agencies.

Since 1993 he has been President of the Gairdner Foundation in Toronto, which awards major international prizes in biomedicine. He had previously been on the MAB (1983 - 1993). During the last 15 years the GA have received increasing international recognition. The MAB become a more national and international board. He began annual fundraising and sponsorships in 1997 to support the growing National Program, now nation wide. Special events were the 1999 40th Anniversary and the 2002 Genome Year. He initiated the High School Lectures in 1999.

In 2005 Dr. Dirks was awarded the NFK International Medal by the National Kidney Foundation (USA) and the Roscoe Robinson Award by the International Society of Nephrology for his contribution to nephrology education. He was appointed to the Order of Canada in 2006.

Dr. Dirks received an Honorary Doctorate of Science from the University of Manitoba in May 2009 and a Biomedical Science Ambassador Award Honoree from Partners in Research and the Banting Research Foundation. In February 2010, the Biotechnology Initiative will honour Dr. Dirks with a TBI Lifetime Achievement Award.

In 1988 the John H. Dirks Prize was established by the UBC Department of Medicine to honor Dr. John H. Dirks. The prize is awarded for the best basic science presentation at the Resident Research Day for the UBC Department of Medicine.

**Dr. Andrew Eisen**  
**July 1, 1987 – September 30, 1991**  
**(acting)**

(No photo available)

Dr. Eisen joined the University of British Columbia in 1980 as a Professor in the Department of Medicine, Division of Neurology. He was also Director of the Neuromuscular Disease Unit and the ALS Clinic at Vancouver General Hospital. In 1987 he became Acting Head, UBC Department of Medicine for a 4 year period. In 1996 he became the VGH Division Head of Neurology.

His area of interest is amyotrophic lateral sclerosis (ALS); it has fascinated him for over 40 years.

His research has earned him the prestigious 1999 Forbes Norris award, an international recognition sponsored by the Motor Neuron Disease/ALS Association of England and Wales. In 1998 he was also named a distinguished researcher by the American Association of Electro diagnostic Medicine and was the recipient of the Distinguished Medical Research Lecture at UBC. He is currently Emeritus Professor UBC Department of Medicine, Division of Neurology.



**Dr. Charles Kerr**  
**September 16, 1991 –**  
**December 31, 1991**  
**(acting)**

Dr. Charles Kerr received his MD from the University of British Columbia. After completing training in research and clinical cardiac electrophysiology at Duke University Medical Centre, Durham, NC, Dr. Kerr joined the University of British Columbia in 1981 as Assistant Professor in the Department of Medicine, Division of Cardiology. He was promoted to Associate Professor in 1986 and Professor in 1991. On June 1, 1988 he was appointed Head, Division of Cardiology and on January 1, 1997 he was appointed Heart and Stroke Foundation Chair in Cardiology until December 31, 2003. During this time he was an outstanding leader and mentor and made significant contributions to the division's growth. Dr. Kerr, son of founding Department Head Dr. Robert Kerr, took on the role of Acting Head, UBC Department of Medicine from September to December 1991.

Dr. Kerr's area of special research and clinical interest is cardiac electrophysiology. He has also made significant contributions to the development and implementation of the Introduction to Cardiovascular Clinical Skills (INDE) 410 course, through faculty recruitment and superb teaching.

After his tenure as UBC Head of Cardiology in 2003, he became heavily involved with the Canadian Cardiovascular Society and served as its President from 2008-2010. He chairs the Provincial Advisory Panel on Cardiac Health.



**Dr. G.B. John Mancini**  
**January 1, 1992 – June 30, 2002**

Dr. G.B. John Mancini is a tenured Professor of Medicine at the University of British Columbia and directs an imaging-based research program (Cardiovascular Imaging Research Core Laboratory, CIRCL) that includes facilities for quantitative coronary angiography, ultrasound analysis (coronaries, carotids and brachial artery for atherosclerosis and endothelial function assessments) and cardiac computed tomography analysis. Dr. Mancini remains in active practice as a staff physician in the Vancouver Hospital Cardiology Outpatient Clinic and the Cardiac Computed Tomography Program as well as the St. Paul's Hospital Healthy Heart Prevention Program/Lipid Clinic.

Dr. Mancini received his MD degree from the University of Toronto, completed his residency at Toronto General Hospital and was a Cardiology and Research Fellow at the University of California at San Diego. After a year in the rank of Clinical Assistant Professor at U.C. San Diego, he joined the faculty of the University of Michigan, where he became the Chief of the V.A. Section of Cardiology in 1987. He became Chair of Medicine at the University of British Columbia, 1992-2002. He is a Fellow of the American College of Cardiology, Governor of the American College of Cardiology (British Columbia) and a member of the Circulation Council of the American Heart Association; he is also a member of numerous other professional associations in the United States and Canada. Dr. Mancini is the Past President of the Canadian Society for Clinical Investigation. He has published approximately over two hundred and fifty journal articles, abstracts, books and book chapters. He serves as a reviewer for many journals and is currently a member of the editorial boards of the American Journal of Cardiology, the Canadian Journal of Cardiology, and the International Journal of Cardiac Imaging.

Dr. Mancini is currently Coordinating Investigator for the Cardiovascular Imaging Research Core Laboratory for numerous multi-centered trials. His areas of special interest include digital angiography, quantitative coronary angiography, quantitative intravascular ultrasound, quantitative carotid ultrasound, cardiac computed tomography, coronary flow reserve, endothelial dysfunction, and regression of atherosclerosis.

During his two five-year terms as Chair, Dr. Mancini transformed the UBC Department of Medicine. He recruited many outstanding division heads and faculty members. He expanded and enhanced the educational programs. He created the Division of General Internal Medicine, and completely reorganized the CTU system to improve the educational experience for trainees. He created a Continuing Medical Education Program to provide high level education programs, attracting physicians from across North America. The Academic Enhancement Fund was developed and nurtured by Dr. Mancini, and funds were allocated each year to support junior researchers in the Department. One of his major areas of focus was to recognize our excellence and he did so by creating resident achievement awards, departmental scholar awards and the Kudos reports. Even in times of budgetary constraints, John was able to foster the development of research and continue to increase annual funding. He aided in the development of the Experimental Medicine Program and expanded and enhanced Resident Research Day. John and his administrative team completely streamlined and reorganized the departmental administrative structure.



**Dr. Graydon S. Meneilly**  
2002 – present

Dr. Meneilly is the current Eric W. Hamber Chair and Head of the UBC Department of Medicine. Dr. Meneilly received his MD from the University of Saskatchewan and went on to internship at the Royal Jubilee Hospital in Victoria and to a medical residency in Toronto. This was followed by two years as a Research and Clinical Fellow at the Beth Israel Hospital and Harvard Medical School. He was an Instructor in Medicine and a physician at the Beth Israel Hospital and Harvard Medical School, and the Gerontology Division of the Brigham & Women's and Beth Israel Hospitals from 1985 to 1988, and was Director of the Geriatric Consultation Service from 1986 to 1988. He joined the faculty of the University of British Columbia as an Assistant Professor in 1988. In 1998 he was promoted to Professor of Medicine.

Dr. Meneilly has held peer-review funding from national and provincial research agencies from the time of his initial academic appointment and has a wide reputation in studies of diabetes and carbohydrate metabolism in the elderly. He has over 100 peer-reviewed publications, has spoken and written widely in his areas of expertise, and has supervised many residents and graduate students. He has been active in hospital service leadership as Director of Geriatric Services in a variety of settings and most recently as Medical Director, Medical Services, Vancouver Acute.

Dr. Meneilly was Head of the Division of Geriatric Medicine at UBC and VGH from 1998 to 2002. He was the Associate Head of the UBC Department of Medicine from 1994 to 2002. On July 1, 2002 he was appointed Eric W. Hamber Chair of the UBC Department of Medicine.

As Chair he has provided outstanding leadership to the Department during some difficult times. He has been in-

novative and made timely decisions that have been well communicated and effective. He is thoughtful, dedicated, enthusiastic and a credit to the University. During his first term as department head, the department faced many challenges including budget cuts and the medical school expansion. The department's undergraduate and postgraduate programs have tripled in size, and are now distributed throughout the province. Dr. Meneilly fostered the development of the departmental Clinical Educator Program, to integrate promising medical students, residents and fellows into an academic environment that sustains and nurtures academic interests. He appointed the department's first Associate Head Research, Dr. Doris Doudet, in 2004. He has recruited a number of exceptional division heads and faculty members. Dr. Meneilly recognized the need for an Alternative Funding Plan and has made this a top priority. He prepared a plan to institute an AFP beginning with the General Internal Medicine division, and continues to work with GIM on implementing the framework. He supported the creation and development of the department's three-time award winning Health and Wellness Program. He successfully negotiated space for the Department's administration office in the new Gordon and Leslie Diamond Health Care Centre at VGH, to which the office moved in 2006. That year the Department also underwent an external review, receiving an exceptionally positive outcome report from the review team. In the first half of his second term Dr. Meneilly has developed the Academic Guidelines for Full Time Faculty; created a Research Task Force to look at implementing new and innovative ways of advancing the department's research mission; and created an Education Task Force to look at current programs and future directions for educational research and education in the department.

In 2002 Dr. Meneilly was elected to the Canadian Academy of Health Sciences. He has been a member of the Canadian Association of Professors of Medicine since 2002, and was President from 2008 – 2009. In 2008 Dr. Meneilly became a Fellow of the American College of Physicians, and in 2010 he became Governor-Elect of the ACP-BC Chapter.

He brings broad perspectives of personal achievement in clinical investigation, an intense commitment to resident and student education, and innovative concepts of health service delivery across communities throughout the province. Dr. Meneilly is a true leader, with great vision and one who has the trust of the department, faculty and hospital administration that enables him to lead this Department successfully.

*Celebrating 60 Years*



**U B C D E P A R T M E N T O F M E D I C I N E**  
**A HISTORICAL JOURNEY**



# INTRODUCTION

The UBC Faculty of Medicine was founded in 1950 and is an internationally recognized innovator in medical education. It has the largest program of undergraduate medical education in Canada and is one of the largest and most varied postgraduate education programs in Canada.

The Department would like to thank all divisions for their contributions. We hope you enjoy the read and “stepping back in time”.

The UBC Faculty of Medicine consists of 19 departments. The Department of Medicine is the largest department in the Faculty of Medicine and is comprised of 17 divisions:

- **AIDS**
- **Allergy & Immunology**
- **Cardiology**
- **Community Internal Medicine**
- **Critical Care**
- **Endocrinology**
- **Gastroenterology**
- **General Internal Medicine**
- **Geriatric Medicine**
- **Hematology**
- **Infectious Disease**
- **Medical Oncology**
- **Nephrology**
- **Neurology**
- **Physical Medicine & Rehabilitation**
- **Respiratory Medicine**
- **Rheumatology**

2010 marked the 60th anniversary of the Department of Medicine. In honour of this milestone, we invited all of our 17 divisions to submit a historical report on their divisions based on the following:

- The year the division commenced and where the division was originally located
- Names of heads and their terms
- Historical facts
- Milestones and significant clinical and research achievements
- Historical photos

# DIVISION OF AIDS

Division of AIDS-Historical Report  
Julio S. G. Montaner, MD, FRCPC  
Professor & Head

## WHAT IS HIV/AIDS?

**H**IV-the Human Immunodeficiency Virus-is a retrovirus that attacks the immune system, resulting in a chronic, progressive illness that leaves people vulnerable to opportunistic infections and cancers. These severe and late complications of HIV infection are collectively known as the Acquired Immunodeficiency Syndrome (AIDS). On average, it takes more than 10 years to progress from initial HIV infection to AIDS.

More recently, it has become clear that even at very early stages HIV infection activates a systemic inflammatory response. Over time, this leads to endothelial dysfunction, and ultimately end organ failure. The latter is manifested by high rates of cardiovascular disease, accelerated atherosclerosis, as well as organ dysfunction, most commonly involving the kidneys, the liver, and the brain.

If untreated, AIDS is a deadly disease. According to the Joint United Nations HIV/AIDS Programme (UNAIDS), there are over 33 million people living with HIV/AIDS worldwide and there have been more than 25 million AIDS-related deaths around the world. Currently there is neither a cure nor a preventive vaccine for HIV/AIDS.

In order to be infected, the virus must enter a person's bloodstream (HIV cannot survive outside the body). HIV is transmitted from one person to another through:

- unprotected sex (vaginal, anal or oral)
- shared needles or equipment for injecting drugs
- unsterilized needles (i.e., tattooing, skin piercing or acupuncture)
- pregnancy, delivery and breast feeding (i.e., from an HIV-infected mother to her infant)
- accidental exposure (i.e., occupational exposure in health care settings)

Despite the fact that HIV infection is largely preventable, thousands of new infections occur each year. The Public Health Agency of Canada estimates that over 60,000 people in Canada are living with HIV infection and that over 6,000 new infections are diagnosed every year. Of great concern, an estimated 25% of HIV infected individuals are unaware of their infection and thus they cannot effectively protect themselves (i.e., access treatment in a timely fashion) or protect others (i.e., adhering to appropriate precautions).

Highly active antiretroviral therapy (HAART) was first described in 1996 at the Vancouver International AIDS Conference. Two independent international trials first demonstrated the impact of these distinct novel triple drug combination approaches, one led by Dr. Julio Montaner from UBC/St. Paul's Hospital, and the other by Dr. Roy Gulick from Cornell University/NYC. As a result, HAART was rapidly implemented in BC and within a year, AIDS deaths in BC had declined by greater than 80% among HIV infected individuals engaged in appropriate medical care. Over the following decade, our group focused on the development of better, safer and more effective HAART regimens. We also initiated several efforts to enhance access to HAART by hard to reach populations, including injection drug users. Finally, we became interested in the potential secondary benefits of HAART including, in particular, the ability of HAART to decrease HIV transmission. The latter led us to conceive a novel new approach to the control of HIV/AIDS based on the expansion of HAART coverage, known as Treatment as Prevention. This is currently being piloted in BC under the auspices of the Provincial Government and the NIH-based National Institute for Drug Abuse (NIDA), and with partial funding from Merck, Gilead and ViiV Healthcare.

## HIV IN BC

The B.C. Centre for Excellence in HIV/AIDS (BC-CfE) is Canada's largest HIV/AIDS research and treatment facility and a key provincial resource, serving all health authorities, regions and citizens of BC. Founded in 1992 by St. Paul's Hospital and the provincial Ministry of Health, the BC-CfE strives to:

- improve the health of British Columbians with HIV through the development, ongoing monitoring, and dissemination of comprehensive research and treatment programs for HIV and related diseases;
- develop rational and cost-effective research and therapeutic protocols and programs for the treatment of HIV and related diseases;
- provide educational support programs to health care professionals; and
- monitor the impact of HIV/AIDS on British Columbia and conduct analyses of the effectiveness of programs for investigating and treating HIV and related diseases.

In BC, all anti-HIV medications are distributed at no cost to eligible HIV-infected individuals through the BC-CfE's Drug Treatment Program. An estimated 11,000 British Columbians are HIV infected, with close to 400 new cases diagnosed each year. As well, more than 3,200 cases of AIDS have been reported in the province, a third of whom currently live with the disease.

Antiretroviral medication is prescribed according to specific guidelines generated by the BC-CfE's Therapeutic Guidelines Committee.

The BC-CfE Therapeutic Guidelines provide recommendations for the best practices for treating HIV disease. The guidelines are the basis of treatment strategies, the results of which are constantly monitored by studying clinical and virological outcomes of all treated HIV patients in the province. These outcome studies contribute to the findings, which then generate further revisions to the guidelines.

Over 12,000 persons have ever received and 6,000 persons are receiving medications from the Drug Treatment Program at the BC-CfE. The BC-CfE works closely with health authorities to develop, monitor, implement and evaluate HIV/AIDS care plans.

In 2007, UBC created the first Canadian academic Division of AIDS within the Department of Medicine. This recognizes the high academic standing of the BC-CfE, and UBC's commitment to the longterm sustainability of our HIV/AIDS academic endeavors.

## MILESTONES

- |      |   |         |  |
|------|---|---------|--|
| 1986 | John Ruedy Immunodeficiency Clinic (IDC) opens as a specialty clinic for HIV infected patients.   | 2000    | The BC-CfE first to use therapeutic drug monitoring of antiretroviral drugs for HIV infection in Canada.   |
| 1992 | The BC-CfE develops provincial HIV/AIDS Treatment Guidelines, reviewed and updated quarterly.   | 2003    | IDC expands as a comprehensive primary and specialty clinic for HIV-infected patients.   |
| 1996 | Highly active antiretroviral therapy (HAART) first described in 1996 at the Vancouver International AIDS Conference. Two independent international trials first demonstrate the impact of two distinct HAART approaches, one led by Dr. J Montaner from UBC/St. Paul's Hospital, and the other by Dr. R Gulick from Cornell University/NYC. | 2003    | The BC-CfE initiates the scientific evaluation of the first North American Supervised Injecting Facility in Vancouver Downtown Eastside. Since then the research team has generated over 30 peer-reviewed papers demonstrating the effectiveness of this approach.   |
| 1996 | BC becomes the first Canadian province to adopt viral load monitoring and triple drug therapy for all eligible patients in a publicly funded plan and immediately sees dramatically reduced HIV/AIDS related morbidity and mortality.   | 2005    | The BC-CfE pioneers the use of combination TMC114 (darunavir/rvtv) and TMC125 (etravirine) as backbone for salvage therapy. This rapidly becomes the new standard of care in this setting, as a life saving treatment option for patients who exhausted all conventional options of antiretroviral therapy due to MDR-HIV. |
| 1996 | BC-CfE research findings reveal an explosive outbreak of HIV and hepatitis C in injection drug users (IDU) in Vancouver's Downtown Eastside (DTES). Long term IDU cohorts established by the BC-CfE in the DTES.  | 2006    | BC-CfE publishes a landmark paper on "The case for expanding access to highly active antiretroviral therapy to curb the growth of the epidemic" (Lancet 2006; 368: 531-36).  |
| 1997 | Multiple Drug Rescue Therapy is initially developed and adopted at the BC-CfE for patients failing conventional therapies due to MDR-HIV.   | 2008-10 | Dr Montaner becomes the President of the International AIDS Society, and presides over the International AIDS Conferences in Cape Town (2009) and Vienna (2010).   |
| 1998 | The BC-CfE first to use drug resistance monitoring in Canada.   | 2008    | BC-CfE's proposed expanded access to highly active antiretroviral therapy to curb the growth of the HIV epidemic is endorsed by former Special Envoy to UNAIDS Stephen Lewis, President Bill Clinton and The Economist.  |
|      |   | 2008    | Dr. Montaner receives an inaugural Avant Garde Award (\$2.5 million over 5 years) from the National Institute on Drug Abuse (NIDA) in the USA to support further development of the proposed expanded access to antiretroviral therapy to curb the growth of the HIV epidemic, also known as "STOP HIV/AIDS".              |
|      |   | 2009    | The BC-CfE develops the notion of Community Viral Load as a driver of HIV transmission.  |
|      |   | 2009    | BC-CfE publishes landmark paper in BMJ demonstrating that HAART can protect against HIV transmission among IDU.  |

- |      |   |      |  |
|------|---|------|--|
| 2009 | Premier Gordon Campbell commits to support The STOP HIV/AIDS as a pilot project to expand access to HIV/AIDS drugs to the street-involved population in Vancouver's downtown eastside and Prince George.              | 1990 | 1990 – 1992 Dr. Donald Stark – President of the Canadian Society of Allergy and Clinical Immunology  |
| 2009 | NIDA announces a total commitment of US\$110 Million to support several RFP on Treatment as Prevention (TasP) over 5 years.   | 1992 | No specific training program available, faculty members have accommodated residents requesting a two-month rotation in Allergy & Clinical Immunology – 3 fellows trained under the supervision of Dr. R. Schellenberg  |
| 2010 | Kevin Falcon, BC-Minister of Health, announces \$48 Million over 4 years to support STOP HIV/AIDS pilots.   |      | Dr. Schellenberg's research to define the mechanisms of airway hyper responsiveness, a major feature of asthma – has provided the first direct evidence that asthmatic smooth muscle shortens more than non-asthmatics with additional evidence suggesting this may be due to alterations in extracellular matrix components within airway walls |
| 2010 | Michel Sidibé endorses Treatment as Prevention (TasP) as proposed by the BC-CfE. TasP becomes a pillar of the UNAIDS strategy for the global control of HIV/AIDS, as part of the Treatment 2.0 initiative.            | 1993 | Outreach Clinical Services Developed in Prince George and Sechelt by Dr. Donald Stark  |
| 2010 | The International Centre for Science in Drug Policy (ICSDP) at the BC-CfE launches the Vienna Declaration (VD) calling for decriminalization of drug use. VD is formally endorsed by Victoria, Toronto and Vancouver. |      | Dr. M.A.J. Mandl – President of BC Society of Allergy  |
| 2010 | BC-CfE publishes a landmark paper in the Lancet demonstrating the correlation between expanded HAART coverage, decreased community viral load and decreased HIV transmission in BC over 15 years.                     | 1994 | Dr. Stark organized a special conference on latex allergy and it's concerns with health care workers involving HPB and the Royal College in Toronto in September   |
| 2011 | BC-CfE publishes a landmark paper in the Lancet demonstrating dramatic decrease in mortality among IDUs in the DTES following the opening of the Supervised Injection Site.   | 1995 | Developed a charitable foundation and initiation of an official Canadian Society of Allergy and Clinical Immunology Journal  |

## DIVISION OF ALLERGY & IMMUNOLOGY

- |       |  |      |  |
|-------|--|------|--|
| 1970s | VGH Division established by Dr. J. Desmond Horan<br>St. Paul's Hospital Division established by Dr. Michael Mandl  | 1996 | New Penicillin allergy testing service now provide at both Vancouver Hospital and St. Paul's Hospital  |
| 1985  | Dr. R. Schellenberg, Dr. J. Horan, Dr. M. Mandl, Dr. K. Tse, Dr. D. Stark and Dr. H. Wong Department of Medicine members recognized for their area of interest in Allergy and Immunology | 1997 | Dr. Mandl has established a mobile outreach program to education patients on asthma using nurse educators in conjunction with pharmacies around the province |
| 1986  | Division of Allergy and Immunology approved by the UBC Board of Governors between 1986 -1992 and Dr. Robert Schellenberg appointed Head UBC Division of Allergy and Immunology           | 1998 | International Conference organized by Dr. Mary Stephenson "Advances in Reproductive Immunology"  |
| 1988  | 1988 – 1992 Dr. M.A.J. Mandl – President of the BC Society of Allergy and Immunology   | 1999 | Dr. George Wong organized CME activities in community hospital programs  |
|       |  | 1998 | Dr. M. Mandl awarded one of three grants from the Health Transition Fund Education Initiative  |
|       |  | 1999 | Dr. Schellenberg received the Canadian Society of Allergy & Clinical Immunology Research Award   |

## DIVISION OF CARDIOLOGY

In the early years Cardiology was mostly practiced and taught by Internal Medicine Specialists, and Divisions of Cardiology began to appear long before the Royal College of Physicians and Surgeons recognized Cardiology as a specialty in the mid-1970's.

When Divisions of Cardiology began to be established and during their evolution, hospital affiliations underwent many changes that affected the overall division: Vancouver General Hospital, St. Paul's Hospital, Shaughnessy Hospital (also known as Shaughnessy Military Hospital) , and UBC Hospital were all administratively separate. University Hospital came into existence in 1988 as a merger took place between Shaughnessy Hospital, UBC Health Sciences Centre and the George Derby Centre in Burnaby (a rehabilitation Centre for young disabled veterans returning from the war) .

This partnership would dissolve in 1993 with the closure of the Shaughnessy site and subsequent merger of the UBC Hospital with Vancouver General Hospital to create the Vancouver Hospital and Health Sciences Centre. In 1995 the GF Strong Rehab Centre and George Pearson Centre merged with the VHHSC.

Today, Vancouver General Hospital, UBC Hospital and the G.F. Strong Rehabilitation Centre come under the banner of Vancouver Acute, and part of the Vancouver Coastal Health Authority, whilst St. Paul's Hospital remains administratively separate as part of Providence Health Care.

The cardiologists were not bound together in a Division of Cardiology until the early 1970s (when Dr. John Dirks arrived as Head of the Department of Medicine). All cardiologists at VGH and SPH were members of the UBC Department of Medicine.

The UBC Division of Cardiology was formalized in 1976, with Dr. Max Walters as Head of the Division. Prior to this there were separate divisions at VGH and SPH. As there is some overlap with dates and sites, Division Heads are listed in chronological order where possible.

### DIVISION HEADS

**1959-1990** Dr. Doris Kavanagh-Gray: SPH Division Head

**1960-1976** Dr. Max Walters: VGH Division Head

**1976-1980** Dr. Max Walters: UBC Head and VGH Division Head (based at VGH)

**1980-1987** Dr. Henry Mizgala: UBC and VGH Division Head (based at VGH)

2000 Dr. Mandl and Dr. Schellenberg involved in new video conference initiatives to provide information to the lay public in various communities in BC and provide a forum to answer questions from those participating at other sites

Dr. Stark involved in a national study assessing the mechanisms of reactions to the influenza vaccine

Dr. Wong is conducting studies assessing the use of potential harmful effects of herbal and Chinese medicines.

2002 Members of the Division; Dr. R. Schellenberg – Head, Dr. Michael Mandl, Dr. Donald Stark, Dr. HC George Wong, Dr. Amin Kanani and Dr. Mary Stephenson

2003 Hosted: International Congress of Allergy and Clinical Immunology Sept. 7-12, 2003

Dr. R. Schellenberg Acting Vice President, Research for Providence Health Care and Assistant Dean, UBC

2004 Outreach Service provided in Dease Lake, Stewart, Hazelton, Bella Bella, Campbell, River, Parksville, Bamfield, Prince George and Sechelt

2005 Future directions; Develop a Comprehensive Care Program for patients with Primary Immune Deficiency in BC

2006 Dr. Amin Kanani has organized a local Immunology Journal Club that brings together pediatric and adult immunologists

Pursing the development of a Royal College accredited teaching program in our subspecialty jointly with Pediatrics

2007 Dr. Seung Kim providing teaching in his outpatient setting

2008 Members of the Division; Dr. R. Schellenberg – Head, Dr. H.C. George Wong, Dr. Donald Stark, Dr. Amin Kanani and Dr. Seung Kim

2009 Acceptance by the Royal College of Physicians and Surgeons of Canada of our application for a training program at UBC – to commence in the 2011 academic year

- 1987-1988** Dr. Victor Huckell: (Acting) UBC Head and VGH (based at VGH)
- 1988-1992** Dr. Michael Moscovich: VGH Division Head
- 1988-1995** Dr. Charles Kerr: (Acting) UBC Head (based at University Hospital)
- 1990-1995** Dr. John Boone: SPH Division Head
- 1992-2003** Dr. Donald Ricci: VGH Division Head
- 1995-2004** Dr. Charles Kerr: UBC and SPH Division head (based at SPH)
- 2004-2005** Dr. Christopher Buller: UBC Division Head, SPH and VGH Division Head (based at SPH)
- 2005-2009** Dr. Andrew Ignaszewski: (Acting) Head SPH Division.
- 2005-2009** Dr. Christopher Buller: UBC and VGH Division Head (SPH based, then VGH based)
- 2009-present** Dr. Ken Gin UBC/Vancouver Acute and Head, VGH Division
- 2009-present** Dr. Andrew Ignaszewski UBC/Providence Health Care and Head, SPH Division

At the end of 2009 the Department of Medicine took the opportunity to review the leadership of the Division, as Dr. Buller had not sought a second term as UBC Division Head. After due process the Department made the decision to have UBC leadership located at each of the two main teaching hospitals allowing the Department time to review the terms of reference for the Chair. As a result in late 2009 Dr. Kenneth Gin was appointed Head, UBC Division of Cardiology/VA, and Dr. Ignaszewski was appointed as Head UBC Division of Cardiology/PHC.

## A FEW FIRSTS AND INTERESTING MILESTONES ALONG THE WAY

### 1959:

First full-time cardiologist and Division Head at SPH was Dr. Doris Kavanagh-Gray and the first cardiologist in Vancouver especially trained in heart catheterization.

### 1965:

First Intensive Care Unit/Coronary Care Unit in Western Canada – at St. Paul’s Hospital, established by Dr. Dwight Peretz.

### 1970:

Dr. John Boone started the Pacemaker Clinic at St. Paul’s Hospital and directed it until 2000.

### 1972:

First MD in British Columbia to obtain FRCP in cardiology was Dr. Arthur (Art) Dodek.

### 1976:

First official RCPSC Fellow was Dr. Bert Brosseau.

### 1977:

Second official RCPSC Fellow was Dr. Charles Kerr.

First GFT appointment in the UBC Division of Cardiology - Dr. Hartmut (Harry) Henning, based at VGH.

Thrombolysis in Acute MI; Swan Ganz Catheterization and hemodynamic monitoring introduced in Vancouver by Dr. Harry Henning, skills he brought with him from the University of California, San Diego (where he was full-time Professor) and which he passed on to staff in anesthesia, ICU and others.

### 1978:

Introduction of 12-hour nursing shifts – Dr. Henning introduced the concept from San Diego and worked with Nursing Administration to pilot the idea in CCU at VGH. A novel concept at the time, which was well received by the nursing staff, as it allowed them to have a 3-day weekend. Later the ICU and other wards followed. It provided better continuity of care for patients.

### 1978-1991:

Cardiology obstetrics introduced at BC Women’s Hospital, directed by Dr. Victor Huckell. Over time it evolved into a joint activity with the PACH clinic at St. Paul’s and was later absorbed completely into that program completely.

### 1978-1995:

Sabbatical Program: St. Paul’s Cardiology Division had a sabbatical program in place whereby members of the

division were encouraged to spend time (three to six months) at institutions elsewhere to learn new skills and knowledge, during which the remaining members of the division would give financial support. Destinations in this programme included U.K., U.S.A., Switzerland, Eastern Canada and China.

**Late 1970s:**

First Echo Lab in the Province at VGH – set up by VGH division member Dr. Denny Corigall

**1980:**

First PTCA (Percutaneous Transluminal Coronary Angioplasty) was a VGH-centric effort, in October 1980, first west of Montreal. But the VGH 'team' taught the SPH team (Drs. Arthur Dodek and Doris Kavanagh, at the time) tips and tricks.

Clinical Trials Research in Cardiology introduced by Dr. Henry Mizgala, Head UBC Cardiology.

World leader in basic science research laboratory, in fields of the role of the central nervous system in mediated cardiac arrhythmias and later in cardiac signal transduction, established by Dr. Simon Rabkin. Dr. Rabkin joined UBC Division of Cardiology in 1980, originally based at Shaughnessy where he subsequently became Head of Cardiology.

First Lipid Clinic in Western Canada was established by Cardiology and medical Biochemistry at Shaughnessy Hospital, by Drs. Simon Rabkin and Jiri Frohlich (Department of Clinical Chemistry). Later the clinic transferred to St. Paul's Hospital, where it continues to operate today.

First Cardiac Rehabilitation Centre was a collaborative venture between cardiology and rehabilitation medicine, transferred St. Paul's Hospital on the closure of Shaughnessy Hospital, and in 1994 it developed into the Healthy Heart Program.

Angioplasty initiated at St. Paul's by Drs. Dr. Arthur (Art) Dodek and Dr. Doris Kavanagh-Gray.

**Mid 1980s:**

Aortic Balloon Valvuloplasty begun by Dr. Arthur (Art) Dodek at St. Paul's Hospital.

**1982:**

CCU opens at VGH – Director, Dr. Harry Henning's primary focus on his appointment was to design a new coronary care unit at VGH. After working out of temporary facilities in the Heather Pavilion for two years, the new CCU opened up in the (then new) Jim Pattison Pavilion. The CCU still in use today is Dr. Henning's design.

**1984:**

Nuclear Cardiology at SPH - Dr. Marla Kiess introduces nuclear cardiology having trained at Massachusetts General Hospital, Harvard Medical School. She was/is appointed Associate Member in the Division of Nuclear Medicine, Department of Radiology at St. Paul's Hospital.

**1988:**

PACH (Pacific Adult Congenital Heart) clinic introduced at Shaughnessy Hospital (an interdisciplinary group for adults with congenital heart disease). The clinic was formed at the request of the Division of Pediatric Cardiology who wanted to ensure good follow-up for their patients who were graduating from BC Children's Hospital. The founding members were Dr. Victor Huckell, Dr. Marla Kiess, Dr. C. Eve Rotem, Dr. Jacques Leblanc (Chief of Cardiovascular Surgery, BC Children's Hospital) and Dr. Mike Patterson (pediatric cardiologist). Dr. Huckell was the first Director until Shaughnessy Hospital closed when the Clinic moved to St. Paul's when Dr. Kiess became the director. Dr. Kiess continues to lead the program to the present day.

**Late 1980s:**

Electrophysiology testing introduced at St. Paul's by Dr. Charles Kerr: and Dr. John Boone.

Dr. Kiess was the first cardiologist at SPH to hold a BC and Yukon Heart and Stroke Foundation Grant-in-aid and the first cardiologist to do experiments in the large animal lab in the Pulmonary Research Lab (now called the iCapture Centre) with Drs. Peter Pare and James Hogg. Dr. Hilton Ling (cardiovascular surgeon) was reportedly astounded to learn that Dr. Kiess was performing thoracotomies, ligating the LAD, then subsequently releasing the ligature to reperfuse the LAD territory in the beating hearts of dogs. The anesthetized animals were subsequently transferred (ventilated) up the elevator to Nuclear Medicine for imaging (after hours).

**1986:**

The Echocardiography Laboratory was founded at SPH under the Electrodiagnostic Laboratory (Director: Dr. Marla Kiess) within the Department of Pathology. Dr. Chris Thompson was recruited as Director.

**1988:**

Drs. John Webb (cardiology resident at the time) and Marla Kiess submitted the first paper to describe AIDS Cardiomyopathy.

First heart transplant was part of a UBC program; performed at VGH in December 1988 under the direction of Dr. Virginia Gudas, lead surgeon, and Dr. Don Ricci, Head of the Transplant Program.

**1990:**

The Council Of University Teaching Hospitals (COUTH) Collaborative Planning for Cardiovascular Sciences: A

Master Program. Dr. John Boone recalls a major change affecting the UBC Division of Cardiology during his tenure as SPH Division Head, which meant among other things, a major shift of services from VGH (transplant) and UBC hospital (electrophysiology) to St. Paul's. This was as a result of what became known as the "COUTH document". Dr. Boone notes that prior to this initiative; the Divisions at VGH and St. Paul's functioned fairly independently and achieved their own milestones until some unity developed in the last decade. Both VGH and SPH had each formulated plans for further development that had to be shelved because of COUTH.

In the summer of 1990 the Council of University Teaching Hospitals (COUTH) began a planning initiative among its hospitals which would have a significant impact on the UBC Division of Cardiology. The overall purpose of the planning project was to:

Develop, gain consensus and plan for the successful implementation of the optimal model for the provision of adult clinical and academic cardiovascular sciences across COUTH hospitals.

The Steering Committee recommended a model of program management, coordinated medical staff and a consolidated Heart Centre, offering a coordinated and integrated approach to address identified problems.

The recommendation to form a Heart Centre later became a reality as Dr. Charles Kerr noted in his 1994 UBC Division of Cardiology Annual Report that "St. Paul's Hospital and Vancouver Hospital and Health Sciences Centre announced their intention to create a Heart Centre at St. Paul's Hospital with continued major emphasis on cardiology at VHHSC. The Division has continued intensive city-wide planning, developing sub-programs within the Division that are multi-site and will pave the way for the development of these programs at the Heart Centre. Ultimately, the cardiology presence at University site will be down-sized to a consultation clinical service and the 2 major sites at St. Paul's Hospital and Vancouver Hospital will undergo progressive unification and coordination." This meant a major shift of services from VGH (transplant) and UBC hospital (electrophysiology) to St. Paul's.

#### **Early 1990s:**

Beginning in the early 1990s Dr. John Webb accelerated structural heart intervention at St Paul's Hospital through the development of mitral balloon valvuloplasty, percutaneous closure of intra-cardiac defects ( ASD/PFO, left atrial appendage, paravalvular leak)

#### **1992:**

First electronic ECG system (MUSE) in the province established by Dr. Marla Kiess at St. Paul's Hospital. Under her leadership, the MUSE was rolled out across the region

starting in 2004. The Vancouver Coastal Region MUSE is the largest multisite electronic ECG storage system in the world.

#### **1994:**

Healthy Heart Programme established at St. Paul's Hospital by Dr. Andrew Ignaszewski (previously a modest programme at Shaughnessy hospital).

#### **1997:**

Dr. Brad Munt introduced 3D echo at St. Paul's Hospital.

#### **2005:**

Transcatheter aortic valve program started at St Paul's, led by Dr. John Webb. Development of transcatheter valve implant procedures began in the late 1990s culminating in the development of transarterial and transapical aortic valve implantation procedures in 2005. The first implants of transcatheter valves in patients with failed surgical valves were performed in 2008

#### **2008:**

Cardiac Obstetrics Clinic established by Dr. Marla Kiess at St. Paul's Hospital. A collaborative initiative between the Division of Cardiology and the Department of Obstetrics at SPH and BC Women's Hospital.

## DIVISION MEMBERS - PAST

As complete records are not readily accessible, we have not attempted to list each and every Faculty Member since records began but would like to remember as many as possible.

Dr. Kay Boroomand, Clinical Professor, Head of Division of Cardiology University Hospital, Shaughnessy site (following Drs Simon Rabkin and C. Eve Rotem)

Dr. Benny Bar-Shlomo

Dr. Al Cox: an academic who left Vancouver in 1969 to go to Memorial University in Newfoundland, where he became Dean of Medicine a few years later.

Dr. Denny Corigall (VGH): moved from VGH to Kelowna now retired.

Dr. Raymond Dong

Dr. Gordon Dower

Dr. Victor Hertzman

Dr. D.C.K. Hu

Dr. Doris Kavanagh-Gray (SPH) recruited in 1959 not only was she a pioneer in Medicine, but was a pioneer as a woman in medicine and cardiology. She came to Vancouver from Detroit (with her husband Dr. John Gray, both having trained at the Ford Clinic). She came to develop the cardiac catheterization laboratory and cardiac investigation services at St. Paul's. She was the first cardiologist in Vancouver especially trained in heart catheterization, and had a large practice in paediatric cardiology, as St. Paul's had an active pediatric ward at the time with lots of babies, and the separation between paediatric and adult cardiology had not yet matured. She saw children for catheterization from Dr. Maurice Young who was the original paediatric cardiologist at Children's Hospital (at that time part of VGH).

In 1965 with the arrival of Dr. Dwight Peretz cardiology could make a claim at being a division at which point, according to Dr. Kavanagh-Gray, she became Chief of Cardiology simply by demanding to be. "I went into Dr. Hurlburt's room and I said, 'look, I just brought Dr. Peretz on the staff and he's got a carpet in his room and I don't have a carpet in mine. I want something.' He said, 'What do you want?' And I said, 'Well, I think I want to be chief of cardiology.' He says 'Okay, you're chief.' So I was the chief for about thirty years and then I stepped down and John Boone took over."

Dr. Patrick Kinahan

Dr. Andrew Jakubowski

Dr. T. Keir Maybee

Dr. D. S. (Donald) Munro (VGH) a superb clinician who diagnosed his own ruptured abdominal aortic aneurysm during Saturday morning rounds with medical students and residents in about 1971. He survived, but retired shortly thereafter from clinical practice.

Dr. John Osborne: first Head of Cardiology Graphics (ECG) who, with Dr. Gordon Dower (who was at the Shaughnessy site) developed the first automatic ECG interpretation module, based on the concept of polar cardiography.

Dr. Charles Pollick

Dr. Dwight Peretz (SPH): was responsible for the design and planning of the Intensive Care Unit and Coronary Care Unit which opened under his direction in 1966.

Dr. Anzhen Qi

Dr. C. Eve Rotem, Chief of Cardiology at Shaughnessy Hospital (to be followed by Drs. Rabkin and Booromand)

Dr. Mel Shaw (VGH) trained in Boston by some of the field's leaders, developed a busy clinical practice, only recently retired from active practice at age 80.

Dr. Hugh Stansfield (VGH) a quiet unassuming clinician, well respected.

Dr. Max Walters (VGH) well remembered by many, especially Dr. Vicky Bernstein who worked closely with him. She recalls he was a first class clinician and teacher. Unfortunately Dr. Walters died a few years ago after a lengthy illness, but left us with a legacy of excellence in teaching and a dedicated commitment to excellence in patient care.

## TEACHING - UNDERGRADUATE MEDICAL EDUCATION – CARDIOLOGY

Dr. Harry Henning (Director) and Dr. Charlie Kerr (Associate Director) first ran the program together and presented most of the lectures to the 1st and 2nd years. Class size was 110 (today's class size is 280).

A Curriculum Development Committee was struck in 1996. Original committee members were Drs. Harry Henning, Charlie Kerr, Marla Kiess, Henry Mizgala, Simon Rabkin and Dr. R. Rangno (a hypertension specialist in the

Department of Medicine), and during a 4-year process they introduced the Problem-Based Learning (PBL) format we know today. Instead of the previous “specialty lectures”. They introduced 6 week blocks for the cardiovascular component, using a case-based learning format. Dr. Kiess was the Week Head for the first week of the Cardiovascular Block (Congenital Heart Disease), other Week Heads were Drs. Kerr (Arrhythmias), Henning (Ischemic heart disease), Rangno and Rabkin (Hypertension) and Mizgala (Heart Failure).

Subsequent Directors UBC Cardiology Medical Education Program

**2006-2009:** Dr. Parvathy Nair

**2009-Present:** Dr. David Wood

### TEACHING - UBC CARDIOLOGY POSTGRADUATE TRAINING PROGRAM

With the exception of VGH, the other teaching hospitals had a rather informal relationship with UBC until there was a formal “Affiliation Agreement” in the early 1980’s. Until then, residency training was mostly linked to specific hospitals. With the Royal College identifying Cardiology as an official sub-specialty, a formal 2-year training programme was developed. Due to the intense time pressure attempting to provide extensive training in clinical cardiology in a 2-year program, there was little elective time and very little time for research training. Therefore in 1994 it was extended to 3-years, allowing time for research training and electives.

### CARDIOLOGY POSTGRADUATE TRAINING PROGRAM DIRECTORS

**1978-1998** Dr. Victor Huckell

**1999-2009** Dr. Ken Gin

**2009-present** Dr. Parvathy Nair

### CARDIOLOGY POSTGRADUATE TRAINING PROGRAM ASSOCIATE DIRECTORS

**2006-2010** Dr. Krishnan Ramanathan

**2010-present** Dr. Rob Moss

In 2010 there were 13 Ministry of Health funded, and 3 externally funded residents in the program. Training occurs at the two Vancouver teaching hospitals, as well as the Royal Jubilee Hospital in Victoria.

### CONTINUING MEDICAL EDUCATION

UBC Cardiology has been active over the years in a number of ways in this area, especially providing educational opportunities for family physicians, internal medicine and

other specialists, for example SPH program in Cardiology and the annual UBC Hot Topics in Cardiology event.

### TEACHING – EXPERIMENTAL MEDICINE PROGRAM

Under the direction of Dr. Simon Rabkin, the Department of Medicine established a program in Experimental Medicine to train students in research. Cardiology was one of a select few Divisions in the Department that established courses and research programs in the early years. The Experimental Medicine Program has grown to be the largest postgraduate research program in the Faculty of Medicine.

### RESEARCH HISTORY

Clinical Trials Research in Cardiology introduced by Dr. Henry Mizgala, Head UBC Cardiology.

Basic science research laboratory, in fields of the role of the central nervous system in mediated cardiac arrhythmias and later in cardiac signal transduction, established by Dr. Simon Rabkin. Dr. Rabkin joined UBC Division of Cardiology in 1980, originally based at Shaughnessy where he subsequently became Head of Cardiology.

More recent research activities by Division members can be found in the Cardiology Sections of Department of Medicine Annual Reports.



December 8, 2008. A Lunch was held in honour of Dr. Henry Mizgala, who was leaving his VGH colleagues and moving his office from the Leslie and Gordon Diamond Health Care Centre, to join Dr. Saul Isserow at UBC Hospital.



Dr. M. Criley, University of Southern California visits St. Paul's Hospital as part of the Visiting Professorship in Cardiology Program. Seen examining a patient with young UBC Postgraduate Cardiology Resident Dr. Christopher Buller at the opposite side of the bed.



Dr. Mizgala and assistant Judy Fitzgerald worked together for more than 20 years



A young Dr. Vicky Bernstein with Dr. Max Walters when he retired from ICCU at UBC. Everyone had to wear a bowtie (his trademark).



Left to right: Dr. Arthur (Art) Dodek, Dr. Doris Kavanagh-Gray, Dr. Ken Gin and Dr. John Boone, taken at VGH late 2010.



Dr. Harry Henning won the Department of Medicine Annual Ski race 4 years consecutively, 1990-1994. They decided to let him keep the cup and renamed it The Henning Cup. Dr. Henning's background as an Olympic gymnast (Rome 1960) no doubt has something to do with his success on the ski slopes. He thrives on adrenalin and still enjoys heli-skiing and rock climbing in his spare time.

## ACKNOWLEDGEMENTS

Grateful thanks to all members of the UBC Division of Cardiology who provided helpful input. In particular to Dr. Victoria Bernstein, Dr. John Boone, Dr. Arthur Dodek, Dr. Doris Kavanagh-Gray, Dr. Harry Henning, Dr. Victor Huckell, Dr. Charles Kerr, Dr. Marla Kiess, Dr. G.B. John Mancini, Dr. Mizgala, Dr. Rabkin, Dr. Ricci and Dr. John Webb who all searched their memory banks. Also thanks to Dr. Peter Pare (copyright holder) for allowing full access to the "Spirit of Discovery: The History of Cardiopulmonary Pioneers at St. Paul's Hospital" by Käthe Lemon.  
<http://www.icapture.ubc.ca/history/sph-history-lowres.pdf>

## DIVISION OF CRITICAL CARE MEDICINE

### DIVISION HEADS

**1990-1992 Dr. Jim Russell**

Head, Program of Critical Care  
 Acting Head, Division of Critical Care Medicine

**1992-1997 Dr. Jim Russell**

Head, Division of Critical Care Medicine

**1997-2002 Dr. John Fenwick**

Acting Head, Division of Critical Care Medicine

**2002-2006 Dr. John Fenwick**

Head, Division of Critical Care Medicine

**2006-2008 Dr. Dean Chittock**

Acting Head, Division of Critical Care Medicine

**2008-2009 Dr. Dean Chittock**

Head, Division of Critical Care Medicine

**2009- Dr. Najib Ayas**

**present** Head, Division of Critical Care Medicine

The University of British Columbia, Department of Medicine, Division of Critical Care Medicine, officially commenced in the year 1992. Unofficially, however the Division began to form in the 1980's and early 1990's at St. Paul's Hospital, under the leadership of Dr. Jim Russell.

In 1982 Dr. Jim Russell was the Director of the Intensive Care Unit at St. Paul's Hospital. In 1984, Dr. Peter Dodek arrived to become Associate Director in the St. Paul's Hospital ICU of 8 beds. The ICU at Vancouver General Hospital was under the leadership of Dr Martin Tweeddale, and had consolidated its stance as a major centre for the care of the critically ill in BC; it included 16 critical care beds and supported the trauma program and transplantation programs in the province. In 1987, Dr. Terry Phang, a general surgeon, joined the staff at the St. Paul's Hospital ICU and in 1988, Dr. John Tsang was appointed Associate Director, Vancouver General Hospital ICU, and Dr. Keith Walley joined the staff at the St. Paul's Hospital ICU.

The synergy between the SPH and VGH ICUs contributed to the progress that was made with the development of a recognized Critical Care Medicine training program and the possibility of support from the University of British Columbia, Department of Medicine. In 1987, the Royal College of Physicians and Surgeons of Canada approved "Accreditation without Certification" for the Critical Care Medicine training program and Dr. John Dirks, Chairman, UBC Department of Medicine, indicated a need to increase the representation of Critical Care Medicine at the Department of Medicine at the University level. He named Dr. Jim Russell as Coordinator, Critical Care Medicine, University of British Columbia, with a role to sit on the Department of Medicine Executive Committee and to coordinate critical care within the Department of Medicine.

In early 1990 the UBC Faculty Executive approved a multidisciplinary "Program of Critical Care" and selected Dr.

Jim Russell as Head. This program represented the critical care activities at Children's Hospital of B.C., Vancouver General Hospital, and St. Paul's Hospital. This program had an advisory committee composed of the Heads of Anesthesia, Medicine, Pediatrics, and Surgery, and was to report to the Dean and the Faculty Executive. Also, the UBC Department of Medicine formed a Division of Critical Care Medicine and selected Dr. Jim Russell as Acting Head. Other Faculty members included: Drs. Martin Tweeddale, Peter Dodek, Keith Walley, Terry Phang, John Tsang, and John Fenwick (who had just completed his fellowship and moved on to become an Associate Director, VGH ICU).

The Vancouver General Hospital and St. Paul's Hospital ICUs continued to function as major, tertiary care, referral centre ICUs in the early 1990's. In 1991, the ICU of SPH had about 600 admissions per year and VGH had about 700 admissions. They continued to be major sites for training residents and fellows in Critical Care Medicine. The residents in Anesthesia, Emergency Medicine, Surgery and its subspecialties, and Family Practice, had their core in these ICUs. In 1991/1992 there were 28 residents trained at SPH and 26 trained at VGH; there were 4 residents in the Critical Care Medicine Training program and 6 research fellows. The trainees came from across Canada and from around the world including the UK, Switzerland, Australia, and Germany.

1992 turned out to be a landmark year for the Division with the official accreditation by the Royal College of Physicians and Surgeons of Canada of the Adult Critical Care Medicine Training Program due to the determined efforts of Dr. Martin Tweeddale as a representative at the Critical Care Subspecialty Committee. In January 1992, the Adult Critical Care Medicine Training Program had its first on site Royal College review which was very successful. The training program obtained full approval and obtained accolades for its strong clinical and research training. This was a unique accomplishment as UBC was one of only two programs in Canada at that time, which had accredited adult and pediatric critical care training programs. 1992 was also a significant year for the Division as along with the approval of the Critical Care Training Program, there was also the official approval and recognition from the Faculty of Medicine of a Division of Critical Care Medicine within the Department of Medicine. Dr. Jim Russell was selected as the first Head of the newly formed Division of Critical Care Medicine, Department of Medicine, and in July of 1993, was also selected as Head, Department of Medicine, St. Paul's Hospital and Associate Head, Department of Medicine, UBC, a term he served for 10 years.

In the early 1990's, the basic research programs focused on mechanisms of ventricular and peripheral vascular dysfunction in critical illness, abnormalities of gut flow in models of critical illness, abnormalities in tissue oxygenation, role of bronchial circulation in acute lung injury, and role of leukocyte in models of acute pulmonary edema. The clinical research included

studies on ventricular contractility, oxygen delivery, and consumption, new therapy for sepsis and for ARDS, and practice guidelines in the ICU. Important insights made in the research program included 1) the discovery that tumor necrosis factor (TNF) decreases left ventricular contractility and that this can be reversed by polyclonal antibody TNF, 2) the bicarbonate does not decrease left ventricular contractility in lactic acidosis 3) that Ibuprofen does not prevent decreased contractility in a model of sepsis (and thus prostaglandins do not decrease contractility in sepsis) 4) that oxygen consumption is not pathologically dependent on oxygen delivery in patients who have sepsis and patients who have ARDS and 5) that the critical oxygen delivery was determined for the first time in individual humans and was not abnormally elevated in septic critical illness. The basic science research was and continues to be sited at the Critical Care Research Laboratory, James Hogg Centre for Cardiovascular and Pulmonary Research at SPH.

In the mid 1990's Drs. Juan Ronco, Greg Grant, Dean Chittock, and Pearce Wilcox joined the Faculty. In 1994, Dr. Peter Dodek was selected as Chairman of the B.C. Council on Clinical Practice Guidelines (BCMA and BC Ministry of Health); this committee led the development of evidence-based clinical practice guidelines across BC. In 1995, Dr. Dodek was appointed Director, SPH, ICU. Discoveries in the Division during this time included: 1) mathematical coupling of shared errors explains the findings of pathological dependence of oxygen consumption on oxygen delivery; 2) blood transfusion causes leukocytosis in the critical ill and 3) laparoscopy is useful for diagnosis of penetrating diaphragmatic injuries. Research studies pursued by faculty members also included post-operative analgesia and pulmonary circulation (Dr. Tsang), new therapies for head injury (Dr. Fenwick), new therapies for sepsis (Dr. Russell), transfusion in critical care (Drs. Tweeddale and Russell), and continuous quality improvement (Dr. Dodek).

In 1997/1998 the Division underwent a number of changes in its administrative structure. In 1997, Dr. Greg Grant, was appointed Associate Director, SPH, ICU, and in 1998, Dr. John Fenwick was Appointed Acting Head, Division of Critical Care Medicine, and Medical Director, VGH ICU, replacing Dr. Martin Tweeddale who stepped down to take a staff Intensivist position in England. Dr. Andrew Kirkpatrick, a general surgeon, joined the faculty at VGH and Dr. Dean Chittock was appointed Acting Associate Medical Director of Critical Care Medicine, VGH. Dr. Juan Ronco was elected Postgraduate Director of the UBC Adult Critical Care Training Program, the BC/Alberta representative at the Critical Care Medicine specialty committee of the Royal College of Physicians and Surgeons of Canada, and Medical Director of the VGH Respiratory Therapy Services. Dr. Keith Walley was appointed Associate Director, McDonald Research Laboratories, and Assistant Head, Basic Science Research, Department of Medicine.

Critical Care Medicine at VGH was greatly expanding

its clinical mandate from the early 1990's after the appointment of Dr. John Fenwick. With a progressive increase in beds from 18 to 27 by 2005, VGH ICU became the major regional centre for complicated general and thoracic surgery, solid organ and hematological transplantation, neurosurgery and spinal cord surgery and finally, the home of the provincial Trauma Program.

In the late 1990's to early 2000's, Dr. Dorscheid joined the faculty at St. Paul's Hospital, Dr. Vinay Dhingra joined the faculty at Vancouver General Hospital, and Dr. Greg Grant was appointed Training Program Director, St. Paul's Hospital. New innovative research continued at St. Paul's and Vancouver General. For example, the ICUs at both hospitals became the 1st ICUs outside of the United States to join the NIH-Sponsored clinical network for the treatment of ARDS (ARDSnet) with Dr. Jim Russell as Lead Investigator. UBC contributed to the ARDSnet randomized controlled trials of pulmonary artery vs. central venous catheterization (N Engl J Med 354:2213-2224. 2006) and liberal vs. conservative fluid management (N Engl J Med 354:2564-2575. 2006) in acute lung injury.

From 2002-2004 the Critical Care Medicine Training program continued to expand. In 2002, under the direction of Dr. Vinay Dhingra, the SCCM Fundamentals in Critical Care Support Course received Departmental approval for incorporation into the core residency training program. By 2004, the SCCM course had expanded to include core residents from all Departments and also, Drs. Ronco and Dhingra, in collaboration with the Centre for Excellence in Surgical Education and Innovation (CESEI), began to develop a simulator model for the teaching of technical and patient management skills to critical care trainees. Also in 2004, the Royal College endorsed a proposal from its Critical Care Medicine Specialty Committee and changed the status of Critical Care Medicine as a Specialty from accreditation by training to accreditation by examination. The first Board of Examiners in Critical Care Medicine was created and Dr. Ronco became the Vice-Chair of the Adult Examination in Critical Care Medicine. The first national specialty examination was delivered to trainees completing their two year training in 2006.

In the following few years, several more members joined the faculty including, Drs. Sean Keenan, Katherine Craig, Cheryl Holmes, Najib Ayas, William Henderson, George Isac, and Demetrios Sirounis. In 2003, Dr. Vinay Dhingra was appointed Associate Trainer Program Director, Internal Medicine, and Dr. Andrew Kirkpatrick left the faculty to move to Alberta. In 2004, Dr. Greg Grant was appointed Medical Director, ICU, St. Paul's Hospital, and, under the direction of Dr. Dean Chittock, the Division held its first annual Canadian Critical Care Conference at Whistler, BC. In 2005, Dr. Katherine Craig was appointed Program Director of the Adult Critical Care Medicine Training Program and in 2006, Dr. Dean Chittock was appointed Medical Director, ICU, Vancouver General Hospital, and Acting Head, Division of Critical Care Medicine, and Dr.

Demetrios Sirounis was appointed Associate Director, ICU, St. Paul's Hospital.

Clinical trials research remained strong throughout the 2000's for the Division, and significant and important trials for critical care medicine research were conducted at St. Paul's Hospital and Vancouver General Hospital including the VASST trial and the NICE-SUGAR Trial. The VASST trial was a pivotal, multi-centre, randomized controlled trial of vasopressin vs. norepinephrine in septic shock (major investigators: Russell, Walley). The VASST trial completed recruitment in 2006 and was published in the New England Journal of Medicine in 2008 (NEJM 2008; 358(9):877-87). The NICE-SUGAR Trial was a CIHR funded multi-centre trial examining glucose control in the ICU (major investigators: Chittock, Dhingra, Henderson, Ronco, Dodek). This was one of the largest ever critical care studies performed with over 6100 patients. The NICE-SUGAR trial was published in the New England Journal of Medicine in 2009 (NEJM 2009; 360(13):1283-97). Both of these trials have altered sepsis and critical care guidelines internationally.

By 2007 the Division of Critical Care Medicine was represented at several hospitals across B.C. New faculty members joined the Division including, Drs. Morad Hameed, Craig Fava, and Carole-Anne Yelle. Also, Dr. John Boyd and Dr. Ruth MacRedmond were recruited to SPH Critical Care and the James Hogg Centre for Cardiovascular and Pulmonary Research at SPH.

Throughout the 2000's there was an unprecedented change in the Royal Columbian Hospital Intensive Care Unit. Led by Dr Sean Keenan, the ICU expanded from a 16 to a 20 bed unit with a 10 bed high acuity unit, staffed with Critical Care Medicine specialists. This unit became one of the pillars of the critical care training program and provides multi system critical care to complex trauma, surgery, neurosurgery and medical patients. Currently under Dr Steve Reynolds as Medical Director, and Dr. Craig Fava as Education Director, the unit is expanding its research and educational mandates.

In 2008/2009 the Division expanded with the recruitment of faculty who had an interest in epidemiologic research, translational biology, education, and health services research which put the faculty at 29 (new members: Drs. Craig Fava, Adam Peets, Steven Reynolds, Tharwat Fera, Gordon Finlayson, Don Griesdale, Greg Martinka, David Sweet, Scot Mountain). Faculty members from St. Paul's Hospital, Vancouver General Hospital, and Royal Columbian Hospital participated in Regional Critical Care Councils and developed and implemented strategies within the region. The Division had also expanded to include the Fraser Health Region and Lower Mainland and future goals were to improve access, patient flow, and sustainability through appropriate design and efficiencies and to implement best practices to improve health outcomes. In 2008, under direction of Dr. Vinay Dhingra, the Division at VGH purchased a SimM or a portable advanced patient

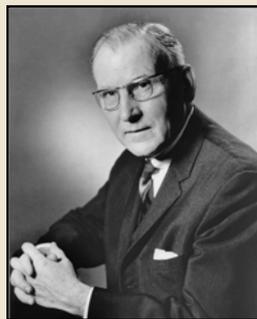
simulator for team training education. Dr. Chittock was appointed Senior Medical Director at VGH and Dr. Dhingra appointed Medical Director of the ICU at VGH. In 2009, Dr. Najib Ayas was appointed UBC Division Head, Critical Care Medicine, and Medical Director of the ICU at St. Paul's Hospital, and Dr. George Isac was appointed Program Director of the Adult Critical Care Medicine Training Program.

In 2010, three new members were welcomed to the Division (Drs. Grant McCormack, Ryan Foster, and Andrew Webb). The strength of the Division of Critical Care Medicine lies in the diversity of interests of its members and the unique, specialized knowledge that each member brings to the practice of Critical Care Medicine. There are now 33 faculty members (23 full time members and 10 associate members) working at 7 different hospitals across the province (Kelowna General Hospital, Mt. St. Joseph's Hospital, Richmond Hospital, Royal Columbia Hospital, St. Paul's Hospital, Surrey Memorial Hospital, and Vancouver General Hospital). There is an innovative and diverse research program and an advanced and comprehensive adult training program that continues to expand.

It is always important to appreciate the past in order to understand where we came from. However, the Division of Critical Care is now focused on looking forward to the future and many more years of collaborative leading edge clinical care, research, and education

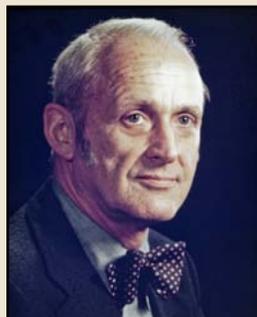
## DIVISION OF DERMATOLOGY

**D**ermatology was one of the founding disciplines when UBC's medical school was established in 1950. It was organized as a Division within the Department of Medicine under the leadership of Dr. D. Williams. The Division of Dermatology established a residency training program in the late 1960s, and since then has graduated 80 dermatologists, many of whom became academic and community leaders.



*Dr. D. Williams*

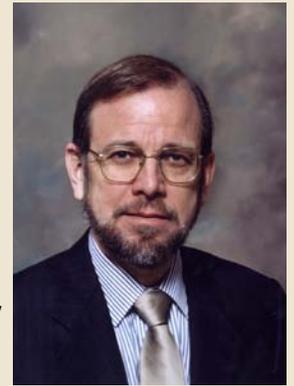
In 1972, Dr. W. Stewart became the Division Head and during his 16 year tenure the dermatology program established a reputation for excellence in residency training, undergraduate education, and collegiality between academic and community dermatologists.



*Dr. W. Stewart*

Between 1988-2000, Dr. D. McLean launched an aggressive recruitment initiative to attract clinician-scientists, and was instrumental in establishing the first independent laboratories at UBC dedicated to skin research.

Another key milestone during this time was the creation of the UBC/VGH Skin Care Centre, a 20,000 sq. ft. clinical, teaching, and research facility completed devoted to skin health.



*Dr. D. McLean*

The UBC/VGH Skin Care Centre is one of the largest facilities of its kind in North America and quickly catalyzed an exponential growth in academic dermatology at UBC.

In 2000, under Dr. Harvey Lui as its Head, the Division of Dermatology renewed its mission and strategic plan, and identified the creation of an academic department within the University as its number one priority.



*Dr. Harvey Lui*

An initial proposal was presented to the Dean and the Faculty Executive Committee in June 2004. It was based on the recognition that dermatology was a distinct

academic discipline, that the Division had attained a critical mass for research and education at UBC comparable to other departments, and that a majority of medical schools in North America had full-fledged dermatology departments. An external review of the Division of Dermatology in August 2005 unanimously recommended the creation of the Department of Dermatology and Skin Science. Following approval by the University Senate, the new Department came into official existence on February 1, 2006.

The Department has just marked its fifth anniversary and multiple indicators show that the departmental structure has facilitated significant academic growth and tangible impacts.

## DIVISION OF ENDOCRINOLOGY

Before 1980 the Royal College of Physicians and Surgeons of Canada had no specialty exam in Endocrinology. However, a number of internists with special interest and training in diabetes and endocrinology were working here from the 1960s. All of the endocrinologists were primarily clinicians with a major focus on diabetes and thyroid diseases. By the late 1970s Dr. David Thompson returned from an endocrine research fellowship in California and Dr. Jerilynn Prior began doing metabolic bone disease research. These clinicians were first gathered into a Division of Endocrinology in 1980, along with Ted Wilkins, Hugh Tildesley, Steve Thorson, Sandy Cairns, Roland Lauener and Keith Dawson who was recruited as Head of Medicine at Shaughnessy Hospital. The first Division Head of Endocrinology was Dr. Hamish McIntosh, then at Shaughnessy Hospital. The Division was comprised of members of the staffs at VGH, St. Paul's Hospital, and UBC Acute Care Hospital. Successive Division heads included: G. Edward (Ted) Wilkins, Keith Dawson, Anthony Morrison, Jerilynn Prior, David Thompson and most recently, Ehud Ur.

### DIVISION MILESTONES

#### *Postgraduate Training Program*

Subspecialty training in endocrinology and metabolism is a long-term focus of the division and has been accredited since 1980. The training program started out accepting only one resident every two years and produced distinguished endocrinologists, many of whom are now members of our division. Expansion of the training program began in 2000 under the devoted leadership of Dr. Sandra Sirrs and the program now accepts 2-3 residents per year. With the expansion of the training program came the development of a formal academic half day program, development of rotation-specific objectives and a standardized process for resident evaluation, longitudinal ambulatory experience in the form of a fellow's clinic, and expansion of resources including distributed sites to augment the training experience. The UBC program is fully accredited by the Royal College of Physicians and Surgeons of Canada, currently under the direction of Dr. Breay Paty.

#### *Islet Cell Transplantation Program*

A patient, Ike Barber, came forward with a one million dollar donation to recruit a leader for the potential transplant program. This led to the successful recruitment of Garth Warnock as head of surgery who brought his expertise in islet cell transplantation to UBC and thus the program was initiated, with the assistance of David Thompson and others.

#### *Adult Metabolic Diseases Program*

Officially opening in 1999 the Adult Metabolic Diseases Program was the first freestanding clinic in North America for adults with

inborn errors of metabolism – the only service of its kind in BC and, indeed, in Western Canada. The clinic's current capacity far exceeded its original growth forecast to an unprecedented growth rate of more than 400%. Dr. Sandra Sirrs has been involved in the establishment of the clinic from the early planning stages to its current status as one of the largest clinic of its kind in the world. Dr. Sirrs has recently been awarded the 2010 Medical Staff "Bringing Clinical Renown to Vancouver Hospital".

#### *Women's Reproductive Health*

The UBC Division of Endocrinology has been fortunate to have a prolific researcher in the field of women's reproductive health, Dr. Jerilynn Prior. Dr. Prior joined the Division in the 1980's and has focused on a special interest in menstrual cycles and the effects of hormones on women's health. Over the years Dr. Prior has studied women's menstrual cycles, perimenopause and the causes for and treatment of osteoporosis. In 2002 she founded the Centre for Menstrual Cycle and Ovulation Research (CeMCOR) which studies the physical and psychological causes and effects of ovulation disturbances on women's overall health. CeMCOR publishes scientific results and disseminates information directly to women in a very popular website ([www.cemcor.ubc.ca](http://www.cemcor.ubc.ca)). Dr. Prior is the recipient of numerous awards including the University of British Columbia Faculty of Medicine Distinguished Medical Research Lecturer Award in 2002. She is also the author of several books relating to women's reproductive health.

#### *Live Well With Diabetes*

This tremendously successful educational website ([www.livewellwithdiabetes.com](http://www.livewellwithdiabetes.com)) was created by the members of the BC Endocrine Research Foundation who are all members of the VGH division of Endocrinology. It was initiated by the first Association President, Dr. Tom Elliott, and initially had an executive director but this position was not maintained. The Site was created as a detailed and free information site both for patients with diabetes as well as for health care professionals. The Site has been markedly augmented with the help of Dr. Keith Dawson, as well as Hesham Nabih of HN Consultants Ltd. The service is currently available in 10 languages, and is directed at those with type 2 diabetes. It provides information on all aspects of education about diabetes and it's symptoms it's management, and the recommended treatments and how they are used. The entire program was only possible through the sponsorship of six members of the pharmaceutical industry (who had no say in the content of the information, but made it possible to update and expand the site to conform to the latest iterations of the CDA guidelines for the prevention and treatment of diabetes (2008) as well as including the latest medications available in Canada.

The success of this program has also allowed the Division to fund some Fellows in education and travel to medical conferences.

### **Western Canada Insulin Pump Centre**

Dr. Hugh Tildesley recognized that there were many impediments to access for insulin pump therapy in BC. This clinic was founded to exclusively dedicate resources to insulin pump and sensor therapy. This highly specialized training has been offered to patients for the last three years. In addition, the pump clinic has grown to offer services in blood glucose management over the Internet.

For the last 16 years with the help of the Endocrine Research Society, clinical research has been fostered to allow for the funding of divisional projects. In addition the society has allowed prospective medical students to be mentored to improve their prospects for admission. These students, nicknamed GAP students, have been highly successful in contributing to clinical research, publications and all have ultimately gained admission to the training of their choice.

### **Metabolic Bone Disease**

The first multidisciplinary Osteoporosis Program in BC was established at Shaughnessy Hospital in 1988 with major input from the Division of Endocrinology. With the closure of Shaughnessy Hospital, Dr. David Kendler moved the program to the Women's Hospital in 1994, where he headed the program (and the Department of Women's Health) until 1999. With Dr. Dian from the Division of Geriatrics, he established the Falls and Fracture Prevention Program at St. Vincent's Hospital. These very successful clinical programs formed a template for successful osteoporosis programs elsewhere in the province. In the meantime, metabolic bone disease research grew rapidly from 1993 in multidisciplinary research centres headed by Dr. Kendler. Clinical research protocols were more successful in Vancouver than in any other Centre in North America and there were many resulting publications in major journals. In association with this research, Dr. Kendler encouraged excellence in bone assessment including densitometry. He was elected President of the International Society of Clinical Densitometry in 2007 and developed numerous educational programs both in the field of osteoporosis management and the evaluation of bone health. He has supervised several international Fellows in Metabolic Bone Disease.

### **National and Local Recognition**

- Dr. Jerilynn Prior received the University of British Columbia Faculty of Medicine Distinguished Medical Research Lecturer Award in 2002.
- Dr. Keith Dawson received the Dr. Gerald S. Wong Award of the Canadian Diabetes Association in recognition of outstanding service and contribution to people with diabetes in 1999 and the Distinguished Service Award, Canadian Society of Endocrinology and Metabolism in recognition of his outstanding contributions to the advancement of research, training and clinical practice in Endocrinology, and for his exceptional work on behalf of the Society in 1999

- Dr. Hugh Tildesley received the Dr. Gerald S. Wong Award of the Canadian Diabetes Association in recognition of outstanding service and contribution to people with diabetes in 2010

### **A St. Paul's Hospital Division of Endocrinology Perspective**

Dr. Ted Wilkins was the founder of St. Paul's Division of Endocrinology. In 1971, he established a busy clinical practice and many notable career achievements prior to his retirement in 2009.

He established the endocrine laboratory and raised antibodies for some of the first hormone assays used in the province. This service continues to the present day. He also established close collaboration with the department of surgery and neurosurgery so that patients received comprehensive multidisciplinary team care. Close liaison with the BC Cancer agency enabled patients with endocrine neoplasms to receive healthcare expertise from a cooperative team.

Dr. Wilkins established "walk rounds", the highlight of the St. Paul's divisional week where medical students, residents, fellows and staff share interesting and challenging cases.

Dr. Wilkins was awarded the "career award for excellence in clinical teaching" from UBC in 2005 and the Royal College "Prix d'excellence award" in 2006.

In 1984, Hugh Tildesley, was recruited to set up a diabetes program at St. Paul's. This comprehensive four-day program provided meals, group and one to one teaching. It allowed for therapeutic changes to be made over the teaching week. The program grew to include evening, and weekend programs. The database established allowed for outcome studies of the clinic to be tracked and published to document efficacy. The clinic was also a rich source of patients to conduct clinical research and to provide medical students, residents and fellows with first-hand clinical experience in the treatment of diabetes. The center grew to be the largest teaching center in Canada.

In 1987 doctor Bill Vlahos completed his training at McGill and was recruited to set up the lipid clinic which eventually was incorporated with the healthy heart program, a leader in lipid research and care.

Dr. Richard Bebb was recruited in 1995; he received his endocrine training at the University of Washington. Dr. Bebb established a men's health component to the division's clinical care. His clinic career has flourished any most recently he has become a founding member of the men's health clinic.

The division began to offer dedicated women's health services with the recruitment of Dr. Sabrina Gill who is also attending at the osteoporosis clinic.

In 2000, Dr. Stuart Kreisman and Dr. Rob Mase took over the practise of Dr. Bill Vlahos after his untimely death. They have provide important contributions to clinical care and teaching.

Dr. Michelle Johnson was recruited to establish the pituitary clinic at St. Paul's so that comprehensive endocrine care could continue to be provided with the move of neurosurgery to Vancouver General Hospital. She completed extra training in pituitary disease at the University of Virginia.

Dr. Gordon Francis was recruited to lead the healthy heart program and continue with his basic research program, which is been highly successful.

## CONFERENCES

Diabetes Directors Seminar: Dr. Tildesley has chaired this meeting which has been dedicated to providing up-to-date education for the medical directors of diabetes centers across the province. This is been operational for 23 years.

BC Endocrine days: this is one-day seminar in office-based endocrinology has been well attended and operational for 10 years. It is chaired by Dr.Tildesley and Dr. Bebb

Kelowna Endocrine days: is a one-day course in office endocrinology sponsored by the St. Paul's division of endocrinology.

## DIVISION OF GASTROENTEROLOGY - *between 1978-1993 (no info provided for 93-09)*

*Written by Dr. Hugh Freeman, Professor (Tenure)*

### BACKGROUND

The UBC GI division was established in 1978. At that time, endoscopic facilities were rudimentary in the Vancouver teaching hospitals, and imaging technology with newer fiberoptic devices was still in their infancy. Most GI clinicians had limited endoscopic training or were largely self-taught to perform these emerging imaging techniques. Experience was limited. Procedures, such as colonoscopy were done by only selected individuals at VGH. GI teaching for medical students and residents developed at both VGH and Shaughnessy, while St. Paul's had a very popular rotating internship program. A formal GI fellowship training program did not exist in Vancouver, being limited to less than a handful of institutions in Canada. Research activity in the teaching hospitals supported by peer review grants did not exist, except on the UBC campus, where a physiologist, Dr. John Brown, had discovered the GI endocrine peptides, GIP and motilin.

### 1978 to 1981

Dr. Walter MacDonald was appointed as GI head for VGH with the plan that a new UBC GI division head would be located at the proposed UBC Hospital. He initially trained in Vancouver in Medicine and Pathology, but then pursued formal GI training at the University of Washington in Seattle. There, a cutting edge GI clinical investigative unit had been established, focused on small bowel disease. Dr. MacDonald published some landmark studies on histopathological changes of celiac disease along the length of the small bowel as well as the familial nature of celiac disease. He also developed expertise in GI cytology and, after his return to VGH, became particularly interested in gastritis with the original observations on aspirin (NSAIDs) and pickle induced injuries to the gastric mucosa and the natural history of malignant gastric ulcers. He also developed a vital presence for GI at the CCABC (BCCA) through the GI tumor group. Over the next decade, this became his primary passion until his retirement from the faculty, and during his time there, UBC became the first GI division in Canada to offer formal training in GI Oncology.

### *UBC GI at VGH and Shaughnessy Hospital*

Prior to 1978, GI staff were located in 3 teaching hospitals and focused on providing expert diagnostic and clinical care for adults with GI and hepatobiliary tract disorders. VGH, then with over 1500 beds spread over several different pavilions, served both adults and children from across the province. Adult GI staff included Dr. Abraham Bogoch and his younger colleagues, Dr. Hugh Chaun and Dr. Don Carr. Dr. Bogoch was especially well known in Canada at the time, having edited a textbook in clinical GI and being involved with the initial formation of the Canadian Association of Gastroenterology. Dr. Chaun received his formal training in Oxford in the UK, and Dr. Carr had received formal GI training in Florida with Dr. McGuigan, an early investigator on the hormone, gastrin. Together, this group played a prominent clinical role in Vancouver and served the GI needs for both VGH and Shaughnessy Hospitals. Later, Dr. Chaun would provide representation for the UBC GI division in organizing the World Congress of Gastroenterology held in Montreal in 2005, and be honored for his expert clinical teaching by the medical residents at UBC. At Shaughnessy Hospital, he became involved the cystic fibrosis clinic and later published on the GI aspects in adults with this disease. Dr. Carr, initially located at Shaughnessy Hospital, and eventually VGH, became increasingly focused on endoscopic methodologies, including evaluation and therapy of the biliary tract for stone extraction. Another member of the GI division was Dr. Andrew Endelman. He was an engaging personality providing teaching and expert clinical care with a solo GI clinical practice centered at VGH. Dr. Frank Anderson trained in medicine in Vancouver and developed a special interest in GI. He received added training in liver diseases in the UK with Dame Sheila Sherlock and in inflammatory bowel disease with Dr. Joseph Kirsner in Chicago. He returned to VGH as a GFT faculty member with Dr. MacDonald, and devoted his energies to further development of the clinical GI service and teaching at VGH, and later aided in the development of nutritional service for severely ill medical patients. In time, he also added to the leadership of GI and served as Head of GI at VGH. His developed

a research organization, the Society for Intestinal Research or SIR, that provided support for local investigators. Later, his focus evolved into clinical trials of therapeutic agents in liver diseases and inflammatory bowel disease through the establishment of a private clinical research unit near VGH.

During this time, endoscopic imaging of the GI tract was becoming well developed across Canada, and Vancouver was no different. Together with the surgeons, a GI endoscopic clinic was developed at VGH, initially sited in the Heather Pavilion as 2 adjacent rooms off the hallway near Ward C3.

Pediatric GI specialists were historically not included in the adult division at VGH, and, like most divisions developed independently in a separate Children's Pavilion at VGH, early on with Dr. Margaret Mullinger and Dr. George Davidson. Later, Dr. Eric Hassall was added as the newly developed BC Children's Hospital was constructed with the eventual emergence of endoscopic techniques for children.

In 1979, Dr. Hugh Freeman was added to VGH and awarded one of first 3 research scholarships in the Department of Medicine. He finished training in clinical GI at the University of Alberta, then the largest GI program in Canada. He was awarded MRC support for research in the GI biopsy laboratory in Edmonton with Dr. Fred Weinstein that resulted in extensive biopsy and cell kinetic studies along the length of the small bowel in celiac disease. In addition, the linkage with lymphoma in celiac disease was established. Finally, the original description of collagenous colitis, a new and distinctive form of inflammatory bowel disease was published. Later, another 3 MRC supported years were completed at the UC, San Francisco with Drs. Young Kim and Marvin Sleisenger focused on the molecular biology of GI cancer. Novel carcinogen-induced animal models of gastric and colon cancer were developed and new information on structure and function of the intestinal membrane was reported. In Vancouver, he focused solely on intestinal disease and was appointed a principal investigator in the first NCI research group at the BC Cancer Research Center, designed a high level carcinogen containment facility in the old McGavin bakery, a first in Canada, and was awarded peer review grant support for the first time in the GI division from the NCI, MRC and the BCHCRF. Later, he would focus efforts on intestinal diseases, particularly celiac disease, inflammatory bowel disease and colon cancer. He published extensively with almost 400 original peer review papers related to clinical and fundamental aspects of intestinal disease. Some original observations included the first clinical and pathological description of a new form of gastric disease, collagenous gastritis, novel observations on celiac disease, including further studies malignant lymphoma and its relationship to collagenous colitis, identification of multiple transport carrier proteins in the small intestine and their alteration with disease, definition of new histochemical methods to examine the cell surface microvillus membranes of the intestinal tract, dietary modulation of colon carcinogenesis, and finally, extensive long term clinical studies on the natural history of different forms of inflammatory bowel disease, particularly Crohn's disease.

### ***UBC GI at St. Paul's Hospital***

St. Paul's had traditionally functioned as a general hospital in Vancouver. But, in time, a subspecialty presence in GI was also being developed. Much of the enthusiasm for this early development came from Dr. Stan Stordy. He received formal clinical training at McGill in Montreal, and enthusiastically embraced endoscopic imaging for diagnosis and treatment. Together with Dr. Ian Cleator from the Department of Surgery, a GI Clinic was developed at St. Paul's for endoscopic studies, located in the old Comox building. The unit at St. Paul's was cutting edge, and both individuals took a leadership role in endoscopic teaching for trainees and, with the very modern facilities available at St. Paul's at that time, live therapeutic endoscopy courses were organized with international experts, predating the development of similar postgraduate courses elsewhere in Canada. Later, Dr. Lawrie Halparin, also trained in GI at McGill, joined Dr. Stordy in clinical GI practice at St. Paul's, and together, they developed the beginnings of a strong clinical GI group that eventually would include two younger colleagues, Dr. Jack Amar and Dr. Scott Whittaker, both trained at the University of Toronto. Both of these recruits also had done further research training for a year after their GI fellowships in flow cytometry in the GI tract with Dr. Hazel Cheng, and nutrition with Dr. Khursheed Jeejeebhoy, respectively.

### ***Other Support Departments impacting on UBC GI***

During this time, other Departments were adding specialized faculty members that would have an important impact on GI, particularly with the emergence of specialized imaging methods. Dr. Joachim Burhenne, a pioneering therapeutic radiologist in the biliary tract was attracted to Vancouver from San Francisco as Head of Radiology (and he would later treat the Shah of Iran in New York City with his new radiological technique to remove common duct stones). Dr. Peter Cooperberg developed ultrasound imaging initially at VGH and then, later, at St. Paul's Hospital. Dr. David Li became particularly focused on CT imaging, and later MRI, with the construction of the second MRI in the world at the UBC Hospital. Dr. David Owen was the first focused GI histopathologist in Vancouver and Dr. Michael Noble, a clinical microbiologist, became particularly involved on enteric organisms, including *Yersinia enterocolitica*, an agent endemic in British Columbia.

### **1981 to 1991**

### ***UBC GI at the UBC Hospital***

During this time, a new state-of-the art hospital was constructed on the UBC Campus as part of a significant medical school expansion. It opened in 1980, staffed by a few specialists from VGH, however, the hospital received little support from the local medical community. Many established clinicians, including GI faculty, elected not to move there. Over the next decade, though, new faculty with added research expertise were attracted to this new hospital in multiple disciplines, and largely based on the initiative of the Department of Medicine, raised the level of clinical

and investigative activity in all of the UBC teaching hospitals. Soon, both VGH and BCCH were developing plans for their own hospital research institutes.

At the time, GI was afforded a relatively unique setting in the UBC Hospital, with the geographic proximity of the ward, research laboratories and offices combined with GI surgery. In 1981, after an extensive international search, Dr. Hugh Freeman was appointed as UBC division head to be located at the UBC Hospital. Eventually, a modern endoscopic clinic was constructed and funded through a special university program administered through the Dean's office and a combined medical-surgical GI ward of 33 beds was developed. Then, a critical linkage was established with Dr. John Brown in Physiology and Dr. Andrew Seal was added in Surgery with his research focus in hormonal control of gastric acid secretion. As clinical activities increased, however, additional GI and GI surgical staff were needed to accommodate the increasing clinical burden. A number of senior surgeons from VGH and St. Paul's became involved with the UBC Hospital. Dr. Seal collaborated with other GI surgeons at St Paul's and VGH to initiate the development of a UBC reconstructive pouch surgery program for patients with inflammatory bowel disease. This also dramatically increased the clinical workload in GI at the UBC Hospital. Dr. Urs Steinbrecher was attracted to the UBC Hospital as a GFT faculty member and was also awarded a research scholarship for his work in the field of lipid metabolism. He offered an added clinical focus in liver disease and became an important addition to the GI division and its development of fundamental research programs. He trained at McGill and added endoscopic skills in biliary tract endoscopy and esophageal manometry to Vancouver. After his time obtaining clinical training in Montreal, he received MRC support to spend over 2 additional years in added research training at the University of California, San Diego. He added a whole new dimension to research funding in GI at the UBC Hospital. In addition to the MRC and BCHCRF, the Heart and Stroke Foundation provided important support. Then, Dr. Alison Buchan was added as a basic scientist, more popular then, in some clinical divisions. She obtained a PhD in GI endocrine physiology with Dr. Stephen Bloom's group in the UK and had developed skills in immunohistochemistry, a new and emerging histopathologic technique used in GI. She was also funded through a research scholarship and, like Drs Freeman and Steinbrecher, obtained her funding from the MRC and BCHCRF. Eventually, owing to limited salary support in Medicine, she pursued her career in the Department of Physiology, but continued research studies with her colleagues in GI and GI surgery. In recent years, she rose to the role of Associate Dean of Research for the UBC faculty. Finally, Dr. Scott Whittaker was also added to UBC Hospital, but eventually he moved to St. Paul's Hospital. At the time, nutritional support in the hospitals was rudimentary, but eventually this emerged as an important component for the care of patients with severe nutritional deficits, especially following surgery. Initially, a program of parenteral nutrition had been developed, in part by the nephrologists, but eventually, GI and Surgery became more involved as the need expanded to support severely ill patients, in many other areas, including the ICU and bone marrow transplantation. Over time, the home parenteral nutrition program had become diffused over many of the teaching hospital sites, but eventually the provincial program was centered at St. Paul's Hospital and, because of his expertise, Scott

eventually assumed a key role in this support program. During this time, hundreds of publications emerged from this small, but highly productive, clinical and basic science GI medical-surgical group at the UBC Hospital. Almost 3 million dollars annually were obtained through peer review funding agencies for equipment and operational activities. At that time, pharmaceutical company support was non-existent and therapeutic trials of new or emerging agents were very limited. This would dramatically change in GI, as in other divisions, in the next decade and offer new ethical challenges for the department and for the GI division.

### ***Divisional Re-Organization and Liver Transplantation***

During this time, facilities for GI endoscopy were aging and required re-development in all of the teaching hospitals. St. Paul's moved its clinic into an ultramodern facility in the new part of the hospital while VGH developed a clinic in the old emergency room area of the Centennial Pavilion with future plans for a modern facility in the planned new tower being constructed next to the Centennial Pavilion. Changes were also developing in GI instrumentation and fiberoptic imaging methods were being changed to video-endoscopic methods. The field of therapeutic endoscopy was exploding and screening/surveillance evaluation was emerging.

Over these years, faculty from VGH and Shaughnessy were being encouraged to function at a single site. As a result, Dr. Carr moved his practice activities to VGH and Dr. Chaun moved his activities to Shaughnessy Hospital where he also served as hospital GI head. During this time, Dr. Alan Weiss had also trained at McGill in Montreal in their clinical gastroenterology program and, after a short period in clinical practice in Massachusetts, returned to UBC as a part-time GFT in GI at Shaughnessy Hospital.

Finally, plans for a solid organ, and specifically, a liver transplant program for British Columbia were being developed, since patients were being transferred at that time by air, largely to London, Ontario for this procedure. Because of the back-up supports in place at VGH then, particularly in the surgical disciplines, VGH was chosen as the site most appropriate for liver transplantation and initial salary support funding was established for a hepatologist in the GI Division through the BC Transplant Society.

### ***UBC GI Fellowship Program***

During this early period, GI faculty developed a proposal for a UBC GI fellowship training program. Dr. MacDonald took on the initial leadership role with other faculty members, and then, formally appointed Dr. Freeman as the training program director in 1980 for two consecutive 3 year terms. Because of the increasing UBC administrative load for Dr. Freeman and the emerging policy across Canada to separate the role of division head and training program director, Dr. Steinbrecher assumed this role for the next 3 years followed by Dr. Anderson for a further 3 years. Although Royal College approval had been achieved, funding for positions was initially inconsistent. Eventually, though, the department committed to one position each year. This was an

exceedingly difficult balancing act because of the large number of applicants for the GI training program each year. In one year alone, there were 41 applicants for a single GI fellowship position compared to 40 applicants for available first year positions in the UBC medical residency program! At that time, the program was designed to attract trainees that would proceed to further training after completion of the Royal College requirements. It was hoped that these trainees could return to UBC with new ideas and upgraded skills.

The first GI fellow at UBC was Dr. Linda Rabeneck. After her training in the UBC program, she temporarily practiced at St. Paul's Hospital. She was a very energetic clinician, and at the time, AIDS/HIV was a full force epidemic in Vancouver, and St. Paul's was the primary battleground. She made the seminal observation of esophageal ulceration associated with retrovirus infection. Later, she was awarded a Robert Wood Johnson Scholarship to obtain further investigative training at Yale and, later, she was appointed to the faculty at University of Texas, Houston. Eventually, Dr. Rabeneck returned to Canada as the Head of GI at the University of Toronto.

During this time, a number of others completed GI training in the UBC teaching hospitals and eventually became UBC faculty members. All completed research studies during their training at UBC. These included: Dr. Sigfried Erb, Dr. Jim Gray, Dr. Peter Kwan and Dr. Bill Salh. Dr. Erb conducted studies on amino acid changes in liver disease and then moved to Pittsburg, Pennsylvania for two years to study with Dr. David van Thiel in liver transplantation. Dr. Gray completed original studies with Dr. Rabeneck on Mycobacterium avium disease and then moved to Edinburgh, Scotland and acquired added skills in bile salt metabolism. Dr. Kwan studied adaptive changes in intestinal membrane transport kinetics after bowel resection in a mammalian model with Dr. Freeman and then travelled to NIH in Baltimore on a special MRC Centennial Fellowship to undertake research studies under Dr. Steven James on the intestinal immune system. Dr. Salh already had prior expertise in research endeavour before his GI training, and so, he completed his research studies in Vancouver with Dr. Kwan, and eventually, with Dr. Steven Pelech in the field of kinase activation and cell signaling. All subsequently were appointed at VGH as faculty members in GI. Dr. Erb assumed the liver transplant position, Dr. Gray added clinical strength in GI to VGH and admirably represented GI on many local issues for funding and with government through the BC Society of Gastroenterology. Dr. Kwan was awarded research support initially at VGH, but then moved to UBC Hospital. Dr. Salh eventually was appointed at VGH as a GFT faculty member. Other trainees from the UBC GI program moved to other university faculties, including: Dr. Eoin Lalor at the University of Alberta, with a particular research interest in Helicobacter pylori and endoscopic therapy. Dr. Brian Bleau obtained added training at the Mayo Clinic. Later, he pioneered endoscopic treatment of bleeding ulcers and management of vessel clot.

Some trainees elected to proceed directly into private clinical practice and were very successful, including Dr. Taralyn Picton (Kamloops) who completed research studies with Dr. MacDonald on gastric cancer, Dr. Douglas Simmonds (Red Deer, Alberta) who

published with Drs. Freeman and Noble on the GI manifestations of Yersinia enterocolitica, Dr. Henry Wong (Surrey), Dr. Richard Housley (Niagra Falls, Ontario) and Dr. Hanna Binder (Maple Ridge) who completed a number of studies on Crohn's disease with Drs. Anderson and Freeman. All developed significant clinical practices in their respective communities and made important contributions. Dr. Binder, for example, organized a massive community fund raising campaign for a modern endoscopic facility in her hospital. Unfortunately, she was killed in a tragic motor vehicle accident.

In these early years, most trainees were Canadians. But, some international trainees also came during these early years. The first was Dr. Joseph Sukhabote, a member of the Thai Royal Family. He completed GI training in San Francisco and then worked in clinical research at the UBC Hospital publishing on upper gastrointestinal tract involvement with Crohn's disease with Dr. Freeman. Eventually, he returned to Bangkok to teach and practice clinical GI. Another was Dr. Helen Gillett, a gastroenterologist from Edinburgh, Scotland. She worked as a postdoctoral fellow and developed the modern serological screening antibody tests for celiac disease, including a tissue transglutaminase assay. This test was used to screen insulin dependent diabetic children at BCCH leading to recognition of asymptomatic celiac disease patients. For her work with Dr. Freeman, she was awarded the first research award from the Canadian Celiac Society.

Another element in the research mission in GI involved a commitment to the summer student research program at the UBC Hospital along with a postgraduate program in Medicine, the latter developed by Drs. Freeman and Steinbrecher, representing the GI Division. Dozens of students, medical residents and GI fellows conducted research projects that resulted in published abstracts and studies. Several received awards but eventually entered other fields. The first student from UBC to receive the CSCI student research award at the Annual Royal College meeting was to Dr. Cynthia Horner. Her research over several summers with Dr. Freeman and Dr. Gary Quamme from Nephrology resulted in appreciation using transport kinetics that multiple transporters for the uptake of glucose were present in mammalian small intestine. She proceeded into psychiatry. Dr. James Scholey, who elected to proceed into Nephrology, undertook original fundamental studies on the toxigenic mechanisms of Yersinia diarrhea in an animal model with Dr. Freeman and was also awarded the CSCI research prize at the Annual Royal College Meeting.

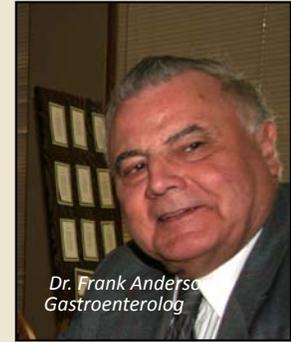
After 10 years, the UBC GI division that emerged was now serving the clinical needs of 4 teaching hospitals. Endoscopic facilities were present in each hospital and a GI oncology program at BCCA was created. A liver transplant program was initiated. Nutritional programs, including parenteral and enteral programs, were operational. Fundamental research programs in GI were awarded almost \$2 million dollars per annum in peer review funding from national and provincial agencies. Numerous papers were published from the 4 teaching hospitals focused on clinical and fundamental research activities in the GI division.

**1991-1993**

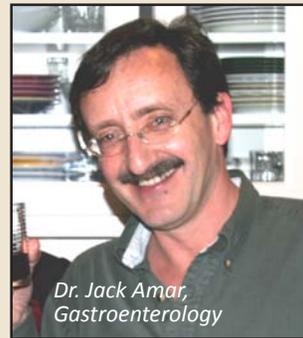
In 1991, a period of considerable turmoil in the teaching hospitals developed. A new Dean had just been appointed. The headship of the Department of Medicine had been vacated and had not been replaced, and the site of the headship for the UBC department had not been firmly established. UBC and Shaughnessy Hospitals were merged into University Hospital, followed by the closure of Shaughnessy and then the eventual merger of UBC Hospital with Vancouver General Hospital. During this time, Dr. Weiss moved to VGH and eventually took over some of the duties of Dr. MacDonald who had now entered retirement. Dr. Chaun moved to St. Paul's Hospital. All of these changes impacted heavily on the GI division. After an extended period of 2 years of service as division head to 1993, Dr. Hugh Freeman resigned and a new headship search in GI was eventually initiated with the subsequent appointment of Dr. Urs Steinbrecher as the GI division head, now re-located to VGH.



*Dr. Cynthia Horner,  
Royal College Student Award*



*Dr. Frank Anderson  
Gastroenterologist*



*Dr. Jack Amar,  
Gastroenterology*



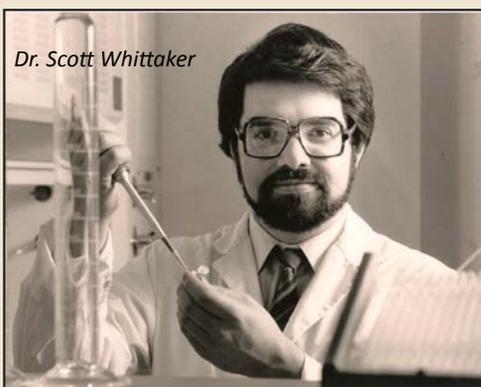
*Dr. Alison Buchan*



*Dr. Hugh Chaun*



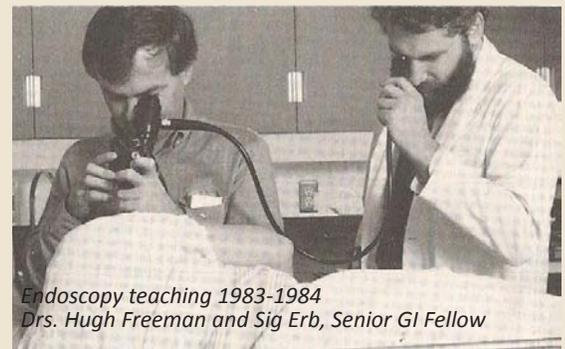
*Dr. Hugh Freeman*



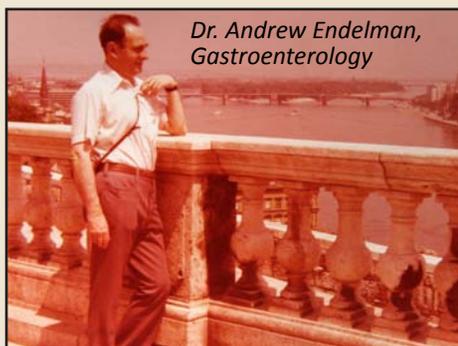
*Dr. Scott Whittaker*



*Drs. Margaret Mullinger and Abraham (A.) Bagoch,  
Pediatric Gastroenterology and Adult Gastroenterology*



*Endoscopy teaching 1983-1984  
Drs. Hugh Freeman and Sig Erb, Senior GI Fellow*



*Dr. Andrew Endelman,  
Gastroenterology*



*Dr. Urs Steinbrecher*

# DIVISION OF GERIATRIC MEDICINE

## *A 10-year History*

### OVERVIEW

The following was prepared for the 5-year review of the Division of Geriatric Medicine conducted on September 14, 2010. The last review of the Division was carried out on September 26, 1994, the substantive recommendations from which related to the urgent need to develop a strong research component. This led to the recruitment of three faculty members on tenure-based tracks during Dr. Meneilly's term as Division Head of Geriatric Medicine.

Dr. Lynn Beattie led the Division for 16 years and resigned as Head of the Division in 1996. Dr. Beattie built a strong teaching program and brought international attention to the Division as the first woman to become President of the American Geriatrics Society during her tenure as Division Head. She recruited Dr. Grady Meneilly to build research in the Division based on his international reputation in diabetes research. Dr. Meneilly was Division Head from 1998-2004. Dr. Larry Dian led the Division as Acting Head from 2004 until Dr. Janet McElhaney was appointed as Head in October, 2005, with an explicit mandate to develop a solid research program within the Division. In addition to continuing her ongoing research, Dr. McElhaney has in her first five years, received new awards from the BC Network for Aging Research and the Michael Smith Foundation for Health Research (MSFHR) to develop the Vancouver Initiative To Add Life to Years (VITALiTY) Team, a strategic interdisciplinary research initiative for the Division (including UBC faculty from other disciplines). This effort was the foundation for the Care of Older adults with Acutely Compromised Health Network (COACHNet), the proposal for which is being re-submitted after making it to the final four in health in its initial application for a Network of Centres of Excellence from Health Canada. Dr. McElhaney holds the Allan M. McGavin Chair in Geriatrics Research.

The Division has gone through many changes in the location of services with hospital amalgamations including the formation of Vancouver Acute (now Vancouver HSDA) and the development of Providence Health Care. Closure of Shaughnessy Hospital in 1993 and St. Vincent's Hospital in 2003 created additional complexity and multiple transitions in geriatric services. As mandated during Dr. McElhaney's recruitment, her first 5-year term as Division Head (2005-2010) focused on the development of a research strategy for the Division.

### MEMBERSHIP

The UBC Division of Geriatric Medicine has undergone considerable expansion over the last 10 years. Regional consolidation, the UBC Medical School expansion to distributed sites across BC, and the recruitment of Fellows completing training in our Geriatric Medicine Program has expanded the Division to 34 faculty and associate members. In the last three years, 8 of 13 core faculty have been promoted. The Division includes for GFT faculty; Dr. Kenneth Madden (promotion to Associate Professor with tenure is pending) and Dr. Phillip Lee (appointed in 2007) are on the tenure track, and Drs. Graydon Meneilly and Janet McElhaney are tenured faculty at the Professor rank.

The Division further expansion of its clinical faculty at the distributed sites for the UBC Medical School and as part of its numerous outreach activities.

### LEADERSHIP

Dr. Beattie built the UBC Division and served as its Head from 1980 to 1998. Dr. Meneilly provided exceptional leadership as Head (1998 – 2003), and Dr. Dian led in an acting posi-

tion from 2003-2008. Dr. Janet Martini deserves credit for the development of the group and related geriatric services at SPH, establishing the Division of Geriatric Medicine (2000-2003). Dr. Beattie led the SPH Division in an acting position (2003-2005) until Dr. McElhaney was appointed. Dr. Dian was a highly respected Director of the Geriatric Medicine Training Program (1994 – 2004) and Dr. Maria Chung was the Undergraduate Program Director (1994-2002). Dr. Kow took over these positions in 2004 and 2002, respectively, and built a program to include a province-wide network of training sites. Dr. Meneilly became UBC and VHHSC Chair of the Department of Medicine in 2002. Dr. Roger Wong has been appointed the Associate Program Director, Postgraduate Medical Education in Internal Medicine in 2003, and Assistant Dean of Faculty Development in 2009.

## ADMINISTRATION

The organizational structure of the Division of Geriatric is divided into clinical service, education and scholarship. Dr. Janet McElhaney is Head, UBC, PHC & VGH Divisions of Geriatric Medicine. Dr. Amanda Hill is the Physician Operations Leader at St. Paul's. Dr. Meneilly is Chair of the UBC and VGH Department of Medicine. Dr. Reva Adler is the Medical Director of the VGH STAT Centre and Vancouver Community. Dr. Roger Wong is the Medical Director, Geriatric Consultation Program and the Geriatrics Clinics. Dr. Ken Madden is Medical Manager, ACE Unit at VGH.

## TEACHING

There has been a major commitment to teaching through Division involvement in several curriculum development initiatives. With the UBC Medical School's move to problem-based learning in 1998, the Division has chaired the Brain & Behaviour and FERGU blocks. Since 2004, Dr. Janet Kushner-Kow is the Undergraduate representative for the UBC Division of Geriatric Medicine and she is the chair for the dementia week block in Brain and Behaviour in PBL. Currently the division also organizes and teaches two sessions in the 2nd year Clinical Skills curriculum on the assessment of confusion and function. Dr. Kushner-Kow is also the director for expansion for the Department of Medicine Undergraduate Program and is on the Undergraduate Education Committee.

Dr. Kushner-Kow continues to work with the UBC Care for Elders group, an interprofessional group dedicated to developing educational modules for interprofessional teams, as well as encouraging recruitment to the health professions dealing with working with Seniors. Dr. McElhaney joined the organizing committee for the Inter-Professional Education in the Care of Elders (IPECE) project based in Providence Health Care and supported by the UBC Care for Elders group. IPECE provides semi-annual workshops for students from all health care disciplines to develop skills in the interprofessional care of older patients.

Dr. Kushner-Kow is an associate with the UBC Office of Faculty Development and continues to run the ACT (Advanced Clinical Teaching) course for mid-career faculty to improve their skills in

medical education. She is also the CME director for the Canadian Geriatrics Society.

Dr. Janet Kushner-Kow has been the Program Director of the Geriatric Medicine Training Program since 2004 when she took over from Dr. Larry Dian. The Division has 3-6 trainees in the fellowship program including a number of Gulf State residents who return to Saudi Arabia upon completion of the Program. In addition, Division members teach Internal Medicine residents and fellows the principles of the care of the frail elderly by working on Clinical Teaching Units and Geriatric Consult Teams at tertiary and community teaching hospitals across BC, and teaching noon rounds and academic half days. The fellowship program is one of the top three programs in geriatric medicine.

Individual contributions of VGH Division members to teaching in the Internal Medicine Residency Program have been formally recognized over the past five years including: Dr. Roger Wong – The Fay R. Dirks Award for Excellence in Teaching (2005), University of British Columbia Killam Teaching Prize (2007), Royal College of Physicians and Surgeons of Canada/Associated Medical Services Donald R Wilson Award (2007), UBC Department of Medicine Award for Outstanding CanMEDS Health Advocate Role (2008), UBC Department of Medicine Award for Outstanding CanMEDS Manager Role (2009); Dr. Larry Dian - Vancouver Acute Bobby Miller Award for Excellence in Teaching (2009); and Dr. Amanda Hill - UBC Department of Medicine Award for Outstanding CanMEDS Collaborator Role (2009), and UBC Dept of Medicine award in recognition of outstanding contribution to International Health Project (2009).

With the complete restructuring of Elder Care Acute Services at PHC under the Physician Program Director, Dr. Janet McElhaney, unprecedented opportunities now exist for the PHC Division to be involved in teaching of medical students, internal medicine residents, and fellows in our Program. Similarly, the development of rotations for our fellow at the distributed sites of the UBC medical school will not only broaden their experience but also help to attract our graduates to practice in underserved areas of BC.

Continuing medical education (CME) has been led by a number of division members over the last 16 years. This activity mainly consists of weekly geriatric grand rounds (now video-conferenced to distributed sites), monthly journal clubs, an annual retreat organized by Dr. Larry Dian, and other symposia sponsored by the division with respect to CME accreditation. In 2010, Dr. Dian received the Donald M. Whitelaw Award for Outstanding Grand Rounds.

## RESEARCH

Peer-reviewed, grant-supported research in the Division was mainly held by Dr. Meneilly until 1997, with funding from the Medical Research Council of Canada and the BC Health Research Foundation. Dr. Meneilly continues to maintain an impressive track record of publications to the present time. Dr. Lynn Beattie was a principal investigator in the Canadian Longitudinal Study on Aging and members were co-investigators on

grants related to dementia and on industry-sponsored clinical trials. New faculty recruits in the last 10 years have completed Masters degrees or post-doctoral fellowships, improving the research capacity of the division.

Dr. Beattie, Professor Emeritus, has served on the Clinical Research Ethical Board (CREB) committee, chairs the Research Policy Committee for the Alzheimer Society of Canada, and was instrumental in working with MSFHR to set up the BC Network for Aging Research. Dr. Beattie is currently the Acting Director for the Centre for Healthy Aging at Providence.

Two faculty members are currently supported on the tenure track establishing independent research careers in cardiovascular physiology and aging (Dr. Ken Madden), behavioural neurology and dementia and health services research (Dr. Phillip Lee). Dr. Wendy Cook is developing research in exercise and falls assessment and prevention and will pursue a tenure track appointment. All three have won scholarships to support their work including the St. Paul's Hospital Foundation Scholar Award and the VGH Department of Medicine Research Award. Dr. Madden renewed his CIHR Operating Grant in 2008. Dr. McElhaney's research on the aging immune system, inflammation and influenza vaccination is currently supported by two CIHR operating grants (PI and Co-I), a CIHR Pandemic Team grant (Co-PI), and a NIH NIAID U01 grant (PI), and prior support from a CIHR International Collaboration grant and the BC Lung Association. Dr. Adler is working with the Presidents Office and Senate of the Republic of Rwanda funded by the J. William Fulbright Scholarship Board of the US State Department targeting primary prevention of ethnic violence in the Great Lakes region of Central Africa and in West Darfur. Locally, her ongoing research "Newer Older Immigrants to Vancouver" identifies the health services needs of older Chinese and South Asian immigrants to the lower mainland to British Columbia. Dr. Roger Wong conducts research previously funded by the Division's practice plan in acute care service delivery for older adults, and in medical education to enhance competency in quality improvement, health advocacy, and communication.

The Vancouver Initiative To Add Life to Years (VITALiTY; PI Dr. McElhaney) was initially formed through a Michael Smith Foundation for Health Research team grant and includes Division members (Dr. Madden and Dr. Lee, Co-Is) and UBC faculty from other health disciplines. The Division's major areas of research emphasis are in health services research and active research programs in diabetes, dementia, osteoporosis, falls prevention, cardiovascular disease, inflammation, immunosenescence and vaccination.

The Care of Older Adults with Acutely Compromised Health Network (COACHNet) led by Dr. McElhaney as the Scientific Director and involving the collaborators in VITALiTY, was one of the final four in the health category for a National Centre of Excellence award from Health Canada. While this \$23M proposal was not the one selected for funding in its first submission, the application is being prepared for a re-submission in November 2010. The UBC Division of Geriatric Medicine will be the host site for the Network. The goals are to optimize health outcomes, improve access, and reduce care-related costs for older

Canadians in Acute Care. The research output will increase the capacity of the existing acute care system to meet current and future demands for access to hospital care by all Canadians.

## DESCRIPTION OF CLINICAL SERVICES

At both PHC and VA, clinical activities continue to increase. ACE units operate at maximum capacity of 69 beds and the Geriatrics Consult Service provides hospital-wide consultation at VGH. The GRACE (Goal Responsive Acute Care for Elders) initiative launched in November 2008 at PHC, has completely restructured the geriatric services in both the inpatient, ambulatory and emergency department settings – the Geriatric Consult and Outreach Team (GCOT) at SPH and the Integrated Care for Elders (ICE) Unit at MSJ as well as new models of care in the in-patient and ambulatory settings are in various phases of planning and implementation across the two sites. The Division is actively involved in patient assessment and management at the VGH STAT Centre. Specialty clinics include Falls clinics at VGH and SPH, and memory disorder clinics at SPH and the Alzheimer's and Related Disorders Clinic at UBC Hospital.

A collaboration between VGH and PHC has extended a geriatric outreach network to most of the Community Health Centers within Vancouver Community and is working to strengthen the collaboration between primary, community and acute care. Dr. Chris Rauscher continues his work on the Frail Elderly Collaborative project and as a "clinical quality improvement advisor" working throughout BC with the Ministry of Health and Vancouver Coastal Health, including the MOH Primary Care Initiative.

Drs. Dian, Kushner-Kow, and Madden are part of the Geriatrics Outreach Teams to Northern BC. They provide specialized Geriatric Medicine consultation services to Northern, rural and remote communities including Queen Charlotte City, Masset, Prince Rupert, Terrace, Kitimat, Smithers, Burns Lake, Vanderhoof, Fraser Lake, McBride, Dawson Creek, Fort St John and Fort Nelson. This unique model of care involves geriatric medicine specialists pairing with geriatric psychiatry specialists, visiting communities on a regular basis and working in tandem with community service providers in those towns.

## FUTURE DIRECTIONS

### *Strategic Goal*

Geriatrics as a discipline in Canada needs to position itself within 5-10 years as 'wise mentor' of the health system. Academic leadership in practice, teaching, research, and policy development are needed to address the challenges of an aging population, including the complex health needs of the older patient, the increasing burden of illness in the population, and dramatic escalation in pressures on the acute care system. A strategic planning retreat has been planned, and wide consultation and a planning team have been established in preparation for this retreat. The following are the draft vision and mission statements to be considered:

## **Vision**

The UBC Division of Geriatric Medicine will shift from a unidisciplinary service-based model, to position itself as consultants and system advisers, interprofessional teachers and practitioners, patient-centred and translational researchers and health outcomes analysts, and leaders in policy development.

## **Mission**

The UBC Division of Geriatric Medicine will contribute to reducing the morbidity, mortality and socio-economic burden of an aging population in BC through a collaborative strategy that will:

- catalyze and support interprofessional practice, education, and research;
- play a leadership role in policy development in matters related to seniors care;
- develop communities of practice that enhance networking, improve system-wide capacity, and support knowledge translation through innovative research-into-practice strategies.

# DIVISION OF HEMATOLOGY

*Submitted by Dr. Michael Barnett*

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The Division of Hematology has its roots in Hematopathology at Vancouver General Hospital (VGH). Dr. Wally Thomas, the (second) Head of Hematopathology (from 1958 to 1981), recruited Dr. George Gray (in 1962), a pathologist as well as Dr. Shelly Naiman (in 1968) and Dr. Jerry Growe (in 1970), both clinicians. Drs. Thomas, Naiman and Growe, who were all members of the Department of Medicine, formed an impressive teaching program for undergraduates and residents. Dr. Noel Buskard became the first Hematology resident in 1971.

In the early 1970s, Dr. Naiman assumed responsibility for the clinical service and in 1978 was appointed as the first Head of the Division of (Clinical) Hematology in the Department of Medicine at VGH and UBC. He developed a strong clinical group and was a prototype clinician teacher in this relatively young subspecialty of Medicine.

The Blood Transfusion Service (in Hematopathology) at VGH obtained two cell separators (for plasma exchange as well as for the harvesting of granulocytes and, later, platelets) in the mid 1970s. Dr. Thomas developed the Cell Separator Unit (CSU) which was subsequently transferred to the Department of Medicine. Dr. Larry Grossman (in 1976), who became Director, and Dr. Buskard (in 1978), who had gained experience of apheresis in London, were recruited to run the CSU and to

work on the expanding clinical service. Dr. Buskard took on an increasing commitment to the Canadian Red Cross Blood Transfusion Service in Vancouver, later becoming Provincial Medical Director. Dr. Barrett Benny, who had trained in Vancouver, was recruited to replace him in the CSU in 1981 and at that time served as Assistant/Acting Director. Dr. Donna Hogge, who had trained in Toronto and Baltimore before taking a doctoral degree in Vancouver, was appointed as Director of the CSU in 1987.

In the late 1970s, Dr. Allen Eaves, who had completed subspecialty training in Medical Oncology at the then Cancer Control Agency of BC (CCABC) and was developing a research program in Experimental Hematology at the BC Cancer Research Centre (BCCRC), was given a part-time position in Hematopathology to introduce a basic research component to the Division.

Dr. Jorge Dengeri was recruited to work on the clinical service in 1981. He became Director of the Tissue Immunology Laboratory at VGH in 1982 (succeeding Dr. Ted Reeve, a nephrologist, who had held the position from 1970).

In 1981, Dr. Thomas retired and was succeeded as Head of Hematopathology by Dr. Gray. Two years later, in 1983, Dr. Naiman stepped down as Head of Hematology to work exclusively in Hematopathology. Dr. Growe, who served as Director of the Blood Transfusion Program (in Hematopathology) and Director of the Hemophilia Program for BC, became Acting Head of the Division of Hematology.

The first bone marrow transplant for an adult was carried out in 1981 (the year after the first for a child). Drs. Buskard, Denegri, Eaves, Grossman and Naiman as well as Dr. Roger Hill (a hematologist who had trained in Seattle), Dr. Ka Wah Chan and Dr. Paul Rogers (both pediatric hematologists/oncologists), Dr. Chris Fryer (a radiation oncologist) and others all played a part in the early years of this initiative. In 1984, Dr. Gordon Phillips was recruited to be the first Director of the Leukemia/Bone Marrow Transplant Program of BC based at VGH and CCABC. His inspirational leadership from 1984 to 1994 was key to its development.

Dr. Eaves, who was the inaugural Director of the Terry Fox Laboratory (from 1981 to 2006) at BCCRC, became Head of the Division of Hematology at VGH and UBC in 1985. He went on to enjoy considerable success as an administrator and advocate for research during a tenure spanning nearly two decades (from 1985 to 2003).

In 1987, Dr. Linda Vickars, who had trained in Vancouver, joined the medical staff at St. Paul's Hospital (SPH). At that time, Hematology, which had been ushered in by Dr. Bill Ibbott in the mid 1960s and developed by him and Dr. Roy Pratt in the 1970s, was combined with Medical Oncology. The second generation, who took up the mantle in the 1980s, included Dr. Hilary Wass, Dr. Kevin Murphy, Dr. Karen Gelmon and Dr. Penny Ballem. Dr. Vickars succeeded Dr. Murphy (a medical oncologist) as Head of the Section of Hematology/Medical Oncology in 1994. She deserves much credit for the advancement of the actual

Division of Hematology at SPH, serving as the first Head from 1998 to 2006.

The Division of Hematology in 2010 owes a debt of gratitude to these individuals. They established a sound clinical/ teaching/ research platform for those who followed.

## DIVISION OF INFECTIOUS DISEASES

### Phase 1 - The Early Years (1979-1993)

*Submitted by Anthony W. Chow, MD, FACP, FRCPC*

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On this 60th Anniversary of the UBC Department of Medicine, it is fitting to recall some of the early history of the Division of Infectious Diseases during my tenure as Division Head (1979-1993). The UBC Division of Infectious Diseases was established 31 years ago and headquartered at VGH during a time of enormous academic growth for the University and the Faculty of Medicine. Dr. John Dirks, Head of the UBC Department of Medicine at the time, was a visionary and saw the need to launch a new clinical service in a specialty that was in its infancy and not yet recognized by the Royal College of Physicians and Surgeons of Canada. With the help of a Medical Research Council Development Award (1979-1988) and full support of the Dean, Dr. William Webber, I was recruited from UCLA as the founding head of the Division in January 1979.

### HUMBLE BEGINNINGS

The Division had a humble beginning with offices scattered within 2 separate sites: borrowed space within the Provincial Public Health Laboratory and an office in the old Department of Medicine located on “B” Floor in the east wing of Heather Pavilion. Prior to my arrival, Dr. Dirks had already recruited two outstanding young faculty members as junior members of the Division: Dr. William Bowie, an alumnus of the University of Manitoba who had completed training with Dr. King Holmes in Seattle 2 years earlier; and Dr. Irving Salit, a McGill graduate who trained with Dr. Emil Gotschlich at the Rockefeller University in New York. Bill had already done much ground work in introducing the new discipline of Infectious Diseases to the hospital and the local community. Since all three of us had a similar training background in the clinician-teacher-investigator mode, our collective goal was to develop a Division model that integrated patient care with quality teaching and scholarly research within the UBC-VGH Department of Medicine.

### STRATEGIC DECISIONS

Those early years were difficult and demanding, but none the less one of the most exciting and fulfilling periods of our careers. The first challenge was that the discipline of Infectious Diseases was so new that our colleagues had no concept what it entailed, or what would constitute an appropriate consultation request. Infection management was considered the inherent domain of many specialties, both medical and

surgical, and there was no uniformity to accepted principles of practice. To complicate matters, Medical Microbiology was also undergoing transformation from a purely laboratory-based “bug-and-drug” perspective to a more clinically oriented role, sometimes with competing interests. To overcome these challenges, our earliest priority was to maximize the visibility of the clinical and teaching services through the provision of high quality consultations that also served as an educational tool in the principles and practice of Infectious Diseases. High standards were expected from each written consultation note that not only provided clear management recommendations but also included a discussion of rationale based on available evidence, possible pathogenetic mechanisms, and a brief list of key references. To broaden the scope of exposure, we provided in-patient consultations on a 7/24 emergency basis throughout the entire hospital, rather than manning a dedicated Infectious Disease ward in isolation. Critical liaisons were initiated both with the Division of Medical Microbiology within the Department of Pathology (headed by Dr. John Smith), and the Division of Clinical Pharmacy within the Department of Pharmaceutical Sciences (headed by Dr. Richard Bachon and later by Dr. Peter Jewesson). These productive collaborations were pivotal for allowing the Division to gain influence in the provision of key laboratory services for the management of difficult infectious diseases, and to share leadership in hospital infection control and antimicrobial stewardship.

The funding model was another strategic decision point well ahead of its time. The Division negotiated with the Medical Services Commission to provide in-patient consultations for geographic full-time funding in lieu of fee-for-service billing. This arrangement had the distinct advantage of allowing faculty to take time off from busy clinical consultation rotations in order to devote time and energy for research and other academic pursuits. There was some opposition to this funding arrangement by some physicians in the hospital at the time, but these were in the minority. Those who understood what the Division was trying to accomplish and valued the added services provided by this new discipline were very supportive and even offered encouragement.

### PERIOD OF EXPANSION AND FACULTY RECRUITMENT

Shortly after my arrival, drastic population growth and reorganizations within the Health Region resulted in rapid succession the opening of several new in-patient care facilities including the Shaughnessy Hospital, the UBC Hospital, and the new BC Cancer Agency. The explosion of medical advances such as critical care and life-support systems, solid organ transplantation, cancer chemotherapy, prosthetic devices and open heart surgery as well as emerging and re-emerging infections such as superbugs and drug-resistant tuberculosis meant an ever increasing demand for infectious disease consultations. This placed a horrendous strain on the manpower resources of the Division. Fortunately, with the support from Hospital Heads of the Department of Medicine at each of the respective UBC-affiliated teaching hospitals, new faculty recruits were successfully brought onboard. Dr. Robert Chan, a classmate from the University of Manitoba

who also trained in Infectious Diseases at UCLA, was recruited to St. Paul's Hospital in 1975 four years before my arrival. Dr. Stephen Sacks completed his training in virology from Stanford University and was recruited to the UBC Hospital in 1980. Dr. Grant Stiver from the University of Manitoba was appointed Assistant Head of the UBC Division of Infectious Diseases at VGH in 1981. Dr. Marie Gribble (De Haan), the first individual to complete fellowship training in Infectious Diseases at UBC, joined the Division at Shaughnessy Hospital in 1981. Dr. Neil Reiner (who succeeded me as the Division Head at UBC and VGH in 1994) was recruited from Case Western Reserve University in 1984. Dr. Peter Phillips, the second ID fellow in the UBC Program, completed further training in mycology from the University of Texas at San Antonio and joined Dr. Robert Chan at St. Paul's Hospital in 1986. Finally, Dr. David Burdge, another trainee of the UBC Program, joined Dr. Gribble at the Shaughnessy site in 1987. The Division also cemented its working relationship with the Provincial Health Public Laboratories (harbinger of the BC Centre for Disease Control) through the cross-appointments of Dr. Michael Rekart, Director of STD/AIDS Control, and Dr. David Patrick who later joined Dr. Rekart in 1992. Each of these individuals made major contributions to the growth and maturation of the UBC Division of Infectious Diseases during its formative years.

## CLINICAL AND CONSULTATIVE SERVICES

The Division maintained three active inpatient consultative and teaching services on a 24 hour on-call basis: one at VGH, one at the combined UBC and Shaughnessy sites of University Hospital, and one at St. Paul's Hospital where the care of HIV/AIDS was centralized. During 1990, approximately 917 new patient consults were seen at VGH, 619 at the Shaughnessy site, 298 at the UBC site, and 486 at the St. Paul's site. A weekly outpatient clinic was established at all the affiliated teaching hospitals for managing difficult and chronic infections referred by community physicians. A special Tropical Disease Clinic for the diagnosis and treatment of exotic and travel-related infections was established at VGH. Highly specialized clinics were also established at the VGH site for patients with chronic fatigue syndrome (Dr. Grant Stiver), at the UBC site for the investigation of genital herpes infections (Dr. Stephen Sacks), at the Shaughnessy site for recalcitrant urinary tract and skin and bone infections (Dr. Marie Gribble), and for chronic respiratory infections associated with cystic fibrosis (Dr. David Burdge). Courtesy telephone consultations were offered to referring physicians throughout the Province, particularly those in the interior and the far North. We utilized all these valuable clinical resources for teaching, research as well as patient care.

## TEACHING AND TRAINING PROGRAMS

The Division took pride in the quality of its teaching service, emphasizing both didactic lectures, problem solving chart rounds as well as bedside teaching for fellows, residents and medical students alike. Residents from outside the Department of Medicine frequently requested elective rotations, including Dermatology, Neurology, General Surgery, and Obstetrics and Gynecology. Exhaustive (and exhausting) attending rounds

often dragged into the evenings; but surprisingly there were few complaints. In 1982, the Division was among the first three in the country to receive full accreditation from the Royal College of Physicians and Surgeons of Canada for its Infectious Disease fellowship training program. The program was closely integrated with training in Pediatric Infectious Diseases and Medical Microbiology, and trainees rotated through all three disciplines. Soon, the Program was hosting international clinical and research trainees from Hong Kong, Australia, Peru, Singapore and Taiwan, long before the establishment of training agreements between UBC and the Saudi countries. The Division also pioneered in providing outpatient clinic rotations for core medical residents, and developed an Infectious Disease undergraduate syllabus for third year Medicine. The Division had a pivotal role in revamping the Clinical Skills curriculum for undergraduate teaching, and established the first electronic medical literature search facility for medical residents in the Department of Medicine at VGH in 1983. The Division also created a clinical elective rotation for pharmacy residents and PharmD trainees who participated as team members on the Infectious Diseases consultation service. This facilitated the implementation of various hospital programs for quality assurance in promoting rational antimicrobial utilization, deterring antibiotic overuse, and improving patient care by monitoring drug interactions and adverse events. This program became highly sought after by pharmacy residents from hospitals throughout the lower mainland, interior BC and from other provinces.

The Division also contributed to graduate studies in infectious disease research, and was among the founding members of the Experimental Medicine Graduate Program in 1989. This graduate program (headed by Dr. Gary Quamme) offered Masters and PhD courses within the Department of Medicine and the UBC Faculty of Graduate Studies. During 1991/92, Division members supervised 13 graduate students enrolled in various graduate programs, including Microbiology, Pharmacology, Experimental Medicine, Experimental Pathology, and Interdisciplinary Studies.

## HOSPITAL PROGRAMS

Together with the Pharmacy Department, the Division established one of the first Antimicrobial Utilization Committees in North America, and implemented cost-containing hospital programs at all the UBC-affiliated teaching hospitals. These programs included antibiotic audit and utilization reviews, formulary antibiotic control, and quarterly morbidity and mortality reviews. Quality assurance was introduced, and appropriate antimicrobial utilization was actively promoted according to pre-determined criteria and standards. A "reserved antimicrobial drug" policy (RAD) was developed in which written justification was required for the use of specific antimicrobial agents on the "reserved list" that were associated with exorbitant costs or potential for toxicity and misuse. These innovative hospital programs were welcomed and actively supported by the Board of Trustees and the Hospital Administration. The Division actively contributed to the hospital Pharmacy & Therapeutics Committee, the

Infection Control Committee, the Quality Assurance Committee, and the Antimicrobial Utilization Committee. The Division also established the first outpatient and home intravenous antibiotic programs in the Province, facilitating the care of patients with chronic infections such as osteomyelitis, septic arthritis, endocarditis, etc. who otherwise would have required prolonged hospitalization.

## RESEARCH ACCOMPLISHMENTS

Division members collaborated extensively in various clinical and basic research with other Divisions or Departments, including Hematology and the Bone Marrow Transplant Unit, the Intensive Care Unit, the Burn Unit, Urology, Orthopedics and Colo-rectal Surgery. Research areas included clinical trials as well as basic science discovery in microbial pathogenesis and novel therapeutic targets. The Division received major funding from provincial, national and international funding agencies including the Medical Research Council (MRC), the Canadian International Development Agency (CIDA), the National Health Research & Development Program (NHRDP), the World Health Organization (WHO), National Institutes of Health (NIAID), and the Networks of Centres of Excellence Program (NCE), among others. Aside from HIV/AIDS research championed by Drs. John Ruedy, Julio Montana and Martin Schechter, Division members secured major research support from CIDA for investigating the treatment of hepatitis B in mainland China (Dr. Grant Stiver, 1988-92), the CIDA-Peru-Canada Biomedical Training Program in Lima, Peru (Dr. Neil Reiner, 1989-94), and the Canadian Bacterial Disease Network NCE Program for interdisciplinary investigations in microbial pathogenesis and novel targets for infection treatment and prevention (Dr. Anthony Chow, 1990-2005). The level of research funding during 1991-1992 totaled ~\$2 million, including 40% from competitive national and international agencies, 10% from provincial sources, and the balance from multinational pharmaceutical companies. This was a remarkable achievement since the total research funding received by the entire Department of Medicine during the same academic year was \$9.6 million.

## FINAL REFLECTIONS

Looking back, this was a golden era in the history of the UBC Division of Infectious Diseases. The best yardstick for success in any academic enterprise is the number of future leaders it has produced and nurtured in the field. There were many that graduated from the UBC Program during my tenure as Division Head. Apart from Drs. Gribble, Phillips, Burdge and Patrick, they include: Dr. Gary Garber who became Professor and Head of the Division of Infectious Disease at the University of Ottawa, Dr. Stephen Shafran who became Professor and Director of Infectious Diseases at the University of Alberta, and Dr. David Megran who was Head of Medicine at the University of Calgary and most recently was appointed Executive Vice President and Chief Medical Officer of Alberta Health Services. Several former trainees assumed key faculty positions in Medical Microbiology, including Dr. Diane Roscoe, current Head of the Division of Medical Microbiology and Infection Control within the UBC Department of Pathology and Laboratory Medicine, and the Dr.

Elizabeth Bryce (Behm), Regional Director of Infection Control for Vancouver Coastal Health (Acute).

I am grateful for this unique opportunity to contribute to the early development of the UBC Division of Infectious Diseases. I am deeply indebted to all my colleagues and Division members not only for their loyalty, support, hard work and sacrifices, but most importantly for their friendship. However, I am most thankful to the vision and unfailing support of Dr. John Dirks and his successor, Dr. John Mancini, as well as all the hospital heads in the Department of Medicine (Dr. John Ruedy from St. Paul's Hospital, Drs. Keith Dawson and Duncan Murray from Shaughnessy Hospital, and Dr. Max Walters from the UBC Hospital). Because of their encouragement and active support, the Division evolved from a 3-member unit at VGH in 1979 into a multi-campus enterprise that comprised of 11 full-time faculty and research associates, 12 postdoctoral clinical or research fellows, 13 Masters or PhD graduate students, 22 research and technical staff, and 12 office support staff by the end of 1993.

## Phase II - A Period of Growth and Development (1994-2010)

*Submitted by Neil E. Reiner, MD, FACP, FRCPC*

## EXPANSION OF CLINICAL AND TEACHING PROGRAMS

When my distinguished colleague and good friend, Tony Chow, stepped down as Division Head, it was an honour and privilege for me to be entrusted with the leadership of the Division as only its second Head in its relatively brief history. As it should be abundantly clear from reading about the "early years", I had the great good fortune to inherit a Division that had been carefully and expertly nurtured and was functioning at the top of its game. Thus, by the time "Phase Two" started, most of the heavy lifting had been done by my predecessor and his faculty and the Division had solidified its role and reputation as a leader within UBC's academic medical center.

First and foremost for me and my Assistant Head, Dr Grant Stiver, was to ensure that the Division continued to deliver the highest quality clinical programs and teaching at both the undergraduate and graduate levels. Because of escalating demands for both clinical consultative services and teaching there was a need to recruit new faculty at both the VGH and UBC sites as well as at St Paul's. The needs at VGH were met first by the recruitment of Dr Robert Reynolds, a graduate of the Division's training program, and later, by the recruitment of Dr Ted Steiner, a graduate of Duke University Medical School, who completed his training in infectious diseases at the University of Virginia in Charlottesville, Va. More recently, Dr Richard Lester, also a graduate of the Division's training program, returned to BC to join the Division based at the BC Centre for Disease Control, after completing his research training in Nairobi, Kenya.

Recruitment and expansion of clinical faculty proceeded in parallel at St Paul's Hospital with new clinical faculty being recruited under the leadership of Dr. Peter Phillips, Head of

the St Paul's Hospital Division of Infectious Diseases. We were fortunate to be able to recruit several of our recent outstanding graduate trainees to faculty positions in the St Paul's division including Dr Val Montessori in 1997 and Dr Natasha Press in 2000. Dr Mark Tyndall, who trained in infectious diseases at the University of Manitoba and completed a ScD in public health at Harvard, joined the St. Paul's Division in 1999. Dr. Tyndall provided special expertise in epidemiological investigations of marginalized populations. The Division in conjunction with the AIDS program established the St. Paul's Hospital HIV/AIDS ward 15 years ago in 1997. This specialized clinical service consists of a 20-bed unit for HIV-positive individuals requiring in-patient care of predominantly HIV-related opportunistic infections and complications. The HIV/AIDS ward is unique in Canada and attracts undergraduate and postgraduate trainees from across the country for elective rotations and preceptorships. With this expansion of clinical faculty at both the VGH and St Paul's Hospitals sites, I am pleased to say that the Division continued to provide outstanding clinical services in the face of increasing demands and maintained a leadership role in clinical teaching.

It is important to recognize that the Division's Fellowship Training Program, which is paramount to our mission, experienced a significant period of reorganization and restructuring in "Phase Two" and continued to improve on its solid tradition of excellence. This was largely due to the leadership of two committed individuals who guided these developments. During the first half of my tenure as Division Head, the Fellowship Training Program was expertly managed by Dr Val Montessori. When Val stepped down in the middle of my tenure, I was quite pleased that Dr. Natasha Press agreed to step in and undertake leadership of this program, which just gets better and better. This record of achievement is a tribute to both of these leaders and to our faculty and our trainees.

## **EXPANSION OF BASIC SCIENCE RESEARCH PROGRAMS**

Taking advantage of the tradition of excellence in research established during the Division's "early years", in "Phase II" we capitalized on these successes and were able to significantly expand basic science research programs within the Division. Shortly after I took over as Head, I recruited Dr Yossi Av-Gay (PhD, Tel Aviv University), who established a basic research laboratory in tuberculosis pathogenesis. This complemented nicely a pre-existing focus on tuberculosis in my own laboratory, but developments in tuberculosis research did not stop there. We were very fortunate to be able to recruit a third tuberculosis researcher, Dr Zakaria Hmama (PhD, Claude Bernard University, Lyon, France). With the addition of Dr Hmama's laboratory, with a major focus on TB vaccine research, this provided a critical mass of tuberculosis research, which has developed into one of the strongest units in Canada.

Additional expansion in basic science research in the Division continued to move forward and we were pleased to be able to recruit Dr Ted Steiner from the University of Virginia, whose lab is focused on the pathogenesis of inflammatory disease of the bowel in relation to microbial pathogens. Following their recruitments to the Division, it was very gratifying to see

that Av-Gay, Hmama, and Steiner were all able to successfully establish independent basic science programs. Also recruited to the Division during this same time frame was Dr Robert Brunham from the University of Manitoba. Dr. Brunham moved from Manitoba to British Columbia to head the newly organized UBC and British Columbia Centre for Disease Control, with a primary clinical appointment in the Division, and relocated his basic research laboratory focused on the pathogenesis of Chlamydia infections to UBC.

## **EXPANSION OF CLINICAL RESEARCH PROGRAMS**

Complementing the expansion in basic science research at the VGH site was an exciting and gratifying period of expansion in clinical research, primarily at the St Paul's Hospital site. This involved a range of thematic foci such as HIV AIDS, Hepatitis B and C, including co-infection with hepatitis viruses and HIV. These research programs were inextricably linked to an innovative Harm-reduction Program focused on marginalized populations in Vancouver and British Columbia at large. These activities involved multiple investigators at St Paul's including Drs Peter Phillips, Mark Tyndall, Val Montessori, Natasha Press, and Mark Hull. The success of these programs brought welcome recognition to the Division both nationally and internationally.

The Division's success in Phase II of recruiting both basic scientists and clinician scientists was exciting and gratifying. In particular, it translated into a record of achievement such that over the past decade or more, principal investigators within the Division have in the aggregate held as many as six or seven simultaneous, independent operating grants from the Canadian Institutes of Health Research. This firmly established the Division as an academic leader within the UBC Department of Medicine and in Canada. Over the past decade or more, research funding for the Division from external sources has averaged \$4-6 million per year. In terms of research training, on average the Division has had a census of 15 post-doctoral fellows and 30 graduate students enrolled at any point in time over the past decade.

## **SUCCESS IN RESEARCH HAS MULTIPLE SPIN-OFFS**

Because of its record of excellence in both clinical and basic research, the Division was able to develop a strong alliance with the VGH and UBC Hospital Foundation to build further on its already strong record of achievement. We were very pleased to receive a commitment from the Foundation to work on behalf of the Division and over the past five years the Foundation raised more than \$1 million targeted specifically to support our research programs. This was only the beginning, however, as the Foundation has clearly come to recognize the critical importance of the Division to the Hospital and its programs. As such, the Foundation has committed itself to continue to work on our behalf to raise significantly more resources to assist us moving forward. This strong partnership with the Foundation is an important and enduring legacy of "Phase II".

A second notable and gratifying “spin-off” related to the successful expansion of our research programs, was the creation at the VGH site of the Immunity and Infection Research Centre (IIRC). The critical mass of principal investigators running basic and clinical science research programs within the Division at VGH provided the nucleus around which to organize all research in immunity and infection on the VGH campus within a virtual center. This led to the creation of the Immunity and Infection Research Centre which brought together twenty principal investigators and in the range of 50 to 60 graduate students, post-doctoral fellows, and research associates in a highly productive and collaborative research environment. The IIRC rapidly evolved to become a crucible for cutting edge research and was recognized as such by an infrastructure award from the Michael Smith Foundation for Health Research to support its programs.

### EXPANSION OF COLLABORATIVE ACTIVITIES WITH THE UBC AND BC CENTRE FOR DISEASE CONTROL

The past decade has seen significant linkages and collaborations supporting both clinical and research programs between the Division and the UBC and BC Centre for Disease Control. This has been fostered by cross-appointments of faculty between both administrative units including: Drs Robert Brunham, Michael Rekart, David Patrick, and Richard Lester. The establishment of these close ties between the CDC and the Division was significantly aided by the fact that Drs Patrick and Lester were both outstanding graduates of the Division’s fellowship training program. The productive working relationships that developed through these linkages have served the city of Vancouver and the province exceptionally well in helping to optimize infectious disease prevention and control programs for residents throughout British Columbia.

### PERSONAL REFLECTIONS

As I hope I have made clear, when I took over leadership over the Division in the mid-90s, I had the good fortune to inherit a unit that despite its youthfulness had already achieved excellence and was maintaining a strongly positive trajectory. It was my privilege and honour to be entrusted with the responsibility to provide leadership as the Division continued its growth and maturation. As I look back now, there is real satisfaction and gratification in appreciating that the Division continued on its upward trajectory, meeting the challenges we faced, and achieving even greater levels of excellence. There is much to be thankful for and many to whom I am grateful. First and foremost, our successes are linked directly to the dedication, support and commitment of our faculty, trainees, and students. Likewise, the successes achieved during the Division’s “Phase II” would not have been possible without the superb support of a committed core of administrative managers. During my term, indispensable administrative support was provided by three consummate professionals: Anna Kyriakopolous, Alexa Cartwright and for the past eleven years, Kathy Bishop. I am deeply grateful to each of them. Lastly, and most importantly, I would like to express my humble thanks to our patients and their families. They are the reason

that we are here and their illnesses and concerns are the driving forces behind what we do in the clinic, on the hospital wards, and in our laboratories. It is our honour and privilege to serve them. Their needs and aspirations have been critical motivators. They have provided the fuel that has propelled the Division forward to achieve levels of excellence of which we are all proud and for which we are all thankful.

## DIVISION OF MEDICAL ONCOLOGY

Medical Oncology became recognized as an official Division of the University of British Columbia Department of Medicine in 1980-1981, at approximately the same time that the Royal College granted Medical Oncology subspecialty status. The Division has always had a strong mix of clinical and academic-track faculty, supporting its dual responsibilities to the University and Health Authorities. Medical Oncology has been chaired by 4 individuals, starting with Dr. Ian Plenderleith, who was then succeeded by Drs. James Goldie, Susan O’Reilly, and Charles Blanke. Under Dr. O’Reilly’s leadership in particular, the Division dramatically expanded in size and scope of service.

## DIVISION OF NEPHROLOGY

### HISTORY and ORIGIN of the UBC DIVISION of NEPHROLOGY, 1945 - 2009

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### GENESIS: FIRST SUCCESSFUL HEMODIALYSIS IN NORTH AMERICA WITH KOLFF DIALYSER

The renal program in Vancouver has roots that extend back five years before the UBC Medical School was established in 1950 and over thirty years before the Division of Nephrology was formed in 1976.

In 1945 Lt. Col. Russell Palmer MD, serving with the Canadian Armed Forces in Holland, was given a blueprint of the first functioning artificial kidney (Rotating Drum) by Dr. Willem Kolff, the Dutch physician who had developed it in secret during the Nazi occupation. On discharge from the services Dr. Palmer had the machine built in Vancouver by his brother, an engineer, and in September 1947 did the first successful hemodialysis in North America using this equipment at Shaughnessy DVA Hospital; the patient with acute renal failure survived.

## KICK START

In the 1950s Dr. Palmer continued to treat acute renal failure at Vancouver General Hospital, reporting the results in 1957, 1) with Dr. Edwin Henry on ten years experience with Kolff's 'Rotating Drum' and 2) with Dr. John D.E. Price on the success of Kolff's new 'Twin Coil' artificial kidney first used at Vancouver General Hospital in 1956.

## WORLD'S FIRST UNASSISTED HOME PERITONEAL DIALYSIS

During the 1960s, to reduce demand on the equipment, Dr. Palmer introduced peritoneal dialysis using repeated peritoneal puncture for acute renal failure and in 1962 moved to St. Paul's Hospital in part to further this interest.

Dr. Price remained at Vancouver General Hospital where he pursued his interest with pharmacologists into the effect of renal failure on drug metabolism and, together with Dr. Roland Lauener, developed a three bed 'VGH Renal Unit for Dialysis' using the Kiil dialyser and an ingenious central dialysate delivery system which he designed and had built by engineers from Canadian Pacific Airlines.

In the early 1960s Professor Belding Scribner and engineer Mr. Wayne Quinton in Seattle developed a silastic shunt for vascular access facilitating the treatment of irreversible (chronic) renal failure ushering in a massive increase of hemodialysis patients in BC and worldwide. In 1963 at St. Paul's Hospital, Dr. Palmer and Dr. C.E. (Ed) McDonnell with the aid of Mr. Wayne Quinton, using similar material developed the first indwelling catheter for peritoneal dialysis, the forerunner of the Tenckhoff catheter now in common use, thus triggering the start of Home Peritoneal Dialysis (HPD) in 1964 with the first patients ever to do so unassisted (*see photo above; used with family's permission*).



First Nations couple doing HPD at home

## NEW RECRUITS AND FIRST KIDNEY TRANSPLANT IN BC

Drs. Henry Ballon and Michael Moriarty joined Dr. Price at VGH. Dr. Ballon focused on hemodialysis while Dr. Moriarty supervised a weekly 'in patient' peritoneal dialysis service using the stiff Weston Roberts catheter. In 1968 Dr. Pat Maloney did the first kidney transplant in BC with medical assistance from Dr. Ted Reeve who had returned from training in Los Angeles and thereafter ran the VGH program.

## FIRST HOME HEMODIALYSES (HHD) IN BC

In 1968, Dr. Angus Rae was recruited from the HHD training unit in Spokane sponsored by the the University of Washington, Seattle, to form a new renal unit at St. Paul's

Hospital; a unit not then attached to UBC. The new head nurse Ms. Pauline Craig went to Seattle to learn HHD training and in 1969 the first two patients in BC were trained to go home.



1969 Patient training for HHD in BC  
(Photo Courtesy of Providence Health Care Archives)

That year, the Vancouver General Hospital built a unit for Home Peritoneal Dialysis and Home Peritoneal Dialysis training, designed by Dr. Price and training began under the leadership of Dr. Ballon who had spent time in Seattle with Prof. Belding Scribner. Dr. David Lirenman began a pediatric renal unit and at first peritoneal dialysis was done at the Children's center at Vancouver General Hospital and hemodialysis in the adult unit.

## UBC DIVISION OF NEPHROLOGY LAUNCHED

### HOME TPN USING DIALYSIS TECHNIQUE. YUKON VENTURE. ROYAL COLUMBIAN HOSPITAL

The next two decades saw the formal establishment of the UBC Division of Nephrology and significant expansion of clinical programs and research. Dr. Bert Cameron joined Vancouver General Hospital bringing a research interest in disorders of mineral and bone metabolism in renal disease. Dr. Clifford Chan Yan joined St. Paul's Hospital, where he introduced large vein cannulation for urgent hemodialysis access. The technique was adapted to the intravenous delivery of Total Parenteral Nutrition (TPN) program the first in Western Canada to teach patients to do TPN at home.

In 1972, Dr. Price suggested a hemodialysis unit at the Royal Columbian Hospital which Dr. Victor Chan, a former Fellow at Vancouver General Hospital subsequently developed. Dr. Rae began what was to become a greater than 30 year commitment to Whitehorse, Yukon Territory, to hold three monthly internal medicine clinics with an emphasis on renal disease. In 1978 a Continuous Ambulatory Peritoneal Dialysis (CAPD) program was started by Dr. Moriarty at Vancouver General Hospital followed later by St. Paul's Hospital.

## INTERNATIONALLY RECOGNIZED RESEARCHERS RECRUITED

In 1976 Dr. John Dirks, a Nephrologist internationally recognized for his research, was recruited from McGill University (the Royal Victoria Hospital) to Head the UBC Department of Medicine and the University Division of Nephrology. He was committed to developing Medical Divisions which integrated clinical care, teaching, and research. He brought with him two

physiologists, Drs. Gary Quamme and Norman Wong, and one physician, Dr. Roger Sutton. The research activities of this group (including Dr. Dirks) were initially at Vancouver General Hospital but when the UBC hospital opened they relocated there. Their early research focused on studies of renal transport of calcium and magnesium. The research of Drs. Quamme, Wong, and Sutton was mainly supported by the Medical Research Council of Canada. Dr. Wong's ongoing research pertained to the regulation of salt and water excretion by the kidney and he later became Director of the Department of Medicine Experimental Medicine Program. Dr. Quamme did outstanding work on renal magnesium transport on which he became a world authority.

## STONES, BONES AND ABDOMINAL GROANS

Dr. Sutton established a metabolic renal stone clinic; still active as part of the Stone Center in the UBC Department of Urologic Sciences. Dr. Sutton inherited the Clinical Investigation Unit at Shaughnessy Hospital and, together with Drs. Valerie Walker and Cameron, studied clinical disorders of mineral metabolism including renal stone disease. Drs. Sutton and Cameron were also active in the investigation and treatment of osteoporosis at Shaughnessy Hospital before it closed. The basic and clinical research in mineral metabolism and renal stone disease became internationally recognized. In 1998 the International Urolithiasis Symposium was hosted in Vancouver, placing Vancouver on the international map among those interested in renal stones.

## WILLOW DIALYSIS CENTRE. KIDNEY TRANSPLANT RATE TRIPLED

In the late 1970s, Vancouver General Hospital opened the first Limited Care Dialysis Centre (Willow) where patients under minimal supervision did their own hemodialysis. Dr. Ronald Werb joined St. Paul's Hospital as the third nephrologist. During the 1980s, Dr. Paul Taylor joined St. Paul's Hospital to become a leader in Home Peritoneal Dialysis and Dr. C.K. Yeung and Dr. Tony Chiu brought clinical strength to the Vancouver General Hospital and St. Paul's Hospital programs. Dr. David Landsberg joined St. Paul's Hospital with special training in transplant immunology. He, along with urologist Dr. David Manson, initiated the St. Paul's Hospital renal transplant unit in 1986. This unit did 91 kidney transplants in that year thus tripling the BC transplant rate. For those rejecting their kidneys Dr. Werb and Dr. Linda Vickers developed a simultaneous plasmapheresis and hemodialysis capability also of value in certain acute glomerular diseases. Until recently this combination was the first of its kind in Canada.

## EXPO 86; TRAVELLERS DIALYSIS; PANCREAS TRANSPLANT; NEW DIVISION HEAD

In 1984 hemodialysis units were being overburdened with travellers and with Expo '86 approaching, St. Paul's Hospital nephrologists opened a private Travellers Dialysis Clinic adjacent to their office where scores of travelers were dialyzed during Expo and beyond.



Overseas visitor to Expo 86 at Travellers Dialysis Clinic

In 1984 Dr. Sutton was appointed the head of the Vancouver General Hospital and UBC Divisions of nephrology and in 1986 the head of Medicine at Vancouver General Hospital holding both positions until 1994. During this period, the clinical nephrology fellowship trained nephrologists for the province and beyond and the research program trained research fellows in the laboratory. The BC transplant Society was created in 1986 with Dr. Sutton as its Acting Head; the Pacific Organ Recovery

Program was set up and Dr. Paul Keown was recruited from the University of Western Ontario to lead these organizations and the expansion of the transplant program at Vancouver General Hospital. This expansion included simultaneous kidney and pancreas transplants for diabetic patients led by transplant surgeon Dr. Mark Meloche and nephrologist Dr. Jean Shapiro.

## ARRIVALS AND DEPARTURES

The early 1990s brought major transitions. Dr. Adeera Levin joined the renal program at St. Paul's Hospital to strengthen clinical research and Dr. Mohamud Karim joined Vancouver General Hospital to become Director of Hemodialysis after the retirement of Dr. Price.

In 1995 Dr. Rae retired after 27 years transforming a new unit into one of the fastest growing dialysis and transplant units in the region. Dr. Werb assumed his position as St. Paul's Hospital Head of Nephrology while Dr. Rae continued his role in the Yukon for a further 12 years when Dr. Taylor replaced him. Also in that year, Dr. Cameron became head of the Vancouver General Hospital and UBC Divisions after Dr. Sutton took a leave of absence from UBC to become Chair of Medicine and later Dean of the Faculty of Health Sciences at the Aga Khan University in Karachi, Pakistan, returning in 2000.

## INCREASED COOPERATION BETWEEN MAJOR SITES

In 1996, led by Drs. Karim and Chiu, members of the Vancouver General Hospital and the St. Paul's Hospital programs joined into a single partnership with increasing cooperation in the delivery of clinical and research programs. The following year the BC Renal Agency was initiated by Dr. Levin and became highly effective in delivering care to renal failure patients

province wide. A Renal Registry was developed that records all patients in BC and Yukon Territory at risk of renal failure. Dr. Levin has provided leadership to significant projects in clinical research and divisional, professional, and public education.

In the new millennium care for patients with renal failure advanced. Dr. Levin set up a Kidney Function Clinic for predialysis patients at St. Paul's Hospital similar to a clinic at Vancouver General Hospital. Recently under the supervision of Dr. Monica Beaulieu the St. Paul's Hospital clinic was upgraded to an Integrated Care Clinic with nephrologists, surgeons, dietitians, and renal nurses for evaluation of patients with end stage renal disease.

Dr. Jacek Jastrzebski at Vancouver General Hospital and Dr. Mercedeh Kiaii at St. Paul's Hospital developed a multidisciplinary vascular access program for predialysis patients involving nephrologists and surgeons. This reduced the incidence of fistula clotting and is now done by all units in BC.

Dr. Michael Copland at Vancouver General Hospital supervised the training for nocturnal Home Hemodialysis around the province with the assistance of Dr. Beverly Jung at St. Paul's Hospital. At Vancouver General Hospital Dr. Suneet Singh is responsible for the peritoneal dialysis program an important element of which at all sites is the bedside insertion of peritoneal dialysis catheters. Dr. Chan from the Royal Columbian Hospital has instructed in this method as has Dr. Gary Nussbaumer at St. Paul's Hospital, and Dr. Singh has been funded to instruct other units in BC and outside in the technique.

## FOURTH HEAD OF NEPHROLOGY; FIRST LAD TRANSPLANT IN CANADA

In 2004, after the retirement of Dr. Cameron, Dr. Keown became the Head of the UBC and Vancouver General Hospital Division until 2010 and continued to lead major research in both basic and clinical transplant immunology.

Dr. Landsberg remains in charge of transplants at St. Paul's Hospital and Dr. Shapiro at Vancouver General Hospital. Dr. John Gill joined the Division at St. Paul's Hospital and established a productive transplant outcomes research program and was joined in 2008 by Dr. Jagbir Gill. Islet cell transplant for diabetes mellitus began at Vancouver General Hospital with Dr. Shapiro as immunologist. The first Living Anonymous Donor (LAD) kidney transplant in Canada was performed at St. Paul's Hospital (2005) and is now done across the country.

The availability of kidneys for transplantation was increased by two initiatives including the introduction of donation after cardiac death and the expansion of criteria for donation of kidneys to be used in elderly recipients whose prognosis is naturally limited.

## BC RENAL AGENCY. PALLIATIVE CARE. SUMMARY OF ACHIEVEMENTS

In 2009, following an initiative of the BC Renal Agency, Drs. Chan Yan and Werb at St. Paul's Hospital developed a palliative care program for patients with end stage renal failure, now being duplicated throughout BC.

To meet the needs of the expanding clinical and academic programs, new Division members were added at Vancouver General Hospital: Drs. John Duncan, Olwyn Johnston, Peter Neufeld, and Nadia Zalunado and at St. Paul's Hospital, Drs. Abeer Jamal and Linda deLuca.

Over the years both Vancouver General Hospital and St. Paul's Hospital have aided the development of several renal units elsewhere in the province. Royal Columbian, Victoria, and Kamloops have been largely supported by Vancouver General Hospital; Penticton, Kelowna and Prince George by St. Paul's Hospital and Trail by both. Several of these units are now becoming associated with the UBC Faculty of Medicine.

Approximately 4000 kidney transplants have been done, 2700 patients are on dialysis, hemo and peritoneal, in centre, community clinics or at home, and over 10,000 patients with renal failure of various degrees not yet on dialysis are being seen in clinics and doctors offices.

### ADIEU 2009

Though this brief historical summary has outlined a number of clinical advances and research contributions made by the Division, it is also important to acknowledge the significant leadership given by members to the Division, to the administration and to teaching of undergraduate and postgraduate programs, to the development of renal programs throughout the Province, and to many national and international professional organizations.

2010 was the 60th anniversary of the UBC Medical School, and the 66th anniversary of a chance meeting in Holland which became the forerunner of what has become a very productive UBC Division of Nephrology.



1980s Inpatient Hemodialysis Unit at VGH

## DIVISION OF NEUROLOGY

### Head and Term of Services (2000 - 2010)

#### 2000

Dr. Andrew Eisen (term: 1996 - 2001)

#### 2001

Dr. Howard Feldman (term: 1st year)

#### 2002

Dr. Howard Feldman (term: 2nd year)

#### 2003

Dr. Howard Feldman (term: 3rd year)

#### 2004

Dr. Howard Feldman (term: 4th year)

#### 2005

Dr. Howard Feldman (term: 5th year)

#### 2006

Dr. Howard Feldman (term: 6th year)

#### 2007

Dr. Howard Feldman (term: 7th year)

#### 2008

Dr. Howard Feldman (term: 8th year)

#### 2009-present

Dr. Jon Stoessl (Acting) (term: 1st year)

### MILESTONES AND ACHIEVEMENTS

#### 2000:

Dr. Robert Keyes Head of St. Paul's Division  
 Dr. Donald Paty The Allison Medal, Belfast Legacy Host, Vancouver  
 Dr. Jon Stoessl Tier I Canada Research Chair

#### 2001:

Dr. Donald Calne Movement Disorders Research Award, American Academy of Neurology  
 Dr. Andrew Eisen Vancouver Hospital Distinction of Excellence Award  
 Dr. Howard Feldman VGH Scientific Achievement Award  
 Appointed to Editorial Board of Dementia and Geriatric Cognitive Disorders and Brain Aging  
 Dr. Dean Johnston Academic Enhancement Award  
 DOM Scholar Designation  
 Elected Fellow of American Stroke Association

Dr. Donald Paty	Letter of Appreciation from Samsung Medical Center from Seoul & Taiwan		MSFHR Senior Scholar Award
Dr. Steven Pelech	FOM Distinguished Lecturer for Basic Sciences		The Excellence in Research Award by DOM, VGH & UBC
Dr. Lynn Raymond	CIHR Investigator Award	<b>2003:</b>	
Dr. Vesna Sossi	NSERC Women's Faculty Award	Dr. Donald Calne	Appointed an Honorary Member of the French Neurological Society
Dr. Jon Stoessl	Appointed to Editorial Board of Annals of Neurology	Dr. Doris Doudet	Martin M. Hoffman Award for Excellence in Research by DOM
Dr. Yu Tian Wang	Howard Hughes Medical Institute International Scholar		Member of AARPT, DOM Search Committee
	CIHR Investigator Award		Head of Animal Care
<b>2002:</b>			
Dr. Duncan Anderson	Appointed President of the Canadian Ophthalmology Society from 2002-2004	Dr. Howard Feldman	Cited by Lancet Neurology for most popular paper
Dr. Howard Feldman	Appointed to Editorial Boards of Dementia and Geriatric Cognitive Disorders, Journal of Neurological Sciences, and Brain Aging		Served on Editorial Boards of Dementia and Geriatric Cognitive Disorders, Neurological Sciences
	Visiting Professor at University of Milan and University of Ottawa		Brain Aging, Research and Practice in Alzheimer's Disease and International Psychogeriatrics
	Appointment as Member of Specialty Committee in Neurology for Royal College of Physicians and Surgeons	Dr. Manouchehr Javidan	Vice Chair of Diagnostic Accreditation Committee
Dr. Robert Keyes	Faye Dirks Award for Excellence in Clinical Teaching by DOM		College of PSBC, Secretary Treasurer of CSCN
Dr. Seung Kim	Ilchon Research Award		Member of Scientific Committee of CCNS
	Gold Medal Award in Medical Science		EEG Examiner of Canadian Society of Clinical
	Elected Fellow, Korean Academy of Science and Technology	Dr. Robert D. Keyes	Member of Board of Neurophysiology at BCIT
Dr. Charles Krieger	VHHSC Clinical Investigator Award		DOM Internal Medicine Residents Teaching Award
	Appointed Chair for Sessions at Xth International Congress on Neuromuscular Disease		Appointed Medical Review Board
Dr. Donald Paty	Jerzy Olszewski Guest Lecturer, Canadian Association of Neuropathologists symposium		Member for Drug Information Reference 5th Edition, BC Drug & Poison Information Program
		Dr. Steven Pelech	Director & Board member CBRET
Dr. Lynn Raymond	CIHR Investigator Award		
	Vancouver Hospital Foundation Scientist Award;	Dr. Lynn Raymond	CIHR Investigator Award
Dr. Gordon Robinson	Appointed as Director of Undergraduate Education for the Division		MSFHR Senior Scholar Award
Dr. Dessa Sadovnick	Michael Smith Distinguished Scholar from 2001-2006	Dr. Gordon Robinson	Joseph Lieberman Award from Hereditary Disease Foundation
Dr. Jon Stoessl	Queen Elizabeth Golden Jubilee Medal Vancouver Hospital Award for Research		
Dr. Yu Tian Wang	Howard Hughes Medical Institute International Scholar Award	Dr. Thomas J. Ruth	Chair and Convener at the Annual Forefronts in Neurology Meeting
			Chair
		Dr. Brian Thiessen	Convener of Neurology Today program
			Emeritus Award in Distinction for service of Canadian Nuclear Medicine Community
			Chair of "Molecular Diagnosis in Gliomas: a Clinician's Perspective" session at the "Updates

	in Gliomas” symposium	<b>2005:</b>	
Dr. Michael Varelas	Chair of RGH Ethics Committee	Dr. Duncan Anderson	Served a term as President, Canadian Orthoptic Society
Dr. Andrew Woolfenden	German Neuroradiologic Association Innovation Prize	Dr. Jason Barton	Norman Geschwind Prize in Behavioural Neurology
<b>2004:</b>		Dr. Jeff Beckman	Master Teacher Award by DOM
Dr. Doris Doudet	External Reviewer, NIH & CIHR & BSB	Dr. Armin Curt	Organizer and Chair of first meeting of European Clinical Trials Network
Dr. Howard Feldman	Convened a national conference on antimentia drugs in Canada Invited to lecture at International Conference on Alzheimer’s Disease as well as International Springfield Montreal Conference	Dr. Dean Johnston	Roche Award for Excellence in Clinical Skills Teaching
Dr. Gillian Gibson	Master Teacher Award, DOM	Dr. David Li	Keynote address, European society of Magnetic Resonance in Medicine and Biology
Dr. Manouchehr Javidan	Examiner, Canadian Society of Clinical Neurophysiology-EEG and Evoked Potentials Secretary Treasure Canadian Society of Clinical Neurophysiology Member of Executive Board of Canadian Congress of Neurological Sciences Member of Liaison Committee of Canadian Congress of Neurological Sciences Vice Chair of Diagnostic Accreditation Program (neurodiagnostics)	Dr. Steve Pelech	Founder of Kinexus Bioinformatics Corporation, selected within top 100 private companies by Red Herring Magazine
Dr. Charles Krieger	VGH & HSC & UBC Scholarship Award	Dr. Joel Oger	Opening remarks at ECTRIMS, Greece
Dr. Martin McKeown	VCH Research Institute Interdisciplinary Award Co-director of the Motor Systems Module of the Systems Neuroscience Core Course in the Graduate Neuroscience program	Dr. Thomas Ruth	Patent: proton energy from accelerator
Dr. Colleen Murphy	Diplomat of American Board of Psychiatry and Neurology	Dr. Dessa Sadovnick	Michael Smith Distinguished Scholar Speaker at commune avec le Club de la Sclerose en Plaques Chair, Speaker at Consortium of MS Clinics on pregnancy and MS Invited plenary speaker at MS, RIMS
Dr. Donald W. Paty	Awarded Meritorious Service Decorations (civil) by Governor General of Canada	Dr. Tony Traboulee	Member at Large, Consortium of MS Centers Board of Directors Co-Chair, Fellowship Committee, Canadian Network of MS Center Appointed Director of Clinical Trial
Dr. Lynn Raymond	Killam Research Prize	Dr. Andrew Woolfenden	Chair, Acute Stroke Session, International Stroke Society Meeting
Dr. Gordon Robinson	Chair & Convener at Annual Forefronts in Neurology Meeting	<b>2006:</b>	
Dr. Philip Teal	Donald M. Whitelaw Award, by DOM, for Outstanding Grand Rounds Presentation	Brain Research Center	Canadian Foundation of Innovation Award
Dr. Yu Tian Wang	J.A.F. Stevenson Professor of the Canadian Physiological Society Award UBC Killam Research Prize	Dr. Jason Barton	Awarded a visiting professorships Hospital for Neurology and Neurosurgery, London, England
		Dr. Neil Cashman	Founded company, Amorfix Life Sciences, recipient of Technology Pioneer Award Director of Vancouver Coastal ALS Centre

Dr. Howard Feldman	Invited plenary speaker to the 10th International Conference of Alzheimer's Disease and Associated Disorders Invited plenary speaker to annual meeting of Alzheimer Society of Canada		on Human Values, UK Chair, Women in World Neuroscience, International Brain Research Organization
		Dr. Claudia Jacova	Co-author on paper in Lancet Neurology - most downloaded
Drs. Howard Feldman and Ian Mackenzie	Publications in Nature and Science on the gene causing frontotemporal dementia	Dr. Manouchehr Javidan	President of Canadian Society of Clinical Neurophysiology
		Dr. Blair Leavitt	Contributing member of Organizing Committee for World Congress of Huntington's Disease, WFN & IHA Germany Program Committee of CAG Triplet Repeat disorders, Gordon Research Conference, in France Appointed as Co-organizer, World Congress of Huntington's Disease, WFN & IHA, in Vancouver MSFHR Career Investigator Scholar Salary Award Clinician-Scientist Phase II Salary Award CIHR
Dr. David Katz	Board certified in Clinical Neuropsychology		
Dr. Gordon Robinson	Clinical Skills Award		
Dr. Vesna Sossi	Peter Wall Senior Early Scholar award		
Dr. Philip Teal	Appointed the First Sauder Family and Heart and BC Heart and Stroke Professorship		
Dr. Yu Tian Wang	Fellow of Royal Society of Canada Howard Hughes Medical Institute International Scholar	Dr. Jeff Martzke	Parke O. Davidson award for excellence in research, training, and clinical practice of Psychology by BCPA;
<b>2007:</b>			
Dr. Jason Barton	Martin M Hoffman award by DOM Served as RCP&S Lecturer, Quebec & Philadelphia	Dr. Joel Oger	Chair of Safety Monitoring Boards of several large international clinical trials Invited keynote speaker at U of Chicago and CONY Controversies in Neurology, in Berlin Formal recognition and approval of his laboratory "Neuro-Immunology Laboratories"
Dr. Neil Cashman	International Partnership Initiative Award		
Dr. Armin Curt	Appointed Scientific Director of SCI-TRN		
Dr. Virginia Devonshire	Developed revised national guidelines (with Dr. Paul O'Connor from University of Toronto) for treatment of MS	Dr. Peter Rieckmann	Elected Director of Western Pacific Region for EndMS Initiative of Canadian MS Society Inaugural Endowed MS Society of Canada Research Chair
Dr. Doris Doudet	Guest Professorship in Denmark		
Dr. Howard Feldman	Research and career profiled in Lancet Neurology Inaugural Fisher Family and Alzheimer Society of BC Endowed Professorship in Alzheimer's disease research Re-selected as one of Best Doctors in Canada Served as convening co-chair of 4th Canadian Colloquium on Dementia in Vancouver	Dr. Gordon Robinson	Appointed Medical Director for Vancouver Acute for Rehabilitation, Arthritis, Spine and Neurosciences
		Dr. Dessa Sadovnick	Initiated MS North American Pregnancy Program MS Society of Canada National Award of Merit
		Dr. Sian Spacey	Appointed Director of UBC Clinical Investigator Program Member of RCPSC Nucleus Committee
Dr. Judy Illes	Selected to present Tanner Lecture		

Dr. Vesna Sossi	Michael Smith Foundation for Health Research Career Senior Scholar Award Peter Wall Senior Early Scholar Award	Charcot Foundation Symposium, Italy Global Collaboration Fund
Dr. Jon Stoessl	Membership in Order of Canada Renewed as Canada Research Chair Tier 1 Served as Bundy Professorship at Mayo Clinic Re-selected as one of Best Doctors in Canada	ALS Centre at GF Strong Rehabilitation Centre ALS Society of Canada Marcel Bertrand Exceptional Support Services Group Program Award FOM Special Meritorious Recognition Distinguished Achievement Award for overall excellence
Dr. Anthony Traboulee	Appointed as Member at Large, Consortium of MS Centers Board of Directors Co-chair, Fellowship Committee, Canadian Network of MS Centers VP, Canadian Network of MS Centers VGH Neuroplex Committee member	Dr. Jason Barton Dr. Jeff Beckman Dr. Jacqueline Petterson
Dr. Helen Tremlett	Salary awards from MSHRF Don Paty Career Development Award	UBC DOM Fay R. Dirks Award for Excellence in Teaching at VGH UBC Roche Award for Excellence in Clinical Skills Teaching for second year medical class, Northern Medical Program
Dr. Tiffany Townsend	Member of Professional Advisory Committee for BC Epilepsy Society	Dr. Jon Stoessl Dr. Helen Tremlett
Dr. Yu Tian Wang	CIHR China-Canada Joint Health Research Initiative Received continued support from Howard Hughes Medical Institute as an International Scholar	Inducted as Fellow of Canadian Academy of Health Sciences Stephen C. Reingold award for Highest Merit-Ranked Project in Research

**2008:**

Dr. Neil Cashman	Vancouver Acute Award Elected to Canadian Academy of Health Sciences
Dr. Raul de la Fuente-Fernandez	National Parkinson's Research Award (Spain)
Dr. Howard Feldman	Fellowship of Canadian Academy of Health Sciences Distinguished Achievement Award for Outstanding Contribution by FOM
Dr. Peter Rieckmann	Elected Honourary member of All Russian Neurological Society, Moscow Elected member of Medical Advisory Board National MS Society of Canada Executive Board member on BC chapter of MS Society of Canada
Dr. Jon Stoessl	Elected Fellow of American Academy of Neurology
Dr. Helen Tremlett	Charcot Foundation's Young Investigators Award for MS research First prize for poster at European

## DIVISION OF PHYSICAL MEDICINE AND REHABILITATION

Physical Medicine and Rehabilitation emerged as a specialty following the World Wars in the early 20th century. In Canada, Physical Medicine was the 7th specialty to be recognized, gaining recognition in 1945. The specialty was renamed Physical Medicine and Rehabilitation in 1955. Military hospitals, such as Shaughnessy Hospital, and rehabilitation centres, such as GF Strong, the first rehab centre in Western Canada, played an important role in the training and development of physicians in Physical Medicine and Rehabilitation (PMR) and in the history of the UBC Division of PMR.

Prior to the formal development of the UBC Division of PMR, trainees in PMR in Vancouver fell under the umbrella of rheumatology. There was a lot of overlap in training with rheumatology, physical medicine and geriatrics. Much of the training took place at GF Strong and with physicians based at the Canadian Arthritis and Rheumatism Society (CARS). Physicians who were residents during that era recall having Dr. Leslie Truelove, a rheumatologist with a strong interest in rehabilitation, guide their training program. In fact, there were discussions regarding the possible development of a joint Division of Physical Medicine and Rheumatology. However, these discussions were interrupted abruptly when Dr. Truelove collapsed and died in 1976 while running the Vancouver Marathon.

The UBC Division of Physical Medicine and Rehabilitation was formally established in the late 1970s under guidance from

Dr. Cecil Robinson (then medical director at GF Strong Rehab Centre) and Ed Desjardins (a founding director of GF Strong and its first manager) and with the support of the Head of the Department of Medicine, Dr. John Dirks.

Dr. Duncan Murray was recruited from Halifax and became the first Division head from 1977 to 1991. Dr. Murray set a high standard for academic training in the program. His high expectations led Division members and trainees to excel in the field of physiatry. He encouraged residents to pursue fellowships elsewhere and to return to UBC with their newly acquired expertise. Dr. Murray also served as Associate Head, Department of Medicine. Dr. Murray's contributions to the Division were recognized with the establishment of the Dr. D. Duncan Murray Award for teaching excellence in 1998.

The Division was originally based at Shaughnessy Hospital. When Shaughnessy Hospital closed in 1993, the Division was relocated to the newly renovated basement offices at GF Strong Rehab Centre with the support of the BC Rehab Society (BCRS). The rehabilitation programs that had been housed at Shaughnessy were relocated. The cardiac rehabilitation program was moved to St. Paul's Hospital and the acute rehabilitation unit went to Heather Pavilion at Vancouver General Hospital (VGH).

Dr. Hugh Anton was the second Division Head. His leadership coincided with the move to GF Strong and he became the VP Medical and Academic Affairs for BCRS. When GF Strong became part of Vancouver Hospital and Health Sciences Centre in 1997, Dr. Anton was named Medical Director of the Rehab Clinical Practice Unit, a position he held until 2002. Eventually, the acute rehabilitation unit moved from VGH to GF Strong Rehab Centre where it became the neuromusculoskeletal unit. Through Dr. Anton's tireless efforts and dedication, the growth of the Division and the tradition of academic excellence continued. Dr. Anton's ongoing contributions to teaching were recognized by the Department of Medicine when he received the UBC Department of Medicine Master Teacher Award in 2009.

Dr. Theo van Rijn was Division Head from 2002 to 2007. His administrative roles included Medical Director, GF Strong and Director, Ambulatory Care and Rehabilitation Services for Vancouver Acute. Dr. van Rijn's commitment to residency education was evident throughout his career and the Theo van Rijn Award for contribution to the residency program was created in 2006.

Dr. Andrea Townson became Division Head in 2007. Her leadership coincided with the expansion of the UBC medical school and today the Division has members in Vancouver and the Lower Mainland, Vancouver Island and the Okanagan.

While much of the formal and administrative history of the Division has been based at Shaughnessy, VGH and GF Strong, there are many divisional activities that have taken place at Holy Family Hospital and St. Paul's Hospital. Dr. Ian Murray was the Medical Director for Holy Family Hospital throughout the 1980s and 1990s and Dr. Elliott Weiss is the current medical

leader for Providence.

Over the past decade, the Division's involvement in undergraduate teaching has expanded from clinical rotations to include participation in formal musculoskeletal, brain and behaviour and bedside clinical skills teaching. The residency training program has more than doubled over the past 15 years with at least two funded trainee positions per year. With the distributed medical school sites, the Division is growing and thriving throughout the province.

## DIVISION HEADS

1977-1991	Division Head	Dr. Duncan Murray
1991-1992	Acting Division Head	Dr. Hugh Anton
1992-2002	Division Head	Dr. Hugh Anton
2002-2007	Division Head	Dr. Theo van Rijn
2007-present	Division Head	Dr. Andrea Townson

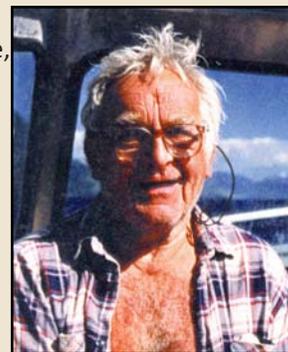
Sources: Drs. Cony Acob, Hugh Anton, George Hahn, Susan Jung, Patricia Mills, Wolf Schamberger

The Inception and Development of the GF Strong Rehabilitation Centre A Brief Historical Review by E. J. Desjardins, 1983.

# DIVISION OF RESPIRATORY MEDICINE

## RESPIRATORY MEDICINE AT UBC

Respiratory medicine at UBC has a long and proud history of clinical care, education and research. The clinical care has followed a distributed model involving multiple sites with focused special expertise at different sites. There have been major reorganizations over the years with most acute care now concentrated at Vancouver General Hospital and St. Paul's Hospital. Previously there was a significant amount of acute care at both UBC and Shaughnessy Hospitals.



Dr. Stefan Grzybowski

The origins of respiratory medicine as a sub specialty are founded in tuberculosis and UBC has been no different. With the recruitment of Stephan Grzybowski as the first Head of the UBC Respiratory Division the link between the long standing TB control program in BC and the development of respiratory medicine was forged. The long tradition of carefully collating provincial data on TB, with a database extending back to 1934, has allowed for the publication of much internationally recognized epidemiological research. In subsequent years as site specific clinical expertise developed high level research followed. With sage leadership a distributed model of clinical care and research developed at the different sites. More recently these multiple programs have been integrated into the UBC Centre for Lung Health <[www.centreforlunghealth.ca](http://www.centreforlunghealth.ca)>. The UBC Centre for Lung Health provided a framework for the

collaborations and interaction that have led to the development of the Institute for Heart and Lung Health. In these challenging times integration and collaboration are the means by which we can maintain and enhance the legacy of excellence documented in the Division's history which is summarized here. The Respiratory Division has been very successful in training a generation of fellows who have gone on to provide excellent clinical care within BC and beyond. Over the years a very strong link has been established with many countries in the Middle East where many trainees returned. The long list of fellows is beyond the scope of this narrative.

## HISTORY OF THE RESPIRATORY DIVISION AT VGH

When Stefan Grzybowski joined the Department of Medicine at UBC in 1964, there was no subspecialty. As in many other parts of the world, tuberculosis specialists gradually took up the management of other diseases of the lungs. Stefan set up a nationally and internationally renowned program on tuberculosis research. He was responsible for recruiting Moira Chan-Yeung in 1968, Raja Abboud in 1972, David Ostrow in 1979 and his "spiritual son", Donald Enarson in 1980. In 1972, Stefan and Moira set up the UBC Respiratory Clinic on 750 West 10th Avenue, part of the bungalow building opposite the Faculty of Medicine on 745 West 10th Avenue. The Clinic been moved to a building at the corner of West Broadway and Heather in the 1970s when the Eye Centre was being built and in 1978 to the Doctor's residence on 2775 Heather Street. More recently it has relocated to the Gordon and Leslie Diamond Health Care Centre at 2775 Laurel Street and has since changed its name to The Lung Centre. Clearly the UBC Respiratory Clinic has served the community well over the years providing experts in different areas of Respiratory Medicine. Stefan was remembered by all for his sense of humour and his generosity.

Moira Chan-Yeung joined the Department of Medicine as a research fellow in 1968 with Stefan and remained as a research fellow for a number of years while, helping to develop the research program in respiratory diseases at VGH. In 1974 when she became Assistant Professor of Medicine and during this period she conducted a number of research projects including the pathogenesis of exercise induced asthma and found that it was directly related to the degree of hyperventilation. She then focussed on developing a clinical program in occupational lung disease and a research program in occupational asthma and became the leading world expert in this area. She carried out an elegant series of research projects that identified plicatic acid as the causative agent in Western Red Cedar asthma. The methodology for the diagnosis of Red Cedar Asthma developed at that time continues, to be used not only for the diagnosis of Western Red Cedar asthma but also occupational asthma from other causes. She fought hard to have occupational asthma established as a compensable disease in Canada, and for those who failed to recover, to receive a disability pension. The method she recommended for calculating the degree of respiratory impairment in occupational asthma has been used as the basis for calculating respiratory impairment in patients with asthma by the American Medical Association.

More broadly Moira recruited a number of key collaborators including Susan Kennedy, Sverre Vedal (1983), Hassan Salari (1984) Michael Brauer (1991) and Helen Ward (1990). Together with Donald Enarson, the work of the group has contributed greatly to documenting the impact of occupational and environmental exposures on the development of lung disease. On the practical side, their work resulted in the establishment of threshold limit values of red cedar dust and grain dust. Susan Kennedy subsequently took on the headship of the Occupational Hygiene Program in 1994 at UBC but continued to be an associate member of the division and carried out research projects with members of the Unit. Dr Raja Abboud began a very long and illustrious career with the Division in 1972. During his career he contributed greatly to our understanding of the pathogenesis of COPD and in particular emphysema. He also took a leadership role in the Lung Function Laboratory. Reflecting his research interest he also was recognized as a compassionate and conscientious clinician. Sverre Vedal, a renaissance man, was trained in Harvard. His interest in air pollution led to a number of important studies on health effects of air pollution in Port Alberni, British Columbia. In 2001, he left for a prestigious position in the University in Denver and currently he is at the University of Washington in Seattle. This proud tradition has continued more recently with the recruitment of Chris Carlsten from the USA. His diesel exposure laboratory is one of only four in the world and is allowing innovative new research to be undertaken. One exciting example is the study of the combined effect of both diesel fumes and allergen. In addition Michael Brauer has added considerably to our understanding of the impact of environmental exposures and the development of both asthma and cardiovascular disease. In addition to collaborations in the realm of occupational disease Donald Enarson, as a protégée of Stefan Grzybowski, carved out a career in TB initially in BC and after a brief transition in Edmonton, went on to take the prestigious position of Scientific Director of the IUATLD. He subsequently was instrumental in seeing a huge increase in investment in TB since the convergence of HIV and TB infections has led to a global surge in TB.

David Ostrow was recruited in 1979 from the University of Manitoba bringing a Master's in Education which was a much needed skill set as the sub speciality further evolved. In addition David provided additional capacity for clinical care. David became the first Medical Director of the BC Lung Transplant program. The program has continued to develop and although the number of transplants is not high the outcomes compare as well if not better than the international norms. David subsequently initiated the Provincial Pulmonary Hypertension Program. This condition was initially a devastating diagnosis with many, often young females, succumbing in a matter of months. More recently complex but effective treatment regimens have been developed which allows medical management of these patients who now have a greatly improved life expectancy.

Stephen Lam joined the Respiratory Division as a research fellow with Moira in 1976. Stephen subsequently carved out an international reputation in the area of lung cancer after spending time with Shigeto Ikeda, to become an expert in

fibre optic bronchoscopy. His innovative work has led to the development of new methodologies for the early detection of lung cancer. In addition to this work he has developed strong collaborations with the Imaging group at VGH and the BC Cancer Agency which has led to work which has not only improved clinical care but also added greatly to our understanding of the biology of lung cancer. The work with John Mayo has allowed better standards of care to be developed for the optimal management of lung nodules and further collaborations with Richard Finley, thoracic surgery, has led to innovative technology using a “fuzzy wire” approach to the excision of small peripheral lung cancers with minimally invasive surgery. In collaborations with Wan Lam he has helped usher in, an era of personalized medicine, with the development of pharmaco-genomics in the management of lung cancer.

Paul Champion was recruited to the Division and started a long and much respected career, focused largely on clinical care. His commitment to patient care was reflected not only in a very busy clinical practice but in his work to establish a Pulmonary Rehabilitation Program which has been named eponymously in his honour. He also took a keen interest in the development of a bronchoscopy service at VGH ensuring the best available equipment and best practice was endorsed.

J. Mark FitzGerald was recruited from McMaster University in 1989 primarily to run the Aboriginal TB Control program at the BC CDC Division of TB Control. He has since gone on to develop an extensive program of research in asthma, COPD, health outcomes as well as continuing his interest in TB. More recently he has taken on the leadership of the UBC Respiratory Division and has taken a leadership role in the development of the UBC Centre for Lung Health and the emerging Institute for Heart and Lung Health. Dr. Vince Duronio was recruited as an Assistant Professor in 1994 and since then has established an extensive program of CIHR funded collaborative research focusing on cytokines. More recently he has taken a leadership role in Experimental Medicine Program.

In 1994, John Fleetham became the Vancouver General Hospital Division Head and UBC Head and served in these two roles until 2004 and 2005 respectively. During this time, a combined respiratory and thoracic surgical ward was created, which was initially located on the tenth floor of the Centennial Pavilion and later moved to the twelfth floor of the Jim Pattison Pavilion. The Pulmonary Function Laboratory was relocated to an expanded facility in the baseline of the Centennial Pavilion and a respiratory rehabilitation program was established. A respiratory ambulatory unit was also established to provide rapid access for patients with acute respiratory disease and a facility for performing minor procedures such as thoracentesis. This unit is now located on the twelfth floor of the Jim Pattison Pavilion. Bob Levy joined the group in 1996 to provide special expertise in lung transplantation and pulmonary hypertension. Bob subsequently moved to St. Paul's Hospital in 2004 to be Head of the St. Paul's Respiratory Division. Nasreen Khalil joined the group from Winnipeg in the late 1990s for a position in TB Control and to develop a special expertise in interstitial lung disease. Jennifer Wilson who trained in Vancouver joined

the group in 2001 to provide additional clinical expertise especially in the field of lung transplantation. Najib Ayas joined the group from Boston in 2002 providing additional expertise in the field of respiratory sleep disorders and intensive care. Dr. Victoria Cook completed training TB in both Vancouver and Winnipeg before returning in 2004 to assume a combined position at the Division of TB Control and also an appointment as Assistant Professor at the UBC Respiratory Division and based at VGH. Nasreen Khalil was recruited from the University of Manitoba with a combined mandate to continue her basic research program in focusing on interstitial lung disease as well as working at the BC CDC TB Control. More recently she has taken a leadership role in developing a much respected more clinically orientated program for the management of interstitial lung disease.

Juan Ronco primarily has been focused on his role in the Critical Care program but also has provided excellent service to the respiratory medicine clinical services. Annette Mc Williams', after completing a Fellowship with Dr. Stephen Lam came on faculty with a cross appointment between the BC Cancer Agency and the UBC Respiratory Division in 2007. She has focused her research on the early detection of lung cancer as well the development of Endobronchial ultrasound (EBUS). Dr. Chris Carlsten was recruited from the University of Washington in 2007. His recruitment was facilitated by an endowed Chair from Astra Zeneca and a substantial donation from Dr. Moira Chan Yeung. He has renewed the strong link between the occupational Lung disease Program at VGH and the School of Environmental Health at UBC. A major emphasis in his research program is the impact of diesel fumes on lung health. This research is facilitated by a state of the art diesel exposure chamber at The Research Pavilion at VGH.

More recently the recruitment of John Swiston, as Medical Director of the Pulmonary Hypertension Program, has allowed for the further development of this program, whose success has brought with it a significant cohort of patients who have survived on complex and expensive treatment regimens. The need for a multi disciplinary approach to the management of these complex pulmonary hypertension and transplant patients has led to the development of a multi disciplinary team approach greatly facilitated by the involvement of a nurse practitioner Alyson Chin, and Speciality nurse Carol Storseth but also a team including psychologists, social workers, nutritionists and other allied practitioners especially in the domain of rehabilitation.

Research into chronic obstructive pulmonary disease (COPD) has been in the fore front of research at UBC for many years. Dr. Raja Abboud has focused on the basic pathogenesis of COPD and its subsequent progression with special emphasis on the role of macrophages and proteases.

Stefan Grybowski: 1964, retired in 1986, died in 1997  
Moira Yeung: September 1968 as a research fellow, staff 1970 and retired in 2004

Raja Abboud: 1972-retired in 2001

Stephen Lam: 1976- joined the Division as research fellow; came on staff in 1979

Donald Enarson: 1980-1988  
 Sverre Vedal: July 1983 and left in September 2001  
 David Ostrow: 1979-  
 Kevin Elwood: 1982-  
 Paul Champion: 1987-2006  
 John Fleetham: 1992-  
 Jeremy Road: 1985-  
 Hassan Salari: 1985-1993  
 Mark FitzGerald: 1989-  
 Susan Kennedy: July 1988 - Retired in June 2008  
 Helen Ward: September 1990-June 2010  
 Michael Brauer: 1991-2002 (transferred to Occupational Hygiene Program, 2002)  
 Vince Duronio: July 1993 –  
 Bob Levy: 1996-  
 Frank Ryan: 2001-  
 Najib Ayas: 2002-  
 Nasreen Khalil: 2005-  
 Juan Ronco: 2007-  
 Victoria Cook: 2004-  
 Annette McWilliams: 2006-  
 John Swiston: 2007-  
 Chris Carlsten: 2007-

## ASSOCIATE MEMBERS

M. Vyas  
 Edward A. Allen: 1982 became the Director of TB control and had associate membership with the Division; retired in 1994.  
 Dr. Michael Brauer, Environmental Sciences  
 Dr. John Mayo, Radiology  
 Dr. Harvey Coxson, Radiology  
 Dr. Nestor Muller, Radiology  
 Dr. John English, Pulmonary Pathology  
 Dr. Darlene Reid, Réhabilitation Sciences.  
 Dr. Pat Camp , Réhabilitation Sciences

## SITE

- 1960s - Bungalow building on 10th Avenue (currently occupied by the Eye Centre) sharing with Psychiatry
- 1970s - VGH Respiratory Division occupied one floor in a building at the corner of Heather and Broadway while the Eye centre was being built
- 1982 until August 2006 - VGH Respiratory Division occupied the Ground Floor of the Doctors' Residence at 2775, Heather Street, Vancouver BC, V5Z1M9
- August 2006, the Division moved to the 7th Floor, Gordon and Leslie Diamond Health Centre. Later, the name was changed to The Lung Centre.

## HEADS OF DIVISION

1964-1982	Stefan Grzybowski
1982-1990	Moira Yeung
1990-1994	Svere Vedal
1994-2004	John Fleetham
2004-present	J. Mark FitzGerald

## MAJOR EVENTS

- 1972- Establishment of the UBC Respiratory Clinic - an outpatient specialty clinic for patients with lung diseases. This allowed us to do some private practice in our offices- good not only to supplement income but also for teaching.
- 1980- Establishment of the Occupational Lung Diseases Research Unit. This allowed us to have some soft money to supplement the salary of several academic staff in succession Unfortunately WCB funding ended around 1990.
- 1981-Move of TB inpatient beds from Pearson Hospital to Willow Chest Centre. TB Control with Ted Allen in the helm also supported the development of the Division by providing salary support.
- 1988- Don Enarson left for University of Alberta in Edmonton and later become the Scientific Director of IUATLD
- 1990- Establishment of the Occupational Hygiene Programme. The development of this program has been the work of Susan Kennedy while she is full time in the Respiratory Division. Her association with the Division continued until her retirement in 2008.
- 1996- Amalgamation of VGH-UBC Respiratory Divisions. The amalgamation led to concentration of respiratory physicians in VGH.
- 1998-Moira left for sabbatical – not to return until after her retirement.
- 2001-Sverre Vedal left UBC to work in the University of Colorado and later University of Washington.

## UBC HOSPITAL AND SHAUGHNESSY HOSPITAL

The UBC Hospital opened in 1980 with the goal of being a full service acute care hospital with a major academic emphasis, being located on the campus of the University of British Columbia. John Fleetham was recruited in 1981 and established a respiratory in-patient and consultation service including intensive care coverage and pulmonary function laboratory. A one-bedded sleep laboratory was opened for research studies which later expanded to a two-bedded clinical sleep laboratory in response to an increased need to diagnose and treat patients with sleep apnea. Jeremy Road joined the Respiratory Division at UBC Hospital in 1985, followed several years later by Pearce Wilcox and several years later by Frank Ryan. In the late 1980s there was a fully developed respiratory in-patient and consultation service with thoracic surgery consultation and thoracic surgery. The major research emphasis of the group was on basic science and clinical aspects of respiratory sleep and neuromuscular disorders. In 1990 the UBC Hospital was merged with Shaughnessy Hospital to create the University Hospital, The two respiratory physicians at Shaughnessy Hospital were Barbara Nakielna and Rudy Dollfuss. Shaughnessy Hospital was another full service acute medical hospital and the specific areas of expertise in terms of respiratory disease were the Adult Cystic Fibrosis Clinic and respiratory aspects related to spinal cord injury. There was also a sleep disorder program at Shaughnessy Hospital led by Jon Fleming, specializing in patients with non-respiratory sleep

disorders. In 1992, the UBC Hospital and Shaughnessy Hospital Sleep Disorder Programs were merged and a six-bedded sleep laboratory and multidisciplinary clinic were created and located at the UBC Hospital. In 1994 Shaughnessy Hospital was abruptly closed and the UBC Hospital was merged with Vancouver General Hospital. Rudy Dollfuss retired and Barbara Nakielna moved with the Adult Cystic Fibrosis Clinic to St. Paul's Hospital. Pearce Wilcox also moved to St. Paul's Hospital. John Fleetham, Frank Ryan and Jeremy Road all moved to Vancouver General Hospital. They continued to provide a respiratory consultation service to the UBC Hospital until 2009. The pulmonary function laboratory remains active to the present time. The Sleep Disorder Program at UBC Hospital has continued to grow as the importance of sleep disorders has been more widely recognized. It is currently staffed by five respirologists and six psychiatrists who see over 4,000 new patients a year. In 2009, the UBC Hospital six-bedded sleep laboratory was merged with the Richmond Hospital six-bedded sleep laboratory to create the Vancouver Coastal Health Sleep Disorder Program.

## RESPIRATORY MEDICINE AT ST. PAUL'S HOSPITAL

The first record of a chest physician at St. Paul's was Dr. C.H. Vrooman, who practiced at the hospital from the 1920s to the 1940s and was considered by many to be the province's foremost consultant in the field of tuberculosis and silicosis.

However, our story begins with the work of Dr. Harold Rice and the creation of the pulmonary function laboratory. Rice and Dr. Bill Young developed the pulmonary function lab based on the model developed by Dr. David Bates, who had trained Young at the Royal Victoria Hospital in Montreal. Bates had set up a series of lung function labs in the Veterans Hospitals throughout Canada. As Dick Donovan, a respirologist who was later appointed at St Paul's said, "Dr Bates set up these labs so that they were uniform. A lot of the pulmonary function study labs in Canada were based on this model" The lab at St. Paul's had equipment to provide measurements of lung volume, flow rates, mixing efficiency and a steady-state end-tidal diffusing capacity.

Young joined the staff at St. Paul's in 1963. He provided a full pulmonary consultation service and was able to secure several research grants from the Department of Defense. However, after almost a decade at St. Paul's, Young left in 1971 to move to New Zealand. It was almost two years before the hospital was able to find a replacement.

Dr. Graeme Copland was one of the first respirologists St. Paul's interviewed. He passed away in the fall of 2010 "I came out and had a look at it, and it seemed to me to be a tremendous place to be. It was an exceedingly good hospital at that time. And there were many physicians who were just superb."

However, the job seemed too big for one lung physician to handle. "I said to the head of medicine, 'I don't think this is a job for one person, it needs at least two people.'" Copland turned down the position, but recommended that St. Paul's offer it to Dr. Richard (Dick) Donovan, a respiratory doctor at

the Royal Victoria Hospital in Montreal.

"Their problem was with money," says Donovan. "They didn't think they had enough money to support [two physicians]." Donovan tried to convince the hospital administration that the income from increased lung function studies would support a second respiratory physician. "I kept saying, 'Well I think we can do more function studies, the function studies will pay for some of our income.' And I tried to see a source of income for us, because that was their worry, that there wasn't enough work for two of us." Donovan also ended up turning the job down because it would be so difficult for one person to handle alone. According to Copland, the administration's fear about lack of work never proved to be correct.

Eventually, St. Paul's was able to secure a grant from the B.C. Lung Association, which allowed the hospital to offer jobs to Donovan and Copland to come out as a team. Copland accepted the position almost immediately, but Donovan had some second thoughts. "Unbeknownst to me Graeme accepted, but I wasn't sure," says Donovan. "After I had turned it down the first time, I had decided that we would stay in Montreal, because we loved Montreal. Then I got this [second] call, and I couldn't decide whether to go or not. It was the worst time I ever had. I had to contact Dr. Hurlburt, who was the physician in chief here and I'd lift up the phone and then I'd put it down. I had these lists of pros and cons, and that never works. I tried flipping coins, but I wouldn't agree with it. So I decided that if I couldn't agree I shouldn't go. I phoned Graeme, to tell him that I wasn't going. And Graeme started talking very rapidly, telling me all the wonderful things about St. Paul's."

Copland convinced Donovan to think about his decision for a bit longer. As fate would have it, one of Donovan's friends, a cardiologist who had moved to Yakima, Washington, phoned that evening and was able to convince Donovan to move out west.

"I phoned Graeme the next morning and I think it was then that he said, 'you know Dick, I'd already decided.'"

As Dr. Dwight Perutz said in a speech to the B.C. Lung Association, "The arrival of Dr. Graeme Copland and Dr. Dick Donovan [opened] an era of unprecedented [respiratory] research and treatment in B.C." Copland and Donovan arrived at St. Paul's in July of 1972. Because of the lapse in the leadership of the respiratory division caused by the long delay in hiring the new respirologists, morale was low in the division and the service was being misused, Copland and Donovan wrote in their first year report to the B.C. Lung Association. When they first started there was very little teaching of interns, residents or nurses, and all of Young's research projects had been terminated. "Our early roles have therefore been to improve patient care," they wrote, "while planning facilities for respiratory research which will become operational this summer." To improve the teaching capabilities, both Donovan and Copland were cross appointed as Clinical Professors at the University of British Columbia in addition to their roles at the hospital.

The unit also appointed a Respiratory Nurse, Miss Joanne Perry. Miss Perry was one in a long line of excellent nurses. Copland is quick to emphasize the important role nurses played in building such a successful practice focused on patient care. "It's very important to have good nurses," he says, "And we had some wonderful nurses."

## THE PRACTICE AND THE PULMONARY FUNCTION LAB

One of the reasons both Copland and Donevan believed the job was more suitable for two than one was the large amount of work it involved. In addition to respiratory patients, the respirologists were responsible for ventilator management in the Intensive Care Unit. This practice continued until a full-time Intensivist, Dr. James Russell, was appointed in the mid-1980s. With only the two of them in the unit, it meant they were each frequently on call. "In the beginning, we were on call every other weekend, every other night, because there was nobody else to handle the respirators. And if a patient comes into the emergency room with a respiratory problem, we'd be called in. So we worked hard in those days," says Donevan.

Copland and Donevan not only came to the hospital together they practiced together. The two did their rounds together and were often seen around the hospital together, garnering them the nicknames Drs. D and C, and the Bobbsey Twins.

"I think there was a big advantage that we practiced together," says Donevan. "It wasn't efficient, in that we always made rounds together. We could have made them much quicker separately, but it was great for the patient, because then we both knew the patient. When you're called at night, and you know who it is, and they know you, that gives [the patient] a little confidence." They also made a practice of sharing patients and alternating consultations so that the referring physicians would regard them as a team.

In addition to their daily rounds together, Donevan and Copland regularly made combined rounds with surgeons, nurses and physiotherapists. This led to close and open relationships between the departments. But more importantly, it improved patient care and morale by ensuring that everyone was up to date on the patient's progress.

According to Donevan, while the two doctors didn't do a large practice, it was a wonderful work experience. "We had our offices in the hospital and we felt we had to contribute to the hospital a certain amount. Because we were there and we did a lot of in-hospital work we only did three half-days a week of practice and the rest of the time we were making rounds or teaching or whatever. It was very, very enjoyable; we got along really well together. It was a very happy practice." Donevan and Copland also spent a great deal of time on teaching. "With our offices right in the hospital, if we saw an interesting patient we'd call a resident and they'd come and see him or her with us," says Donevan who explains that teaching was a holistic part of the work that they did. A number of the respirologists around the city and the province have come through the respiratory program at St. Paul's as residents and

fellows, including Dr. Lindsay Lawson and Dr. Pierce Wilcox. Lawson, who was a pulmonary fellow with Copland and Donevan from 1979 to 1982 and has recently retired as a clinical professor in respirology at UBC, says that academically, the experience of learning from Donevan and Copland was fantastic. "You learned a lot about taking care of patients in the true sense of the word 'care,'" says Lawson. "You learned also that you could have fun while you're doing it, which is important. But most of all what I learned from them was the role of a compassionate caring physician. And that's the most important thing we do."

The respiratory unit has also done a lot of teaching and consulting outside of the hospital. St. Paul's sent respirologists to Fort St. John, Powell River, "All over the place," said Copland, adding that St. Paul's continues to send respirologists to Powell River, Squamish, Sechelt and Lillooet.

In the early days the lab had a variety of machines that each studied one aspect of lung function. Since then, newer equipment has been developed that combines multiple studies into one machine. The result is a shorter visit for the patient. "You can get a full set of lung function tests done in two or three minutes, because you don't go through all these different procedures," said Copland. Although the lab was improved and new equipment brought in over time, when Donevan and Copland first arrived the pulmonary function lab had several function machines and was poorly laid out.

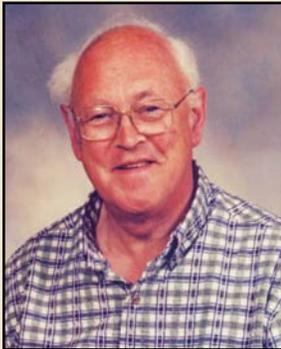
Shortly after they arrived at St. Paul's Copland and Donevan were asked to help with the planning of the new respiratory unit. According to a memo from Copland written in 1973, while St. Paul's had excellent routine function assessment, it could not provide the more complex respiratory function tests that would be expected at most teaching hospitals. When the new respiratory unit opened in September 1973, the new unit featured a variety of new equipment that allowed for more sophisticated lung function measurements both at rest and during exercise. "Graeme [Copland] and Dick [Donevan] made a big impression on people because they brought a modern concept of medicine and respiratory care," said David Bates, "and all this was completely unknown before that and people noticed these two physicians were revolutionizing pulmonary care and doing lung function tests which were unknown more or less, at that time."

Once the new pulmonary ward was opened in the renovated chapel, the respirologists started to do rounds with the surgeons. "We set it up with the surgeons so that we had both medical and surgical patients in the ward," says Donevan. "They would make rounds, we would make rounds, and once a week we'd make rounds together. That was the first time that happened where they combined medical and surgical wards in one."

Both Donevan and Copland concede that combined rounds may have been a less efficient use of time, but it also greatly improved patient care and is a practice that continues to the present. "We were tightly related to the surgeons and the x-ray people and the microbiology people and that made it just

wonderful. Just tremendous,” said Copland.

In talking to their colleagues it quickly becomes clear that Copland and Donevan were and are known for their great senses of humor and their camaraderie. The pair was also known for their practical jokes.



Dr. David Bates

“Graeme was a great practical joker,” says Donevan. “I had to respond in kind just for self defense. Every time we’d go away for our holidays, there’d be something when we came back as a joke.” One of the most memorable for Copland was the time Donevan transferred him to the Vancouver General Hospital.

“I got this registered letter on the head of medicine’s stationary telling me that I’d been transferred to the Vancouver General effective immediately and would I please not call,” Copland said. “I was so mad.”

Donevan had written in the letter that Copland should not mention the upcoming transfer to anyone because an official announcement had not yet been made. However, the letter also instructed him to leave his keys when he left the office that day.

“Graeme got this registered letter and I walked by and glanced in. And he said, ‘Come here Dick, come here. Read this.’ I read it and said, ‘Graeme it says down here you shouldn’t be telling anybody.’ He said, ‘I don’t care. I’m going to go right down now and speak to Bill Hurlburt.’ He raced out, he was furious.” Fortunately Dr. Hurlburt was out of the office at the time and Copland came back to the respirology unit still quite shaken up. “Then I started to laugh and he knew,” says Donevan. “But we did occasional serious medicine as well.”

“We had a lot of fun practicing medicine,” said Copland. “It was a very pleasant place to practice. It was very high quality of medicine and it was a place that we thoroughly enjoyed. We enjoyed each other a great deal too.”

Over the years the respiratory unit grew in numbers and by 1986 it had expanded to six physicians, three associate physicians, three clinical respiratory function technicians, four secretaries and twenty-three associated respiratory technologists. Additions to the staff included Dr Peter Paré, Lindsay Lawson, Drs. Bob Schellenberg, Dick Parady, Tony Bai, Barbara Nakielna, Pearce Wilcox, Bob Levy, Del Dorscheid, and Stephan vanEeden, Don Sin, Paul Man and Tawimas Shaipanich. In 1987 Donevan resigned from St. Paul’s to take a position as

head of the respiratory division at the King Fahad Hospital in Riyadh, Saudi Arabia. Dr. Richard Parady, who Copland describes as a dynamic young physician and researcher replaced Paré as division head in 1992; Parady remained with the unit until 2001 when he returned to his native New Zealand.

The addition of the Pulmonary Research Laboratory in 1977 brought Dr. James Hogg, a lung pathologist, Dr. Peter Paré and Lisa Baile, a respiratory researcher to St. Paul’s and started a new era of research and a further expansion of St. Paul’s capabilities.

## CHANGES IN TECHNIQUES AND TECHNOLOGY

The face of respiratory medicine has changed since St. Paul’s first developed its respiratory service in the early 1960s. “Pulmonary medicine at that time was a relatively new profession,” says Donevan. “It has changed considerably since then, in its emphasis in research for example. Before that pulmonary medicine was really in the hands of TB specialists. It was changing when we went in.”

“We jut got in on the ground floor, to some extent,” says Donevan. “There were non-TB chest physicians before us, but we were in the early stages of chest medicine.”

TB physicians were not needed as much any more and chest medicine began to develop into areas that had previously been handled by general practitioners. “We were looking at all different kinds of disease,” said Copland. “We did do a bit of tuberculosis, but not too much and it was getting to be more straight-forward. We did an awful lot of asthma. We did a lot of chronic bronchitis, emphysema, many different kinds of lung infection. We got quite involved in occupational lung disease as well.”

The respiratory unit also saw a lot of cases of connective tissue disease, chronic bronchitis, obstructive airway disease and masses in the lung. “We got a variety of cases, far more than we would have at a local general hospital because St. Paul’s became a referral hospital for respiratory medicine. So you saw a lot of unusual cases,” says Donevan. “There weren’t that many respiratory physicians through the province at that time, so when there was a complicated case they would refer either to us or to VGH. And by going out to some of these areas we became pretty well known through the province.” Because their referral base was so wide, respirologists at St. Paul’s had the opportunity to see many rare respiratory diseases. For example, Copland shared a story about seeing many instances of a certain rare disease. “There’s a disease called Wegener’s disease of the lung, which is a rare thing, and people will see one or two in a life time. But I’ll always remember one day in Powell River I saw four people who had Wegener’s disease in the same day and I thought this was just astounding.”

For Donevan, this aspect of seeing so many different types

of illness made the practice at St. Paul's more interesting. "As Graeme said, you might see one or two in your career, but at St. Paul's we had a lot of patients with Wegener's over the years, mainly because we had such a large referral base. That made it far more interesting."

In the early 1970s, endoscopy was a new and developing technique; prior to that only the rigid bronchoscope had been available for respirologists to see inside the lungs. Both the rigid bronchoscope and the flexible endoscope were passed into the lungs and allowed respirologists to see the lungs from the inside. "With the rigid bronchoscope you really couldn't get beyond the bifurcations (division of the trachea into main bronchi) of the lung," says Donevan, "But with the flexible endoscope you could get way out in the lung. When we came to St. Paul's Graeme wanted to do flexible endoscopy, so he taught me how to do it. We did a lot of endoscopies."

Changes to imaging techniques have had a huge impact on the practice of chest medicine. "When CT scanning came along that totally changed the practice of medicine," said Copland. "With the up-to-date CTs you can see anything in the lung about a millimeter or a half a millimeter in size. And that was just impossible with a chest x-ray. I couldn't recall how we'd been able to practice respiratory medicine before there was CT scanning."

"With a nodule in the lung, if it's accessible to the endoscope you can biopsy it through the endoscope," explains Donevan. "When we started practicing, that wasn't available, you had to [perform surgery. You can also do transthoracic-biopsies, where you put a needle through the chest into the lung. That wasn't done very much when we started, either."

Another significant change to respirology has come about because of the improvements in much more mundane technologies. When the new pulmonary ward opened in the renovated chapel in 1973, the lung function lab featured a brand new desktop computer that was used for the calculations of the test results. "The computer had a total of 64 K," said Copland, laughing. But at the time it represented a major step forward. Until that point all the calculations had been done by hand or using a programmable calculator. "The respiratory technicians would do the calculations by hand and we'd get the results and interpret them," says Donevan. The computer automated that work and allowed the technicians to calculate the results more quickly.

"When I first joined Dick and Graeme, we had one telephone line," says Lawson. "We had an electric typewriter; we all had our Dictaphones and the transcriptionist. We had one pager and who ever was on call carried the pager. And that was it. Now we have fifteen different computers, we all carry pagers, we have two fax machines, a photocopier, and a laser printer. We all telephone in our letters, which come back to us by e-mail. The change in technology is just kind of overwhelming."

Like advances in diagnosis, treatment of lung disease has changed considerably in the years since St. Paul's first opened its pulmonary unit. "Treatment of asthma has been

made easier by the way of inhaled bronchodilators and inhaled steroids and a different way of looking at asthma," says Donevan. "Now they recognize asthma as primarily an inflammatory disease that you can treat with anti-inflammatories. You treat the inflammation and then you treat the flare-ups, or the bronchospasm, in addition to treating the inflammation." says Donevan.

Changes in treatment of lung disease have also affected the severity of the lung disease that respirologists see. "When Dick and I started at St. Paul's we'd see people with severe asthma any day of the week," said Copland, "and some would die. But that's gotten less and less and less and less, because of the improved treatment."

Some other areas of treatment have been eliminated by preventative medicine. For example, bronchiectasis, a chronic inflammatory condition where the walls of the bronchioles become dilated and lose their elasticity, is very rarely seen any more. "We used to whittle out pieces of the lung all the time and now we hardly ever do that," says Donevan, "because the patients are treated with antibiotics very quickly and get better. We used to do a study to investigate bronchiectasis, which was called a bronchogram. You'd put a liquid dye down into the lung to outline these areas of bronchiectasis. It was a very difficult procedure for the doctor and the patient because they had to inhale this stuff."

"Now they do a CT," said Copland. "You can see much more detail and you don't need to do a bronchogram, which is nasty."

Another major change has been a shift in society's attitude toward many of the causes of lung disease. "Fewer people are smoking. Hallelujah," says Lawson. "That's actually a huge change in society. The recognition that this is a health hazard to everybody and the restrictions we've put on it, that's very gratifying. We have a ways to go, but that's an area that's really changed." Lawson also highlights the change in attitude towards occupational lung disease and the importance of protecting workers from health hazards. "I haven't made a new diagnosis of silicosis in fifteen years," says Lawson. "On the other hand, there are other problems out there in the environment that we've discovered, but I think there's been an improvement there."

## AIDS/HIV

While new treatments for older diseases have changed the face of respiratory medicine, so has the development of new diseases such as AIDS and SARS. St. Paul's was the first hospital in B.C. to treat AIDS patients, and in the early 1980s AIDS started to become a major part of respiratory care. AIDS patients frequently had respiratory complications and as with any new disease, the initial learning curve was steep. At the time, it was not only groundbreaking work, making it challenging, but it was also at times heart-breaking, frightening and took a political edge.

"The attitude of some hospitals was to try and deny that HIV

AIDS was a real problem,” said Bates. “But St. Paul’s was willing to pick it up to its credit and to develop the resources necessary for care. And I believe they’ve done a very distinguished job. There are a lot of pulmonary problems there because of the resistant pneumonias and the immune deficient pneumonias and so on, so it quickly became quite an important part of the pulmonary group’s work.”

“It got bigger and bigger and bigger and bigger. And all of us were involved,” said Copland. “But as it became bigger, Lindsay Lawson came to do all of it.” Lawson had been on call when the first AIDS patient with pulmonary complications was admitted to St. Paul’s. Soon after, she was approached by a group of general practitioners who asked her to be the AIDS lung specialist for St Paul’s.

“A group of family doctors here in Vancouver, most of them gay themselves, realized that if San Francisco was having a problem, Vancouver was going to have an even bigger problem,” says Lawson. “They approached me and said, ‘we want one specialist in each area that we will refer everybody to so that the learning curve is fast. Are you interested?’ I was a year into practice and I said, ‘sure,’ little realizing then what an incredible experience it would be.” Lawson credits the group of general practitioners who had the initial idea with the success of treating AIDS patients. “They were a very astute group of about four or five family doctors who realized that the fastest way to get people educated in the complications of a new disease was to send all the patients to one person so that one person had a rapid accumulation of knowledge instead of spreading it between several people. Back in the mid-1980s it was a pretty new disease and we were seeing complications we’d never seen before, and it was a brilliant idea. And it worked really well. The work was exciting, challenging, tragic, frustrating, all of those things. But most of all, illuminating from the point of view of the incredible patients we dealt with.”

Since that time St. Paul’s has become home to the National HIV/AIDS Clinical Trials Network and has been designated as the BC Center of Excellence in HIV/AIDS.

## THE ADULT CYSTIC FIBROSIS CLINIC

Over the years St. Paul’s had developed not only a reputation for excellent respiratory care, but for being home to a group of physicians, nurses, therapists and technicians who are devoted to patient care. This reputation has attracted not only other staff, but also patients. In the early 1990s, as the Shaughnessy Hospital prepared to close, the patients of the Adult Cystic Fibrosis Clinic were given the option to choose where the new clinic would be located. The patient committee elected to go to St. Paul’s and clinic moved there shortly after. “We met with different committees and the patients thought the St. Paul’s committee was very welcoming,” says Dr. Barbara Nakielna, director of the clinic. “St. Paul’s was accessible and had a very welcoming attitude.”

Dr. Barbara Nakielna started the Adult Cystic Fibrosis Clinic in 1979 after she was approached by Dr. Davidson from

the pediatric clinic. “They came to our department looking for someone to start an adult clinic, and nobody felt very comfortable with it because until then it had always been considered a pediatric disease, plus a fatal disease,” says Nakielna. “The understanding was that we would be looking after terminally ill patients and it wasn’t something people felt comfortable with.” Nakielna, however, didn’t see cystic fibrosis in the same light as some of her colleagues. “I felt that, obviously people were surviving, maybe more could be done to improve their survival even at this stage of the game.”

The Vancouver Adult Cystic Fibrosis Clinic was only the second adult clinic opened in Canada. Until that time, cystic fibrosis had been thought of as a disease of children. When it was first described in the early 1940s, 75 per cent of the children died before they reached three years of age. With improvements in treatment, the median age of survival is now 36 years and more adults than children have the disease. Over the years the clinic has grown from fewer than 30 patients to now treating more than 160 patients. The bulk of this growth has been caused by the increasing life expectancy of the patients. One of the rewarding changes for Nakielna has been that many of her patients have started their own families. “A thing that we didn’t have then [in 1979] but now we get more and more of is our female patients having children, they often come in with their babies.”

The clinic has close co-operation with the rest of the respiratory division in St. Paul’s as well as the researchers, but also has strong ties to the Children’s Hospital where most of its patients have been receiving treatment through their childhood. As St. Paul’s has grown, these ties with groups outside of the hospital itself have increased and strengthened.

## RESPIRATORY RESEARCH AT ST. PAUL’S HOSPITAL

By the mid-1970s, Drs. Copland and Donevan had established a respected respiratory unit with a wide referral basis at St. Paul’s. They were eager to grow the respiratory unit and to begin developing research capacity at St. Paul’s. Coupled with strengthened ties with UBC and funding from the Health Resources Fund as well as the B.C. Lung Association, this set the stage for starting a pulmonary research program at the hospital.

While planning the new cardiac and pulmonary wing to be opened in the converted chapel, Drs. Donevan and Copland, along with Drs. Bill Hulbert, John Dirks (UBC head of medicine), David Bates (UBC dean of medicine), William Webber (UBC associate dean of medicine) and David Hardwick (UBC head of pathology) began to talk about developing a pulmonary research program.

Another important part of the equation in starting a research program was St. Paul’s relationship with UBC. Shortly after the medical school started in 1950, St. Paul’s signed an affiliation agreement with UBC. However, as Dr. David Bates has stated, this was not a “proper” affiliation agreement.

“We did not have formal affiliation agreements with any of the

hospitals,” said Dr. Webber, dean of medicine from 1977 to 1990. “There was a one page agreement with St. Paul’s, which was a statement of good intentions.” However, the agreement gave St. Paul’s no real status with the university. Although a lot of undergraduate teaching was done at St. Paul’s, it received no part of the budget and had no full-time faculty working there. UBC wanted to sign formal affiliation agreements with the hospitals and at the same time expand the capacity of the school of medicine.

In the mid-seventies, at the same time as St. Paul’s was looking to start a research program at the hospital, the university was trying to double the size of the medical school. These two goals intersected. “It was propitious that Donevan and Copland and others had looked at developing the pulmonary [research],” says Hardwick, “but it was also important from the university’s perspective to have the emergence of a second major centre in Vancouver (in addition to VGH) and to bring St. Paul’s into the forefront. It was a matter of research for some, it was institution building for others.”

In 1976, Dr. Peter Paré was invited out to St. Paul’s for an interview to take on the role of starting and running the new Pulmonary Research Laboratory. Paré had just finished his research training with Dr. Jim Hogg at McGill and was beginning to look to move from Montreal where he had grown up and completed all of his education. As the eldest son of a well-known respirologist, Paré was also eager to find his own place to allow him to emerge from his father’s shadow. “Dick Donevan and Graeme Copland had established a good clinical lung unit and they wanted to add a research component,” recalls Paré. “So they invited me out here. I came and I looked at the job. But, I was just a junior person and they wanted me to start a big research lab. Although I was attracted to work with those two guys because they had set up such a good clinical unit, I thought it was going to be too hard all by myself.”

Paré returned to Montreal to continue working with Hogg. Undeterred, the St. Paul’s and UBC team—which by now included a large number of ex-McGill doctors, including Donevan, Dirks and Bates—began to consider getting Hogg to come to St. Paul’s. Dirks and Hogg were friends and had attended the University of Manitoba together in their undergraduate years before both ending up at McGill.

“It was obvious that we needed somebody like that,” says Dr Doris Kavanagh-Gray, former head of the Division of Cardiology at St Paul’s. “The whole city needed somebody of Jim Hogg’s expertise, so he was gulped down right away.”

According to Paré, who began work with Hogg as a post-doctoral fellow, Hogg’s skill as a mentor is in being able to provide support and training, while encouraging students to work independently. “He’s trained many, many people. And I think he’s done a great job of giving them enough freedom to become independent and enough guidance to be successful,” says Paré.

In 1976, Hogg came out to look at St. Paul’s and was impressed by what he saw. “I thought it was a very good clinical hospital,” says Hogg. “I thought the care that the patients got was

excellent and I thought there was a very good Department of Medicine and that the teaching was of a very high quality. Research was the next natural step. And I thought that was a bit of a challenge to start something new and see what you could do with it.”

Hogg suggested to Paré that they go out to St. Paul’s as a research team. With both a senior researcher and a junior researcher, they believed it would be much easier to start a new lab. In addition, Paré represented a much-needed connection between the lab and the clinical practice. “You needed to have a clinical interface,” says Hardwick. “Donevan and Copland were most anxious to make sure that the lab was integrated with the clinical side so that it wasn’t just some sort of research enterprise drifting off, hanging from a zeppelin or something.” Hardwick saw Peter as an obvious choice. “He’s an internist, a bright young man at the time, bright older guy now, and he fit into that criterion. We had the link with medicine, and a link with an already existing enthusiastic group of people who wanted to foster academic development, and we had somebody who knew and worked with Jim and they could obviously be a team.”

However, the challenge of starting a new lab in a hospital with almost no any existing research program was quite large. “For Jim, who was coming from one of the most established lung centers in North America, to come out here and start just with he and I was pretty bold,” says Paré. If the research program was going to flourish, Hogg and Paré needed not only to establish the lab physically, but also to establish the laboratory and its work in the minds of their fellow researchers and in the heart of the hospital. “There was not a real culture of scientific research at St. Paul’s,” says Paré. “So, that was our mission, to try to establish a laboratory and then start influencing the whole culture of the hospital, which is something we haven’t completed yet.”

St. Paul’s was once again able to secure funding through the B.C. Lung Association and UBC and Hogg and Paré began to make preparations for the Pulmonary Research Laboratory. Starting virtually from scratch meant that St. Paul’s not only had to designate and renovate a space for the lab, but also had to acquire all of the necessary equipment. “I remember we walked around the lab in McGill to see what we had that we would need to get started,” says Paré. “We had a long shopping list of everything we needed.” Paré says that at first, he and Hogg weren’t sure if St. Paul’s would be able to provide everything that was on their shopping list. According to Hogg, the B.C. Lung Association was also a bit surprised by the researchers’ list. “They gulped a bit, but they said that’s what they had in mind was to do something different, and move ahead and have something that was solid and established and would have an impact on the place,” says Hogg.

“The way they did it was by a combination of funding from the hospital, the B.C. Lung Association, and the university,” says Paré. In addition, because the lab was to be interdisciplinary in its approach and would cross both medicine and pathology, it had greater backing and funding from within the hospital and the university. “It was a partnership between medicine and

pathology, between the hospital and the university and the Lung Association. All of those players brought some resources," says Paré.

In 1977 Drs. Hogg and Paré, along with Lisa Baile, a lung research Master's student who had been working with Hogg, came to St. Paul's and started the Pulmonary Research Laboratory.

The Pulmonary Research Laboratory quickly integrated itself into the hospital. In 1979, the UBC Division of Respiratory Medicine was transferred to St. Paul's under the leadership of Bates, and he remained the Head until Paré succeeded him in 1982. It was the first division to be headed at St. Paul's. As the Pulmonary Research Lab grew, several researchers joined the staff, including Dr. Bob Schellenberg and Dr. David Walker. By the early-1980s twenty-five fellows and students from all over the world were enrolled in pulmonary research at St. Paul's. "We really have people that have come from all parts of the globe," says Hogg. "South Africa, Australia, New Zealand, Argentina, Britain, Ireland, all of South East Asia, particularly now we have lots of people from Japan and China."

By the mid-1980s, the work of the Pulmonary Research Lab was outgrowing its original space. St. Paul's was constructing a new hospital building and the clinical laboratories would be moved into the new wing, leaving the old clinical lab empty. One group that had their eye on the space was the administration, headed by the hospital president Dr. McDonald, who thought the area would make an ideal suite of offices. Another group with plans for the space was the Pulmonary Research Lab. The deciding factor was the fire regulations. "I've always felt I should put up a plaque to the Vancouver Fire Department," says Hogg. "They ruled that if it was going to be used for a different purpose, then it had to be brought up to the current fire standards. But if it was going to be used as a lab, then it didn't have to do that, because it had already been a lab." McDonald had to concede that the area should be given to an expansion of the Pulmonary Research Laboratory. To make the decision a little easier, Hogg suggested to the hospital board that the lab be renamed the McDonald Research Laboratory, in honour of Dr. McDonald, who was set to retire shortly.

## EVOLUTION OF THE DIVISION AND RESEARCH UNIT

Since that time the laboratory has expanded and diversified and Respiratory Division Members played a major role in the multidisciplinary unit. Because the major expertise of Hogg and Pare were lung pathology and physiology respectively, the lab has focused on lung structure and function in health and disease. Dick Parady, who went on to become Division Head after Pare's term 1993-2002 was recruited to establish an exercise research program and he was followed by another New Zealander, Dr Tony Bai who strengthened the existing program of research into the pathogenesis of asthma. Bai eventually became division head for a 3 year period between 2007 and 2010. Pearce Wilcox brought additional expertise in the area of respiratory muscle function and exercise as well as clinical research. Stephen vanEeden came as a fellow to work

with Jim Hogg and stayed on to pursue his interest in the role of the neutrophil in the pathogenesis of lung injury. Bob Levy was recruited to St Paul's as Division head in 2003 after Dick Parady returned to his native New Zealand. He repatriated the clinic back into the hospital after it had moved to a medical building across the street and he reorganized and enhanced the clinical research capacity of the division. Del Dorscheid, while primarily a critical care physician, focused his research in Respiratory medicine with his study of the airway epithelium in health and in asthma. The recruitment of Dr Andrew Sandford (Canadian Research Chair) in 2000 greatly broadened the Respiratory Division's research portfolio to include genetics and led to the subsequent recruitment of additional basic researchers Drs Scott Tebbutt and Denise Daley (Canadian Research Chair). They have brought world class basic science research to the division allowing the application of the latest genetic and -omics techniques to important clinical problems. Drs Don Sin and Paul Man were recruited as a package to join the Division in 2004. Man took over the leadership of the Department of Medicine at St Paul's as well as adding research and clinical expertise to the division while Sin, who took on the division leadership in 2010, brought his broad expertise in clinical epidemiology and clinical research and the translation of basic findings to clinical medicine. . Most recently the Division has recruited Wan Tan Cheng who has established population-based research in COPD and Tawimas Shaipanich who has added expertise in interventional bronchoscopy.

## HISTORY OF THE RESPIRATORY DIVISION AT SPH

### Faculty:

Bill Young: 1963-71  
Graeme Copland: 1972-2002 (died 2010)  
Dick Donevan: 1972-1987  
Peter Pare: 1977-Present (Division Head 1983-1993)  
Jim Hogg: (associate member) 1977-  
Lindsay Lawson: 1982-2010  
Bob Schellenberg: (associate member)  
Dick Parady: (Division Head )  
Tony Bai: (Division Head)  
Pearce Wilcox: 1993-  
Barbara Nakielna: 1991-2010  
Bob Levy (Division Head): Jan 1997  
Stephan vanEeden: 2000  
Del Dorscheid: 2007  
Paul Man: 2004-  
Don Sin (Division Head): 2004-  
Wan Tan Cheng: 2003-  
Tawimas Shaipanich: 2009-  
Andrew Sandford: 2001-  
Scott Tebbutt: 2002-  
Denise Daley: 2008-

### SITE

1970's 3 west wing of the Burrard Building  
1980's – Present 8A Providence Building

## HEADS OF DIVISION

Peter Pare (1983-1993)  
Dick Parry (1993-2000)  
Peter Pare (2000-2002 – interim head)  
Bob Levy (2002-2007)  
Tony Bai (2007-2010)  
Don Sin (2010- )

## MAJOR EVENTS

- 1963. The establishment of the Pulmonary Function Laboratory at St Paul's by Dr Young
- 1972-Recruitment of Drs Donevan and Copland
- 1977-Establishment of the Pulmonary Research Laboratory at St Paul's
- 1989- Move of the Adult Cystic Fibrosis Clinic to St Paul's Hospital
- 2000 Establishment of the iCAPTURE Center for Cardio-Pulmonary Research at St Paul's Hospital

## DIVISION OF RHEUMATOLOGY

The UBC Division of Rheumatology has the seeds of its origins in the 1940s. In 1948, Mary Pack, a British Columbian schoolteacher who was a pioneering advocate for rheumatic diseases, became the first Executive Director of the British



Columbia division of the Canadian Arthritis and Rheumatism Society (CARS-BC) (renamed The Arthritis Society in 1977 – TAS-BC). CARS instituted a Fellowship to allow physicians to study abroad under leading rheumatologists, and bring the knowledge back to British Columbia. In 1949, the first four hospital beds dedicated to rheumatology patients opened at Vancouver General Hospital, and in 1950 the first six dedicated rheumatology beds were opened at St. Paul's Hospital. In 1951, Dr. Cecil E. Robinson, one of the first recipients of the CARS Fellowship, was made the first head of Rheumatology at Shaughnessy Hospital, and was appointed medical director of the Canadian Arthritis and Rheumatism Society of British Columbia.

Rheumatology was one of the earliest subspecialty divisions formed in the Department of Medicine at the University of British Columbia. In 1960, Dr. Denys K. Ford was recruited to the endowed Cunliffe chair as Head of the Division and as the Research Director of CARS-BC. Dr. Ford had graduated in medicine from Cambridge University in the U.K. in 1953.

He worked at the London Hospital, London, England, and at New York University Bellevue Medical Centre, where he completed his rheumatology fellowship. In 1957, having moved to Vancouver, he became a member of the UBC faculty of Medicine, working at Vancouver General Hospital as a fellow in clinical investigation.

His singular research focus was to understand the role of infection in triggering arthritis. His seminal papers involve the relationship between genitourinary and gastrointestinal organisms and reactive arthritis. As his research required synovial fluid from patient volunteers, he would agree to take a call at any time to pick up a specimen. His first lab was in the basement of his home. In his laboratory, he used the cells from synovial fluid to probe for evidence of antigenic responses to a panel of infectious agents. Dr. Ford researched reactive arthritis over twenty years. He was and remains internationally recognized and widely cited for his work. The link between microbial antigens the development of inflammatory disease continues to be a subject for intense scrutiny today.

Dr. Denys Ford was Head of Rheumatology for 23 years. The Division was small at its inception in 1960, with only three rheumatologists, Drs. J. Philip Gofton, Harold Robinson, and George Price. Dr. Gofton's research was radiology-focused. He was partially responsible for developing the New York Criteria for Ankylosing Spondylitis. In 1960, Dr. Gofton, with Dr. Harold Robinson and the division's first fellow, George Price, plus a team including a pathologist and technicians, embarked on an ambitious project to measure the prevalence of arthritis in the Haida populations of the Queen Charlotte Islands. Six weeks of intensive work culminated in the serologic samples being evaluated in the UBC Department of Hematology, and the x-rays being examined in Vancouver, England, and Bethesda. The results indicated a prevalence of RA similar to the findings of English and U.S. surveys, but the extraordinary finding was an unexpectedly high incidence of ankylosing spondylitis. This was a very early demonstration of the role of genetics in rheumatologic development.

Dr. Harold S. Robinson had been sent by Mary Pack to the United Kingdom to study rheumatology. He was made the head of CARS-BC in 1955, became a member of UBC faculty in 1961, and was appointed clinical Professor in the Department of Medicine in 1974. Dr. Robinson's interests emphasized the importance of the team approach to the patient with arthritis, both in the inpatient and outpatient environment. In 1971, he published the first article describing successful return to work after inpatient treatment of rheumatoid arthritis. Dr. Robinson was a popular invited speaker at innumerable international conferences.

Early trainees in the Division, funded by CARS-BC fellowships, included Drs. George Price (1964-1965), Bram Bernstein, Caroline Patterson (1969-1970), Ian Tsang (1974-1976), Andrew Chalmers (1975-1976) and Dr. Robert Offer (1972-1973), who became the first UBC-trained rheumatologist to practice away from Vancouver. Their research was largely clinical, building on the work of Drs. Phil Gofton and Harold Robinson. Dr. Ian Tsang served as Associate Dean and Director of Continuing

Medical Education in the UBC Faculty of Medicine in 1989 to 1990, and received a Medical Research Council Grant which allowed him to have the exciting opportunity of partaking in the International Microgravity Laboratory studies on board the Space Shuttle Discovery in 1992.

Dr. Frank Jirik trained with the Division in 1984, becoming a rheumatologist, molecular biologist, and molecular immunologist, responsible for major advances in the development transgenic mice as a powerful new tool in the investigation of the role of genes and disease. Dr. Mark Adams, another trainee in the 1970's, became a well-known osteoarthritis researcher.

In 1969, CARS-BC opened a new facility, the Mary Pack Arthritis Centre, on West 10th Avenue, near Vancouver General Hospital. The multipurpose facility included ample clinical and administrative space, as well as physical and occupational therapy treatment and a hydrotherapy pool. The Centre became a hub for the provincial network of treatment, a training facility where arthritis health professionals could be trained, a home for the UBC Division of Rheumatology, as well as administrative offices for the Canadian Arthritis and Rheumatism Society of British Columbia (now The Arthritis Society of BC and Yukon).

In 1973, the UBC Division of Rheumatology formally received its first Royal College of Physicians and Surgeons of Canada accreditation.

In 1983, Dr. Andrew Chalmers was made the Head of the Division of Rheumatology, a position he held for 10 years. Dr. Chalmers was active in the University, being Vice dean of the Medical school, responsible for undergraduate education, and for restructuring entirely the curriculum, in line with modern teaching methods.

During Dr. Chalmers' two terms, Drs. John Wade, Graham Reid, Alice Klinkhoff trained in, and were recruited to the Division.

Dr. Ian Tsang was Acting Head in 1993 to 1994, passing the baton to Dr. Caroline Patterson for 1994-96, during which time an intensive recruitment effort resulting in the appointment of Dr. John Esdaile as Head at the Professorial level. At this time both Drs. Jolanda Cibere and Diane Lacaille were trained and recruited, enhancing the research expertise in the division as they proceeded to the PhD and Master's level respectively. As well, Dr. Kam Shojania, our current Division Head, trained during these years.

Dr. John Esdaile accepted the positions of Head of Rheumatology and Program Director of the Rheumatology Postgraduate Training Program at the University of British Columbia. At the same time, he became Director of Research at The Arthritis Society, BC & Yukon Division. Dedicated to expanding Canada's role in arthritis research, Dr. Esdaile was largely responsible for developing and establishing the Arthritis Research Centre of Canada, of which he was named Scientific Director in 2000.

The Arthritis Research Centre of Canada (ARC) was created in 2000 by the Board of The Arthritis Society, BC and Yukon Division, in recognition of the tremendous potential that research can bring to arthritis treatment in Canada, and indeed, the world. In April 2002, ARC became an independent organization that is affiliated with UBC and continues to work closely with The Arthritis Society for the benefit of all people with arthritis. The Centre conducts consumer-driven clinical research and trials related to arthritis diagnosis, prognosis, prevention, care outcomes and quality of life issues. ARC is a patient-oriented research centre and, continuing the legacy of Dr. Harold Robinson, it includes a wide range of disciplines, including rheumatology, rehabilitation science, public health, epidemiology, biostatistics health psychology, health economics and education. Their important work is supported through working relationships and partnerships with universities, hospitals, funding agencies, the Mary Pack Arthritis Program, and both the BC and Yukon Division and the National Office of The Arthritis Society. ARC scientists have had tremendous success in obtaining external grant funding to support the many research projects that are highly relevant to Canadians with arthritis. Current research is funded by the Canadian Arthritis Network (of the Networks of Centres of Excellence), The Arthritis Society of Canada, National Institutes of Health (U.S.) and the Canadian Institutes of Health Research. Faculty members hold scholarships from the Arthritis Society of Canada, the Canadian Institutes of Health Research, and Canadian Arthritis Network.

Many current members of the Division were trained during Dr. Esdaile's two-plus terms, including Drs. John Watterson, Lucie Wilk, Jason Kur, Raheem Kherani, David Collins, and Jennifer Reynolds. After his training with us, Dr. Andrew Thompson went on to become the Program Director of the Rheumatology program at University of Western Ontario, as well as the creator of Thompson's (now Tarascon) Pocket Rheumatologica. In addition, numerous Gulf State trainees were trained during this time.

Dr. Esdaile is also responsible for recruiting Dr. Hyon Choi, in 2004, to become the Mary Pack Chair in Rheumatology. At the time, this was the first and only chair for clinical rheumatology research in Canada. Dr. Choi is an eminent researcher who has authored and co-authored more than 150 publications and has been an invited speaker at conferences around the world. In addition to his rheumatology fellowship training at the Massachusetts General Hospital and Harvard Medical School in Boston, Massachusetts, he has received both a master's and a doctorate degree in epidemiology from Harvard University.

The current Head of the Division of Rheumatology is Dr. Kam Shojania. He was made Head and Program Director of the Postgraduate Training Program in 2008. He is a UBC graduate in Medicine, Internal Medicine and Rheumatology beginning practice in 1995 with Dr. Barry Koehler who was a previous Medical Director of the Arthritis Society, BC and Yukon. Dr. Shojania has had various roles in the Division including Director of CME and Director of Clinical Trials at the Arthritis Research Centre. He was also one of the first recipients of the Arthritis Society's Clinical Teacher Award from 2001 to 2006.

The Division of Rheumatology has come a long way since the vision of Mary Pack in 1948. The future of the Division is bright with new, strong clinical rheumatologists, internationally-renowned researchers, and close ties with The Arthritis Society, the Mary Pack Arthritis Program and the Arthritis Research Centre of Canada. We strive to provide excellence in clinical care, teaching and research. Challenges that need to be overcome include the aging populations (and aging rheumatologists!) and a low number of Canadian trainees going into rheumatology. There are consistent breakthroughs in our understanding of the rheumatic diseases and outstanding new therapies are available for patients in British Columbia, with many more still becoming available. However, we continually fight the misconceptions from the lay public, administrators (and other physicians) about the rheumatic diseases. Improving the knowledge about these diseases will help ensure consistent research and clinical funding for patients with arthritis in British Columbia.

## HEADS OF DIVISION

Dr. Denys Ford (1960-1983)

Dr. Andrew Chalmers (1983-1993)

Dr. Ian Tsang (Acting Head - 1993-1994)

Dr. Caroline Patterson (1994-1996)

Dr. John Esdaile (1996-2008)

Dr. Kam Shojanian (2008 to present)

# ADMINISTRATION



**Linda Rasmussen**  
Director of Administration



**Nicholas Sidorenko**  
Finance Manager



**Linda Kompauer**  
Human Resources Manager

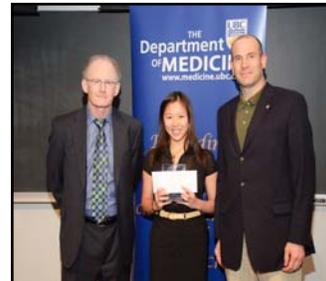
2010 marked the 60th Anniversary of the Department of Medicine at the University of British Columbia, and we acknowledged this significant milestone by celebrating our many successes. A 60th anniversary symposium and awards event was held where several of our former and current faculty members gave talks on the past, present and future of the Department. We also created this special edition annual report to commemorate the Department's 60th anniversary. In addition, many of our faculty and staff participated as volunteers and torch-bearers in the 2010 winter Olympic Games, hosted by the City of Vancouver. A special section of this report is dedicated to these faculty and staff members.



## ADMINISTRATION

### *60th Anniversary and Awards Symposium*

The administration team planned and organized the 60th anniversary symposium and awards event that took place on May 26th, 2010 in the Paetzold Auditorium, Jim Pattison Pavilion, VGH. In addition to the reception and presentation of the annual faculty and staff awards, highlights of the evening included a historic photo slideshow and four guest speakers who gave fascinating insight to the history, growth and development of the Department and the Faculty of Medicine: Dr. John Cairns, Professor and former Dean, UBC Faculty of Medicine; Dr. Charles Kerr, Professor; Dr. John Dirks, President and Scientific Director, The Gairdner Foundation and former Chair, UBC Department of Medicine; and Dr. John Mancini, Professor and former Chair, UBC Department of Medicine. Dr. Graydon Meneilly donned his famous Star Trek uniform to talk about the many exciting future directions ahead for the Department. The Department's annual faculty and staff awards were also presented at this event.



### *Staff Awards Program*

2010 was the inaugural year for the Department's Staff Awards Program, created to recognize individuals in the department who consistently "go above and beyond" their regular work expectations to provide extraordinary work, service, initiative/innovation, and teamwork. The five awards that were created to recognize staff are: CUPE 2950 Award of Excellence; M&P (Management & Professional) Award of Excellence; Non-union Technical Award of Excellence; Career Excellence Award; Early Career Excellence Award. Special thanks to Donna Combs, Lindsay Thorpe and Andrea Toker for doing a fabulous job of creating this program. The awards were presented to the successful candidates at the May 26th 60th Anniversary and Awards Symposium.

## **Fund Raising**

With the help of UBC Annual Giving Department, a fundraising campaign for the Department of Medicine Academic Enhancement Fund took place where past residents were solicited for donations, resulting in over \$5,000 raised. The second phase of the campaign will be launched in early 2011, soliciting active faculty members and management staff in the Department.

As of January 1, 2010, Stephanie Huehn, Associate Director, Development, Faculty of Medicine, has been working directly with each of our division heads on fundraising.

As of August 31, 2010, the following gifts have been secured:

- \$2 million from Cardiac Services BC to support two professorships: the UBC Providence Health Care Professorship in Women's Cardiovascular Health and the Dr. Charles Kerr Professorship in Heart Rhythm Management
- \$20,000 in support of Alzheimer's research from Ms. Irene Graham during her annual stewardship meeting with Dr. Max Cynader.
- \$40,000 Fellowship Gift Agreement from Medtronic Australasia Inc. in support of Dr. Rohan Poulter.

## **Strategic Plan**

A formalized yearly strategic plan was developed and published in the 2009 annual report. The plan is in alignment with the strategic directions of the University and the Faculty of Medicine and includes goals for the three key areas of our business: education, research and service. Phase two will include progress reports for each previous strategic goal as well as outlining future departmental goals.

## **Divisional/Program Reviews**

External reviews of the following divisions were held in 2010: Geriatric Medicine; General Internal Medicine and Community Internal Medicine; and Respiratory Medicine.

## **Research Task Force (RTF)**

The purpose of the Research Task Force is to identify issues that inhibit research productivity, prioritize them, and move them forward over the next couple of years. The administration team was responsible for coordinating the RTF and its four sub-committees. The team assisted in the creation of a faculty survey, designed to obtain input from department members on various determinants of research success. A comprehensive report was prepared based on the data collected. Four sub-committees were then created to address the issues brought forward in the survey report. Each sub-committee reported their findings to the RTF, and a final report of recommendations was prepared by RTF co-chairs Dr. Graydon Meneilly and Dr. John Cairns for presentation to and approval by the departmental Executive Committee.

Several of the recommendations have already been implemented or are currently underway. The departmental mentoring program has undergone a complete overhaul, led by Program Director Dr. John Cairns.

A recruitment committee was struck in fall 2010 to oversee the strategic directions of all future academic faculty recruitments within the UBC Department of Medicine while ensuring that recruitment resources are maximized. The committee meets monthly and as needed. It is chaired by Drs. Graydon Meneilly and Paul Man and current members are Drs. Jon Stoessl, Mark FitzGerald, Teresa Tsang, Mr. Nicholas Sidorenko, Ms. Jeannie Brown, Ms. Linda Kompauer and Ms. Amy Tsang (Dean's Office representative).

In October 2010, the Department held an external review of departmental research efforts. The review committee members were Dr. Paul Armstrong, Professor of Medicine in the Division of Cardiology at the University of Alberta; Dr. Greg Downey, Executive Vice President, Academic Affairs at National Jewish Health, Denver; and Dr. Stuart MacLeod, Professor, UBC Department of Pediatrics and Vice President, Academic Liaison and Research Coordination, Provincial Health Services Authority. The purpose of the review was to obtain insight on future directions in an effort to advance the department's research mission, and was recommended by the Research Task Force.

The administration team continues to work closely with the Department Head on implementing the Research Task Force recommendations.

## **FINANCE**

### **Operating Budget**

Financial constraints continue and the Department's GPOF (General Purpose Operating Fund) budget was further reduced by 2.5% as of March 1, 2010. This cutback reduced the operating budget by \$211,000, forcing the administration office to take steps to reduce overall operating costs, including not filling the vacant receptionist position and discontinuing the Continuing Medical Education Program.

### **Endowments**

The Department has still not recovered from the economic downturn of its endowment funds and continues to strictly monitor each endowment to avoid further deficits. Contingency plans have been made for any shortfalls in these endowment budgets.

### **Research Project Grants**

A departmental research deficit policy was drafted and approved by the Department of Medicine Executive Committee. The policy outlines procedures for managing deficits in research grants and can be found on [www.medicine.ubc.ca](http://www.medicine.ubc.ca).

## **Financial Controls**

Following financial certification, the Department's finance team has now started to review internal financial controls. New reconciliation policies have been created for purchasing cards and credit cards. Spot audits have been instituted on research PGs and operational PGs at the divisional level. A comprehensive policy on financial controls and fraudulent activities has been drafted and will be presented to our Departmental Executive Committee for approval.

## **Governance Structure**

The Faculty of Medicine has also updated their internal control by instituting a new governance structure. Effective September 2010, all senior administrators now report to the Executive Director, Faculty Affairs or the Executive Director, Resources and Operations. The departments were asked to follow suit by having the Division Administrators report to the Director of Administration. The Department formalized this change in reporting structure in October 2010.

## **Alternative Funding Innovation Plan**

The Department of Medicine continues to work with a consultant and the Ministry of Health on the development of an Alternative Funding Innovation Plan for the Division of General Internal Medicine.

## **HUMAN RESOURCES**

### ***eRecruit, Position Management system and STAR database***

The Department has made great strides in mastering the new eRecruit system for recruiting staff and training our division staff in the enhanced processing it provides for all aspects of the hiring process. The Position Management module of eRecruit provided an additional learning curve for HR, which the team continues to work through.

### ***STAR Database***

Although this database was implemented over a year ago the HR Team continues to face many challenges with it, and is working closely with the Faculty of Medicine to resolve these issues.

### ***AARPT Committee – paperless format***

Each year approximately 150 cases are submitted to the Appointments, Reappointments, and Promotion & Tenure Committee's 17 members. Because the time, money and natural resources spent in providing paper file copies is no longer viable, the cases are now distributed electronically. This is a huge accomplishment and the transition to a paperless system has been very smooth.

## **Faculty Housing Benefit**

The University's implementation of this benefit has created a significant financial burden for the Department and its divisions. It has also negatively impacted some new recruitments due to lack of funding available to provide the benefit.

## **Streamlining faculty recruitment processes**

The HR Team is working with the Dean's Office and Faculty Relations towards streamlining some of the faculty recruitment processes, in particular, referee selection and external referee documentation. However, the timeline of the recruitment process continues to pose challenges. This is due to changing processes external to the department, in particular with regard to approval to advertise. The team works quickly to adapt to the changes.

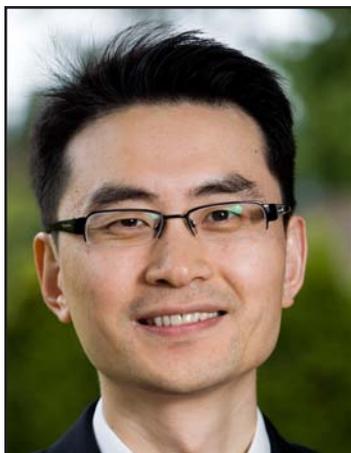
## **Health and Wellness Program**

In 2010 the Health and Wellness Program was expanded to include a new set of dynamic, interactive events such as the pedometer challenge and the stress reduction challenge for staff, as well as noon-hour meditation and walking groups. The 2010 speaker series offered presentations covering a range of topics based on feedback obtained in a department-wide staff survey, such as nutrition and stress management.

In May 2010, the UBC Department of Medicine Health and Wellness Program received the Faculty of Medicine Award for Initiatives in Health Promotion and Sustainability for the second year in a row. This award recognizes groups that demonstrate leadership in providing a program that creates and supports healthy lifestyles and working environments.

In the 2010 CIBC Run for the Cure, the Department of Medicine's team raised nearly \$4,500 for breast cancer research. In addition to personal fundraising, the team's 14 members organized a pizza lunch and 50/50 draws to raise money for the team.

Our Health and Wellness Program continues to succeed through the support and participation of our Department's members. We would like to thank Margie Bell, Oriana Bella, Donna Combs, Janet Crocombe, Sabina Fitzsimmons, Linda Kompauer, Lindsay Thorpe, Andrea Toker and Jennifer Weston for leading the activities of our program.



**Dr. Don Sin**  
**Professor and Associate**  
**Head, Research**

2010 was a great year for the Department of Medicine at UBC. Many of our members were honoured for their excellence in research and innovation at local, national and international meetings. For example, Dr. Keith Walley, a Professor in the Division of Critical Care, won the prestigious UBC Killiam Research Prize for his outstanding work and achievements in sepsis, which is one of the leading causes of death in hospitals. Dr. Julio Montaner, who is the Professor and Head of Division of AIDS, won several prestigious national and international awards including the Prix Galien Canada Research Award and the “Albert Einstein” World of Science. The Prix Galien Canada Research Award is the highest (and most esteemed) research award in Canadian pharmaceutical research and development and is sometimes called “the Nobel Prize of Pharmaceutical Research”. The “Albert Einstein” Award was bestowed by the World Cultural Council to recognize Dr. Montaner’s outstanding achievement and leadership in delivering novel, life-saving care to millions of people affected with HIV/AIDS. Dr. Bob Brunham, Professor and Head of the BC Center for Disease Control, along with Dr. Montaner, also received the Order of British Columbia in 2010 for their outstanding contributions to science and medicine in this Province.

It was also a great year for our junior faculty members and trainees. Dr. John Gill, an Associate Professor in the Division of Nephrology, won the Clinical Science Investigator Award from the American Society of Transplantation for his innovative work in kidney transplantation and Dr. Evan Wood, one of our chief residents, was named the “Junior Doctor of the Year” by the publisher of the British Medical Journal for his groundbreaking work in HIV, public health, illicit drug policy and addiction.

The success was not limited to Vancouver. Dr. Anthony Tang, Adjunct Professor in the Division of Cardiology, published a groundbreaking study entitled “Cardiac-Resynchronization Therapy for Mild-to-Moderate Heart Failure” in the November 14, 2010 issue of the New England Journal of Medicine demonstrating cardiac-resynchronization therapy reduces death and hospitalization for heart failure beyond that achieved with the use of implantable cardioverter-defibrillator. Dr. Laura Magee, Clinical Associate Professor in Division of General Internal Medicine, and her colleagues in Departments of

Medicine and Obstetrics and Gynecology at UBC published a seminal paper, detailing the development and use of a simple instrument to facilitate real-time maternal risk stratification for pre-eclampsia. This article was published in the Jan 15, 2011 issue of the Lancet. Drs. Montaner, Wood and their colleagues at the BC Center for Excellence in HIV/AIDS published a very high profile article demonstrating the benefits of expanding highly active antiretroviral therapy (HAART) in radically reducing the transmission rates of HIV/AIDS in BC, and saving millions of people from the morbidity and mortality of this devastating disease. This landmark paper was published in the August 14, 2010 issue of the Lancet. These are only a few examples of many high-impact papers that our departmental members published in 2010, which are making a real difference to our patients.

Our departmental members continued to do well in grant competitions. In 2010, the departmental members secured over \$35 million dollars of funding from various sources including Canadian Institutes of Health Research (CIHR) despite significant budgetary crunches at this and other granting organizations. The CIHR grant success rates are still well below 20% and in the most recent CIHR competition, the overall budgets for individually funded projects were reduced by 15 to 20% across the board, making it difficult even for funded investigators to meet their financial commitments. Discouragingly, the personnel and team awards from Michael Smith Foundation for Health Research were closed in 2010.

Given these and other challenges, the Department of Medicine invited an expert panel of research leaders to review the research program of the Department. The three member committee included Drs. Gregory Downey, Professor and Executive Vice President (VP) of Academic Affairs, University of Colorado; Dr. Stuart McLeod, Professor of Pediatrics, and VP of Academic Liaison PHSA & UBC; and Dr. Paul Armstrong, Professor of Medicine at University of Alberta. The report generated several important recommendations which included institution of an alternate funding plan; re-distribution of F-slots; strengthening of strategic alliances; and improving the mentoring process of young faculty members. The Department will prioritize the list of recommendations in the coming months and implement these recommendations, which will strengthen the research infrastructure in the Department, foster the development and recruitment of rising stars in research and ensure that the department remain at the leading edge of research and innovation.

2010 was a banner year for the department in terms of research and innovation. However, there are significant challenges that will need to be addressed in 2011. The recommendations by the expert external committee will help the Department prioritize its resources, re-focus its tools, and create a better environment for research and innovation. The ultimate goal is to be the leader in clinical research and innovation in the country. We are not quite there yet but getting closer..

# DEPARTMENT OF MEDICINE STANDING COMMITTEES

## COMMITTEE FOR APPOINTMENTS, REAPPOINTMENTS, PROMOTION & TENURE

**CHAIR** Dr. G. S. Meneilly, Professor

**VICE-CHAIR** Dr. S. F. Paul Man, Professor

**ADMINISTRATIVE SUPPORT** Jeannie Brown (January 2010 - December 2010)  
Amy Stanley (November 2010 - December 2010)  
Lindsay Thorpe (January 2010 - November 2010)

### COMMITTEE MEMBERS

Dr. Reva Adler, Clinical Professor, Geriatric Medicine  
Dr. Najib Ayas, Associate Professor, Critical Care Medicine  
Dr. Michael Barnett, Clinical Professor, Hematology  
Dr. Jeff Beckman, Clinical Associate Professor, Neurology  
Dr. John Cairns, Professor, Cardiology  
Dr. Edward Conway, Professor, Hematology  
Dr. Marshall Dahl, Clinical Associate Professor, Endocrinology  
Dr. John Esdaile, Professor, Rheumatology  
Dr. Sharlene Gill, Associate Professor, Medical Oncology  
Dr. Richard Harrigan, Associate Professor, AIDS  
Dr. Paul Hoskins, Clinical Professor, Medical Oncology  
Dr. Robert Levy, Professor, Respiratory Medicine  
Dr. Joel Oger, Professor, Neurology  
Dr. Graham Reid, Clinical Professor, Rheumatology  
Dr. Juan Ronco, Clinical Professor, Critical Care Medicine  
Dr. Frank Ryan, Professor, Respiratory Medicine  
Dr. Kamran Shojania, Clinical Associate Professor, Rheumatology  
Dr. Sandra Sirrs, Clinical Associate Professor, Endocrinology  
Dr. Urs Steinbrecher, Professor, Gastroenterology  
Dr. Andrea Townson, Clinical Associate Professor, Physical Medicine  
Dr. Mark Tyndall, Associate Professor, Infectious Diseases  
Dr. Linda Vickars, Clinical Professor, Hematology  
Dr. John Wade, Clinical Associate Professor, Rheumatology  
Dr. Eric Yoshida, Professor, Gastroenterology

This dedicated group of committed Departmental members is charged with facilitating the career advancement of our members while upholding consistent and rigorous standards as set out by UBC. As usual, this Committee invested a great deal of thoughtful energy to support the additions and promotions listed below. We are very proud of the following:

### NEW APPOINTMENTS

#### *Clinical Instructor*

Bohorquez, Anibal – Associate Member of Physical Medicine & Rehabilitation

Chan, Theresa – Medical Oncology

Chum, Elliott – Associate Member of Nephrology

Cuncic, Cary – General Internal Medicine

Ezzat, Hatoon – Hematology

Finch, Daygen – Medical Oncology

Johal, Balvinder – Medical Oncology

Khurana, Reena – Associate Member of Endocrinology

Lai, Emily – Community Internal Medicine

Law, Joanna – Gastroenterology

Malhotra, Sangita – Associate Member of Infectious Diseases

Paramonoff, Catherine – Physical Medicine & Rehabilitation

Peters, Laurena – Associate Member of Infectious Diseases

Shah, Justin – Gastroenterology

Teichrob, Deanna – Community Internal Medicine

Walia, Tamana – Medical Oncology

Wong, Victor – Gastroenterology

Yu, Jaime – Associate Member of Physical Medicine & Rehabilitation

#### *Clinical Assistant Professor*

Abou-Morad, Yasser – Hematology

Bennett, Matthew - Cardiology

Carpenito, Gerardo – Associate Member of Nephrology

Castillo, Eliana – General Internal Medicine

Chai, Brian – Community Internal Medicine

Chandler, David – Community Internal Medicine

Chen, Luke – Hematology

Cheung, Justin – Gastroenterology

Constantine, Maggie – Hematology

Costantine, Charles – Associate Member of Nephrology

Do, Thuan – Medical Oncology

Dueck, Greg – Medical Oncology  
Falconer, John – Neurology  
Galbraith, Paul – Medical Oncology  
Grewal, Jasmine – Cardiology  
Hajek, Jan – Associate Member of Infectious Diseases  
Jamal, Shahin – Rheumatology  
Lawson, Ted – Respiratory Medicine  
Lemaitre, John – Cardiology  
Macredmond, Ruth – Critical Care Medicine  
Marshall, H. P. – Associate Member of Endocrinology  
McCann, Shawn – Associate Member of Physical Medicine & Rehabilitation  
McCormack, Grant – Critical Care Medicine  
McLeod, Daniel – Associate Member of Rheumatology  
Michaels, Jorg – Medical Oncology  
Nguyen, Viem – Physical Medicine & Rehabilitation  
Sayao, Ana-Luiza – Neurology  
Sayeh, Naser  
Sochowski, Randall – Associate Member of Cardiology  
Spence, James – Community Internal Medicine  
Stewart, John – Associate Member of Neurology  
Sutton Brown, Martin – Associate Member of Neurology  
Taylor, Carolyn – Cardiology  
Toma, Mustapha – Cardiology  
Uhlman, Dorothy – Medical Oncology  
White, Adam – Endocrinology  
Winston, Robert – Medical Oncology  
Zulfiquar, Muhammad – Medical Oncology

#### **Clinical Associate Professor**

Ahmed, Iqbal – Associate Member of Respiratory Medicine  
Khan, Obaid – Geriatric Medicine  
Malpass, Philip – Community Internal Medicine  
Manyari, Dante – Associate Member of Cardiology  
Purves, Sherrill – Neurology  
Victor, Gary – Community Internal Medicine

#### **Assistant Professor**

Avina-Zubieta, Antonio - Rheumatology  
Cresswell, Silke – Neurology

#### **Associate Professor**

Eva, Kevin – General Internal Medicine

#### **Associate Member**

Chipperfield, Kate – Hematology  
Dutz, Jan – Rheumatology  
English, John – Respiratory Medicine  
Heran, Manraj – Neurology  
Jiang, Xiaoyan – Hematology  
Jiwani, Azim – Medical Oncology  
Karsan, Ali – Hematology  
Lau, Tim – Infectious Diseases  
Leipsic, Jonathan – Cardiology  
Reid, Darlene – Respiratory Medicine  
Yassi, Annalee

#### **Associate Member, External**

Choi, Hyon – Rheumatology  
Katz, David – Neurology  
Tyndall, Mark – Infectious Diseases

#### **Adjunct Professor**

Tan, Christopher - Neurology

## **PROMOTIONS**

#### **Clinical Assistant Professor**

Finlayson, Heather – Physical Medicine & Rehabilitation  
Hallam, Bradley – Neurology  
Hart, Jason – Medical Oncology  
Shu, David - Endocrinology  
Virani, Sean - Cardiology

#### **Clinical Associate Professor**

Bebb, Richard – Endocrinology  
Broady, Raewyn – Hematology  
Chittock, Dean – Critical Care Medicine  
Da Roza, Gerald – Nephrology  
Hill, Amanda – Geriatric Medicine  
Jastrzebski, Jacek – Nephrology  
Keenan, Sean – Critical Care Medicine  
Li, Charles – Hematology  
Ong-Lam, May – General Internal Medicine  
Press, Natasha – Infectious Diseases  
Rabinowitz, Alan – Cardiology  
Saw, Jacqueline – Cardiology  
Sehn, Laurie – Medical Oncology  
Wilson, Jennifer – Respiratory Medicine

#### **Clinical Professor**

Anton, Hugh – Physical Medicine & Rehabilitation  
Byrne, Michael – Gastroenterology  
Gray, James – Gastroenterology  
Shapiro, Jean – Nephrology  
Taylor, Paul – Nephrology  
Wong, Roger – Geriatric Medicine  
Yeung, C. Kit - Nephrology

#### **Associate Professor**

Kerr, Thomas – AIDS  
Khan, Nadia – General Internal Medicine  
Madden, Kenneth – Geriatric Medicine  
Tai, Isabella – Gastroenterology

#### **Professor**

Krassioukov, Andrei – Physical Medicine & Rehabilitation  
Wilcox, Pearce – Respiratory Medicine

## **REAPPOINTMENTS**

#### **Assistant Professor**

Carlsten, Christopher – Respiratory Medicine  
Cibere, Jolanda – Rheumatology  
Jacova, Claudia – Neurology  
Lee, Philip – Geriatric Medicine

## **EMERITUS**

Patterson, Caroline – Rheumatology – Clinical Professor Emeritus  
Quamme, Gary – Nephrology – Professor Emeritus  
Wong, Norman – Nephrology – Professor Emeritus

# STANDING COMMITTEES

## Mentoring Advisory Committee

<b>CHAIR:</b>	Dr. John Cairns, Chair, UBC Division of Cardiology
<b>MEMBERS:</b>	Dr. S. F. Paul Man, UBC Division of Respiratory Medicine Dr. John Mancini, UBC Division of Cardiology Dr. Anita Palepu, UBC Division of General Internal Medicine Dr. Neil Reiner, UBC Division of Infectious Diseases
<b>ADMINISTRATIVE SUPPORT:</b>	Ms. Jeannie Brown, Faculty Hires and Promotions Coordinator
<b>REPORTS TO:</b>	Department Head

### **FUNCTIONS:**

The Mentoring Advisory Committee has overall responsibility for the Department of Medicine Mentoring Program, which operates within and is complementary to the Faculty of Medicine Mentoring Program.

The Committee liaises with the Department Executive Committee and the Promotion and Tenure Committee as needed. The Committee members serve as an advisory group to the Committee chair and assist the chair as requested, in Program development and management.

The Chair of the Mentoring Committee works closely with the Department Head to ensure that effective mentoring relationships are established and maintained for every new tenure track and grant tenure track department member from the time of their appointment through to their achievement of tenure and promotion to associate professor. The Committee ensures that every mentor-mentee relationship is documented and is functioning satisfactorily, and if not, that a new mentor is appointed.

The Department Mentoring Program was established by Norman Wong in January 2005. John Cairns assumed the role of Director in July 2010. The mentoring Committee held its first meeting in June, 2010 and since then has worked hard to interpret the findings of the Department Research Task Force, and to implement changes to sustain and strengthen the Mentoring Program. The website has been much improved and made readily accessible. All materials needed to support the mentors and mentees are readily available on the Department website, and documentation is now possible without the creation, storage or transmission of paper documents.

Every Mentor-Mentee relationship has been reviewed and where necessary, rejuvenated, sometimes with the appointment of a new mentor. We have worked to ensure that a mentor is designated by the completion of the recruitment process.

Ongoing, regular review and assessment of the Program is planned, with the intent to implement change as needed.

## Teaching Effectiveness Committee

<b>CHAIR:</b>	<b>Dr. James Busser, UBC Division of General Internal Medicine</b>
<b>ADMINISTRATIVE SUPPORT:</b>	<b>Jeannie Brown</b> <b>Faculty Hires and Promotions Coordinator, UBC Department of Medicine</b>
<b>REPORTS TO:</b>	<b>Department Head</b>

### **FUNCTIONS:**

Reviews teaching dossier, CV and other back-up information and prepares an integrated, draft teaching summary letter for the Department Head. The teaching summary letter is used as part of the dossier for academic stream faculty standing for periodic review for promotion and/or tenure.

In the year 2010, the Teaching Effectiveness Committee prepared seven letters on behalf of academic stream faculty.

# STANDING COMMITTEES

## **Clinical Faculty Affairs Committee**

The Department of Medicine Clinical Faculty Affairs Committee is chaired by Dr. Peter Phillips and the membership consists of a clinical faculty representative from each division. The committee meets quarterly to discuss academic policy concerns of the clinical faculty as they relate to appointment and promotion, remuneration and rewards, faculty development, Department of Medicine representation and other issues of this nature. The Chair reports back to the departmental executive on these issues. Dr. Phillips also represents the department on the Faculty of Medicine Clinical Faculty Affairs Committee, and reports back to the departmental executive on the activities of this committee as well.

## **Awards Committee**

The Awards Committee is chaired by Dr. Graydon Meneilly and the members are Drs. Paul Man, John Fleetham, and Kam Shojania. The committee meets quarterly to review upcoming award competitions and identify appropriate nominees and nominators from the Department. Our faculty members receive numerous awards each year in recognition of excellence in teaching, research, patient care and service.

## **Recruitment and Resources Committee**

This committee was created to oversee the strategic directions of all future academic faculty recruitments within the UBC Department of Medicine while ensuring that recruitment resources are maximized. The committee meets monthly or ad hoc as required. Committee members are Dr. Graydon Meneilly (Chair), Dr. Paul Man (Deputy Chair), Dr. Jon Stoessl, Dr. Mark Fitzgerald, Dr. Teresa Tsang, Nicholas Sidorenko, Amy Stanley, Jeannie Brown and Amy Tsang (Faculty of Medicine Dean's Office representative).

## **Equity Committee**

The Equity Committee was created in late 2009 to ensure that the department's search and hiring processes are equitable and to advise the executive on equity issues affecting the department and its faculty members. The committee meets quarterly. Committee members are Dr. Graydon Meneilly (Chair), Dr. Anita Palepu, Dr. Kam Shojania, Dr. Andrea Townson, Ms. Linda Rasmussen, and Ms. Amy Stanley.

## **Executive Committee**

The Executive Committee is chaired by the Department Head and its membership consists of the associate heads, division heads, program directors, and administrative management team.

The committee meets monthly to share departmental, university and other related business with members; engage in strategic planning; create goals and objectives to continue to strengthen the Department of Medicine; and to vote on specific issues.

## Division Members

### Professor

Dr. Julio S. G. Montaner

### Associate Professor

Dr. P. Richard Harrigan

### Clinical Associate Professor

Dr. Evan Wood

### Assistant Professor

Dr. Thomas Kerr

Dr. David Moore

Dr. Kate Shannon

### Clinical Assistant Professor

Dr. Mark W. Hull



**Dr. Julio Montaner**  
Professor and Head

## DIVISION OVERVIEW

From its inception in 2007, the Division of AIDS has worked collaboratively with the BC Centre for Excellence in HIV/AIDS (BC-CfE) (est. 1992) and the AIDS Research Program at St. Paul's Hospital/UBC (est. 1988). Our divisional members are involved in various areas of research which are highlighted as follows.

Drs. Thomas Kerr and Evan Wood are the Co-Directors of the Urban Health Research Initiative (UHRI). UHRI is a program within the BC-CfE and is affiliated with St Paul's Hospital and UBC and receives peer-reviewed grants from CIHR, NIH and the Michael Smith Foundation. All research conducted by UHRI is ethically approved by the UBC/Providence Health Care Research Ethics Board and community advisory board.

UHRI's mission is to improve the health of individuals and communities through complex and appropriate health, legal, and political research to inform policy. The respect and protection of human rights, particularly of marginalized populations, are key to their guiding principles and through working with healthcare professionals, policy-makers, and other community members ensure that rigorous scientific investigation is done with an ethical obligation and drive the best available scientific evidence.

The researchers continue to benefit from long-term analyses emerging from VIDUS, SEOSI, ACCESS, and ARYS. A major focus has been the evaluation of the supervised injection site in the Downtown Eastside of Vancouver that is a key intervention in a comprehensive approach to reducing HIV and

Hepatitis C transmission in this community. They have worked with the Vancouver Area Network of Drug Users (VANDU) to develop an interdisciplinary Community Based Research partnership focused on generating evidence specific to unsafe injecting, as well as on developing and evaluating drug-user-led interventions that promote safer injecting knowledge and practices.

In an international setting, continued collaborations with the Thai AIDS Treatment Action Group (TTAG), Mitsampan Harm Reduction Centre (Bangkok) and researchers from Chulalongkorn University have led to four journal publications and three abstracts in 2010.

2010 saw the creation of the Vienna Declaration (<http://www.viennadeclaration.com>). This declaration, conceived and led by Dr. Evan Wood, became the official conference declaration for the 2010 International AIDS Conference, which took place last summer in Vienna. The Vienna Declaration, which was described in the Lancet, has been translated into 7 languages and has been endorsed by over 18,000 physicians and scientists from around the world. The Vienna Declaration has now been adopted as municipal policy by the City of Toronto, the City of Vancouver and the City of Victoria.

Most recently, Dr. Kerr and Dr. Wood were the recipients of the inaugural Population and Public Health Research Milestones Initiative Award for their outstanding contribution to developing Canada's research base for harm reduction and health equity approaches to HIV prevention and control.

UHRI also hosts a undergraduate elective for fourth-year medical students. The elective provides clinical and research encounters in the broad area of urban health.

Dr. Kate Shannon is Director of the newly established Gender and Sexual Health Initiative (GSHI) at the BC-CfE. GSHI was developed to address intersections of gender and sexual health in the response to HIV/AIDS and is supported by funding from the US NIH and CIHR. GSHI brings together research collaborations to evaluate the intersecting interpersonal, social, physical, and policy environments shaping sexual health, HIV/STIs and access to care among marginalized youth and women both in Vancouver and globally. The initiative bridges public health, policy, social epidemiology, and qualitative research and aims to move forward

evidence-based and gender-focused HIV prevention, treatment and care. A major focus within Vancouver is a longitudinal evaluation of women (AESHA I) and youth (AESHA II) engaged in sex work both on and off street in Metro Vancouver, including massage parlours and micro-brothels. This longitudinal cohort affords researchers the ability to evaluate the individual, social, physical and policy environments shaping risk of HIV/STI acquisition and access to HAART locally. The GSHI team has also initiated a 4-year longitudinal study to evaluate the Rainier Hotel, a housing and drug treatment model for female sex workers operated by Vancouver Coastal Health and the Portland Hotel Society. These projects, including close partnerships with WISH Drop-In Centre Society, Sex Workers United Against Violence and other cooperative non-profit agencies focuses on women's health (including Raincity Housing, Atira). The GSHI team is also involved in several global health research projects focused on HIV prevention and care among sex workers, including the Bill & Melinda Gates Foundation Avahan India AIDS Initiative, a NIH-funded mixed methods study in US-Mexico border cities, and a new study of youth in sex work in Northern Uganda together with The AIDS Support Organization (TASO) as part of the Canada Africa HIV Prevention Trials (CAPT) Network.

Dr. David Moore oversaw the start of the HAARP study in Jinja, Uganda. This is a 3-year CIHR-funded study which is examining the effectiveness of ART in preventing heterosexual transmission of HIV between sero-discordant couples. The study began enrolment in June 2009 and reached its targeted enrollment of 550 couples in December 2010. Follow-up will continue until December 2011. It is being conducted in partnership with the AIDS Support Organisation, a Uganda care and treatment NGO and the Uganda Virus Research Institute/ Medical Research Council (UK) AIDS Research Unit. Dr. Moore is also a co-PI on the Canada Africa Prevention Trials Network which was re-funded from 2010 – 2014 through a grant from the Canadian HIV Vaccine Initiative. Lastly Dr. Moore was also a co-PI on a successful CIHR grant application to examine the effects of ART expansion in BC on HIV risk behaviour and community viral load among men who have sex with men in Vancouver.

Dr. Richard Harrigan is the Director of Research Labs with the BC-CfE and also holds the Glen-Hillson Professorship in Clinical HIV Virology as well as the CIHR/GSK Research Chair in HIV/AIDS at UBC. Under his leadership, the Laboratory provides both advanced patient monitoring and routine HIV/AIDS laboratory services. The focus of the laboratory is in the development and implementation of new tools for predicting and improving response to therapy. Advanced patient monitoring services include genotypic and phenotypic drug resistance testing; therapeutic drug level monitoring and pharmacogenetic screening for adverse drug reactions and antiviral efficacy. In particular, new tools have included determination of HIV tropism and the application of "next generation" DNA sequencing methods for research and clinical purposes.

Under the leadership of Drs. Julio Montaner, Marianne Harris, Silvia Guillemi and Mark Hull, HIV-related studies were ongoing at the AIDS Research Program and the Immunodeficiency Clinic (IDC) during 2010. Study designs implemented include small investigator-initiated clinical trials, large national and

international clinical trials, and large national prospective cohort studies.

The AIDS Research Program (ARP) continues to actively investigate the following areas of interest through its participation in clinical trials and observational cohort studies:

- Optimizing use of investigational and new antiretroviral agents
- Antiretroviral treatment simplification
- Optimal management of treatment-experienced patients with drug-resistant HIV
- Pharmacokinetics of antiretroviral drugs and interactions with concomitant medications
- Impact and management of:
  - complications of antiretroviral therapy e.g. nephrotoxicity, osteopenia/osteoporosis
  - co-infections e.g. viral hepatitis B and C
  - other comorbidities e.g. neurocognitive dysfunction, dyslipidemia and cardiovascular disease

The ARP is collaborating with the Pacific Lung Institute, under the direction of Dr. Paul Man, in a study funded by the BC Lung Association. This study aims to characterize chronic obstructive pulmonary disease (COPD) in the HIV+ clinic population. To date more than 160 patients have been enrolled in this prospective study. Preliminary results, indicating a high incidence of chronic airflow limitation, chest X-ray abnormalities, and/or respiratory symptoms in an adult HIV+ clinic population, were presented at the Canadian Association of HIV/AIDS Research Conference in May 2010. Further results have been submitted for presentation at the upcoming International AIDS Society Conference to be held July 2011.

The ARP has contributed significantly to two large CIHR-funded prospective cohort studies: CTN 222: The Canadian HIV/HCV Co-infection Study, and CTN 247: The Canadian Cohort of HIV+ Slow Progressors. Cases of hepatocellular carcinoma among HIV and hepatitis C co-infected patients have also been contributed to a global multicentre cohort study.

In 2010, Dr. Mark Hull received a grant from CIHR to study the predictive value of inflammatory biomarkers for untreated HIV progression, and their response to initiation of antiretroviral therapy. This project is being conducted as a substudy of two ongoing national Canadian clinical trials examining novel treatments for early HIV infection, VALIDATE (CTN 240) and MAINTAIN (CTN-238). Dr. Hull is also the recipient of a grant from CIHR-CTN to study hypophosphatemia and renal monitoring in HIV. Both the biomarker project and the hypophosphatemia study are currently underway in their early stages.

With Dr. Montaner's direction, the "STOP HIV/AIDS" (Seek and Treat for Optimal Prevention of HIV/AIDS) pilot project continues to work on expanding access to HIV/AIDS drugs to the street-involved population in Vancouver's downtown eastside and Prince George. This project aims to increase HAART coverage among eligible HIV-positive individuals. Ongoing monitoring of the impact of such HAART expansion

on HIV incidence, as well as AIDS morbidity and mortality over several years will be critical to inform the ongoing debate surrounding the potential effectiveness of treatment as prevention strategies. This work is supported in part by the Provincial Government, and an Avant Garde Award from the National Institute for Drug Abuse at the National Institutes of Health.

## TEACHING

### *Undergraduate Scheduled*

NAME	PROGRAM	START YR	END YR	SUPERVISOR	CO-SUPERVISORS
Knapp, David	HIV Drug Resistance-4-8 month co-op student and employee	2007	2010	PR Harrigan	
Zhong, Xiaoyin	HIV Drug Resistance-4-8 month co-op student	2009	2010	PR Harrigan	
Louie, Kimberley	Medicine-2 wk elective student	2010 Feb 15	2010 Feb 26	PR Harrigan	
Co, Steven	Research Elective in Urban Health (Medicine)	2010	2010	Co-supervised (Dr. E Wood) single-term medical research elective, including overseeing the preparation of a research manuscript for peer review	
Fairbairn, Nadia	Research Elective in Urban Health (Medicine)	2010	2010	Co-supervised (Dr. E Wood/Dr. T Kerr) single-term medical research elective, including overseeing the preparation of a research manuscript for peer review	
Ibrahim, Amir	Medical Student	2010	2010	E Wood	
Kuyper, Laura	UHRI Urban Health Research Elective	2010	2010	Co-supervised (Dr. E Wood) single-term medical research elective, including overseeing the preparation of a research manuscript for peer review	
Nolan, Seonaid	Research Elective in Urban Health (Medicine)	2010	2010	Co-supervised (Dr. E Wood) single-term medical research elective, including overseeing the preparation of a research manuscript for peer review	
Walton, Georgia	Research Elective in Urban Health (Medicine)	2010	2010	Co-supervised (Dr. E Wood) single-term medical research elective, including overseeing the preparation of a research manuscript for peer review	

### *Undergraduate Unscheduled*

NAME	PROGRAM	START YR	END YR	SUPERVISOR	CO-SUPERVISORS
Au-Yeung, Christopher	Student Research Assistant, BC-CfE	2008 Sep	2010 Aug	J Montaner, RS Hogg	

## Postgraduate Scheduled

NAME	PROGRAM	START YR	END YR	SUPERVISOR	CO-SUPERVISORS
Cheung, Peter	HIV Co-Receptor Usage	2005	present	PR Harrigan	
Lima, Viviane	PhD-Postdoctoral Fellow-Clinical (MS-FHR Research Trainee Award)	2006	present	J Montaner	RS Hogg
Stoltz, Jo-Anne	Post-doctoral Fellow	2006	2010	E Wood	RS Hogg, T Kerr
DeBeck, Kora	PhD, Interdisciplinary Studies	2007	2010	J Montaner	T Kerr, E Wood
Jitratkosol, Marissa	MSc Mitochondrial toxicity	2007	2010	H Côté	PR Harrigan
Wood, Alan	Nursing	2007	2010	P Rodney, T Kerr	V Smye
Milloy, MJ	PhD, Epidemiology	2008	present	T Kerr, J Buxton	
Marshall, Brandon	Epidemiology, PhD	2008	2010	T Kerr, J Shoveller	J Buxton, T Patterson
Werb, Dan	School of Population and Public Health, MSc	2008	2010	J Buxton	T Kerr
Richardson, Lindsey	PhD, Sociology	2008	2011	Gershuny	E Wood, T Kerr
Anema, Aranka	Experimental Medicine Program, PhD	2009	present	JS Montaner	B Hogg, S Weiser, T Kerr
Brumme, Chanson	PhD-Experimental Medicine	2009	present	PR Harrigan	
Hayashi, Kanna	Interdisciplinary Studies Graduate Program, PhD	2009	present	T Kerr, J Buxton	J Csete
Lee, Guinevere	PhD-Experimental Medicine	2009	present	PR Harrigan	
Swenson, Luke	PhD-Experimental Medicine	2009	present	PR Harrigan	
Fairbairn, Nadia	Medical Student	2009	2010	T Kerr	E Wood
Callon, Cody	Masters, Social Work Dept/ Interdisciplinary	2009	2011	T Kerr	
Fast, Danya	Interdisciplinary Studies Graduate Program, PhD	2009	2012	T Kerr, J Shoveller	D Culhane
Krusi ,Andrea	PhD, Public health Interdisciplinary Program	2009	2013	T Kerr/ K Shannon	
Lee, Laura	PhD, Lui Institute Global Studies, Interdisciplinary Program	2009	2013	Erin Baines	K Shannon
McGovern, Rachel	HIV/AIDS Research, PhD	2010	present	R Harrigan	P Phillips, T Kerr, S Tebbutt
Small, Will	Postdoctoral fellow	2010	present	T Kerr, L Maher	N/A
Acsai, Megan	Outpatient Specialty Clinic (R3, UBC)	2010 Feb	2010 Feb	J Montaner	
Acsai, Megan	Outpatient Specialty Clinic (R3, SPH)	2010 Feb	2010 Mar	M Hull	
Au, Stephanie	Outpatient Specialty Clinic (Resident, UBC)	2010 Mar	2010 Mar	J Montaner	
Lim, Jean P	Outpatient Specialty Clinic (Resident, UBC)	2010 Mar	2010 Mar	J Montaner	
Parfitt, Elizabeth	Outpatient Specialty Clinic (Internal Medicine Resident, Memorial University)	2010 Apr	2010 Apr	J Montaner	
Chou, Annie	Outpatient Specialty Clinic (Resident, UBC)	2010 May	2010 May	M Hull	
Murray, Melanie	Outpatient Specialty Clinic (Fellow, UBC)	2010 May	2010 May	J Montaner	
Bains, Perminder	Outpatient Specialty Clinic (Resident, UBC)	2010 Jun	2010 Jun	M Hull	
Mendelson, Asher	Outpatient Specialty Clinic (Resident, UBC)	2010 Jun	2010 Jun	M Hull	
Marosi, Kristen	Outpatient Specialty Clinic (Resident, Internal Medicine-1, McGill University)	2010 Jul	2010 Jul	M Hull	

Tuvell, Brandon	Outpatient Specialty Clinic (Resident, Internal Medicine-3, UBC)	2010 Jul	2010 Jul	M Hull	
Wright, Alissa	Outpatient Specialty Clinic (Fellow, UBC)	2010 Jul	2010 Jul	M Hull	
Din, Queenie	Outpatient Specialty Clinic (Fellow, UBC)	2010 Aug	2010 Aug	M Hull	
Smoragiewicz, Martin	Outpatient Specialty Clinic (Resident, Internal Medicine-2, UBC)	2010 Aug	2010 Aug	M Hull	
Tsang, Stephanie	Outpatient Specialty Clinic (Resident, Internal Medicine-1, UBC)	2010 Aug	2010 Aug	M Hull	
Chan, Siu Him	Outpatient Specialty Clinic (Resident, Internal Medicine-1, UBC)	2010 Aug	2010 Sep	M Hull	
Wan, Dante	Outpatient Specialty Clinic (Resident, Internal Medicine-2, UBC)	2010 Aug	2010 Sep	M Hull	
Rawat, Angeli	Epidemiology	2010 Sep	2010 Sep	A Yassi	J Spiegel, D Moore
Zahrani, Musa	Outpatient Specialty Clinic (Resident, Internal Medicine-2, UBC)	2010 Sep	2010 Sep	M Hull	
Brahmania, Mayur	Outpatient Specialty Clinic (Resident, Internal Medicine-3, UBC)	2010 Oct	2010 Oct	M Hull	
Alsaedy, Abdulrahman	Outpatient Specialty Clinic (Resident, Saudi Arabia)	2010 Oct	2010 Oct	M Hull	
Thomassin, Marie-Claire	Outpatient Specialty Clinic (Resident, G. Health)	2010 Oct	2010 Oct	M Hull	
Tsai, Gina	Outpatient Specialty Clinic (Resident, UBC)	2010 Oct	2010 Oct	M Hull	
Jen, Rachel	Outpatient Specialty Clinic (Resident-2, UBC)	2010 Nov	2010 Nov	M Hull	
Nguyen, Ngan	Outpatient Specialty Clinic (Fellow, Infectious Diseases, UBC)	2010 Dec	2010 Dec	M Hull	
Plewes, Katherine	Outpatient Specialty Clinic (Fellow, Infectious Diseases, UBC)	2010 Dec	2010 Dec	M Hull	
Dixon-Bingham, Brittany	PhD, Public Health, SFU	2010	2014	C Miller	K Shannon
Duff, Putu	PhD, Public Health SPPH	2010	2014	K Shannon/ J Shoveller	
Muldoon, Katherine	PhD, Public Health SPPH	2010	2014	K Shannon/ J Shoveller	

**Graduate Students: Non-committee based supervision**

NAME	PROGRAM	START YR	END YR	
DeBeck, Kora	Interdisciplinary Studies, PhD	2007	2010	Supervised, as a non-committee member, primary research undertaken for student's doctoral dissertation (Supervisor: J Montaner)
Richardson, Lindsey	Sociology, PhD	2008	2011	Supervised, as a non-committee member, primary research undertaken for student's doctoral dissertation (Supervisor J Gershuny) RS Hogg
Fairbairn, Nadia	Medical Student	2009	2010	Co-supervised (Dr. E Wood/Dr. T Kerr) single-term directed research course, including overseeing the preparation of a research manuscript for peer review RS Hogg, T Kerr
Kinner, Stuart	Visiting Postdoctoral fellow, Burnet Institute	2010	2010	Directly supervised (Dr. T Kerr) a single term internship including overseeing the preparation of a research manuscript for peer review T Kerr, E Wood

## Postgraduate Unscheduled

NAME	PROGRAM	START YR	END YR	SUPERVISOR	CO-SUPERVISORS
Ochoa, Paula	Postdoctoral Fellow-AIDS Research Program, SPH/UBC	2007 Jun	2010 Jun	J Montaner	
Mtambo, Andy	Postdoctoral Fellow-AIDS Research Program, SPH/UBC	2009 Jun	present	J Montaner	
Gil, Diana M	Postdoctoral Fellow-AIDS Research Program, SPH/UBC	2010 May	present	J Montaner	

## RESEARCH

The following are current research projects/studies:

Seek & Treat Pilot Project (aka “STOP HIV/AIDS”-Seek and Treat for Optimal Prevention of HIV/AIDS) is a 4-year (2009-2013), \$48 million project, the first of its kind in Canada, that will expand access to HIV/AIDS medications among hard to reach populations including sex trade workers, injection drug users and men who have sex with men. By reaching and engaging more British Columbians living with HIV/AIDS in Highly Active Anti-retroviral Therapy (HAART), not only will better care be provided but the treatment will also significantly reduce or eliminate the virus’ ability to spread. This project will target HIV care in the Downtown Eastside, the North and among Aboriginal populations. (PI: Julio Montaner)

Vancouver Injection Drug Users Study (VIDUS) is UHRI’s longest running cohort study, running since 1996 and follows HIV-negative participants. Every six months, participants provide blood samples for testing for HIV and hepatitis and are interviewed about their drug use, access to services, and experiences with the criminal justice system. (PIs: Thomas Kerr and Evan Wood)

ACCESS determines the health needs of HIV-positive injection drug users and uses the information gathered at interviews to determine how treatments are affected by various policies and programs. Participants are referred to HIV services and care when needed. (PIs: Thomas Kerr and Evan Wood)

At-Risk Youth Study (ARYS – pronounced ‘Arise’) is made up of 14 – 26 year old ‘at risk’ youth, defined by various factors including their socio-economic situation, mental or physical health, drug use, social or physical environment, or family situation. (PIs: Thomas Kerr and Evan Wood)

Scientific Evaluation of Supervised Injecting (SEOSI) collects information primarily related to the use of Insite and how the facility affects drug use practices such as syringe sharing, public drug use and other factors in participants’ lives that may compromise their health. (PIs: Thomas Kerr and Evan Wood)

Community-Based Research (CBR) research attempts to address community priorities through the meaningful involvement of community members throughout the research process. Research projects emphasizing the participation of affected

communities through partnerships between academics and community-based organizations have been particularly important in the realm of Canadian HIV/AIDS research. began collaborating with the Vancouver Area Network of Drug Users (VANDU) to undertake a series of CBR projects. This program involves further capacity-building of members of VANDU and also seeks to develop an evidence-based knowledge translation strategy to promote interventions and policies that will reduce HIV transmission through safer injecting education. (PIs: Thomas Kerr and Evan Wood)

Ethnographic and Qualitative Research is CIHR-funded and gains information from in-depth interviews regarding injection drug users’ opinions of services available at Insite; women’s experiences of Insite as a safe haven from the violence of the streets; the effects on injection drug users of intensified policy activity; and the incarceration experiences of injection drug users. (PIs: Thomas Kerr and Kate Shannon, Co-I: Evan Wood)

International working relationships with the Thai AIDS Treatment Action Group (TTAG) has seen UHRI assist in the application to provide training and support for peer driven HIV prevention, treatment, care and support for injection drug users, funded by the Global Fund to Fight AIDS. (PIs: Thomas Kerr and Evan Wood)

UHRI has also contributed data to the Global Burden of Disease project, specifically calculating the estimates of cocaine mortality and morbidity rates worldwide.

An Evaluation of Sex Workers’ Health Access (AESHA) is the GSHI most established cohort, consisting of adult women (AESHA I, funded by NIH, 2010-2015) and youth (AESHA II, funded by CIHR, 2009-2014) engaged in street and indoor sex work across Metro Vancouver. AESHA conducts baseline and semi-annual follow-up interview questionnaires and HIV testing, and monitors ongoing trends in public health interventions and access to HIV prevention, treatment and care for this population. (PI: Kate Shannon, co-Is: Wood, Kerr, Montaner)

Rainier Women’s Housing Program Evaluation is a supportive housing model and residential drug treatment program for current/former sex workers who use drugs, operated by the Portland Hotel Society/ Vancouver Coastal Health. (PI: Kate Shannon)

Sex Work Public Policy Project is funded by CIHR as a national initiative to develop and engage in evidence-based sex work policy that promotes health, safety and reduction of harm for sex workers across Canada (PI: Shannon).

Centre for REACH (Research Evidence into Action for Community Health) is CIHR funded. The Centre is a collaborative, national partnership among leading health researchers in Canada in a wide array disciplines. Its vision is to bring together critical practice, research, and policy skills as well as the lived experience of people with HIV to enhance the health of individuals and communities disproportionately affected by HIV. Using an interdisciplinary approach and working collaboratively at the intersections of social science, population health and health services research, the Centre focuses on three thematic areas: (1) UNDERSTANDING THE PROBLEMS AND FACTORS DRIVING THE EPIDEMIC reaching beyond individual behaviour to explore the impact of broader structural and cultural factors as well as the social determinants of health (i.e., poverty, stigma, discrimination, racism and gender inequality) on risk, resilience, behaviour and access to health services within communities; (2) FIND INNOVATIVE AND PRACTICAL SOLUTIONS taking an integrated approach to prevention and treatment, developing evidence-based interventions and strategies; and (3) MOVE RESEARCH EVIDENCE INTO ACTION developing effective KTE strategies, relationships and networks and having a measurable impact on policy and practice. (co-I: Kate Shannon) Canada Africa Prevention Trials Network (CAPTN) partners with the BC-CfE and TASO Uganda research. CAPTN's mission is to strengthen independent basic and clinical research capacity in eastern and southern Africa, facilitate and conduct first class prevention science with high needs populations and link care, treatment and prevention research. (co-I: Kate Shannon)

Highly Active Antiretroviral Therapy as Prevention (HAARP) Study is a 3-year CIHR funded study to examine the value of HIV treatment in reducing HIV transmission between sero-discordant couples in Jinja, Uganda. HAARP is being implemented in partnership with The AIDS Support Organisation, Uganda and the Uganda Virus Research Institute/ Medical Research Council (UK) AIDS Research Program. (co-PIs: David Moore, Julio Montaner; co-Is: Kate Shannon, Robert Hogg, Ed Mills)

Design of HIV V3 Tropism Assay. The study's primary purpose is to elucidate a genotypic (sequence) algorithm to identify the HIV phenotype (CCR5 / CXCR4 / dual tropic) which could be called a "Tropism Predictor Assay". Currently there are two phenotypic assays which could be considered "gold standards", and one assay which has been used for co-receptor in the clinical trials of all co-receptor antagonists to date. These phenotype assays are both relatively sensitive and specific. The main drawbacks of both these methods are their exclusivity to specific companies, their cost and a long turn around time. We hope to design a V3 region-based genotypic co-receptor predictor that is as or more sensitive and specific, readily adaptable to sequence based assays, is cheaper and has a faster TAT than the current phenotypic assay. (PI: Richard Harrigan)

Sequence analysis of human viral and drug affects on HIV/AIDS. The expanding knowledge of how HIV infects the patient continues to lead to the advent of new treatments. The BC-CfE has been at the forefront of many of these treatment regimens. HIV's ability to mutate rapidly under drug pressure and develop resistance to antiretroviral drugs has thus far prevented the development of an effective vaccine. Current approaches to the treatment of HIV involve the use of a number of different classes of antiretrovirals to reduce the patient's viral load to an undetectable level (<50 copies/mL) and increase the patient's ability to fight off opportunistic infections. Under drug pressure, the virus will mutate and eventually develop resistance to these antiviral drugs. The battle to discover new classes of drugs is ongoing, as the virus continues to adapt. Further, the ability to select treatments depends upon a laboratory's ability to provide useful data to physicians about the amount of virus and the drug resistance of that virus on an individual basis. Recently, the human component of the virus/human interaction has become an important area of investigation. The ability to fight an infection seems to depend upon certain genetic factors within the individual. Further research on these human factors could lead to optimized treatment regimens and prove useful for vaccine development. (PI: Richard Harrigan)

Review epidemiologic outcomes of DRT testing. Working with Dr. Sonia Jain of the University of California, San Diego, Dr. Arthur Poon, Associate Research Scientist, Bioinformatics at the BC-CfE will develop bioinformatic and statistical methods for establishing the relationship between antiretroviral drug failure through the evolution of resistance in HIV and clinical disease progression. Dr. Poon will perform complete statistical and mathematical analyses on CFAR Network of Integrated Clinical Systems (CNICS) data. Specifically, he will develop dynamic Bayesian approaches to longitudinal data on drug regimen and drug resistance, and work with Dr. Jain in the development of models of clinical disease progression. (PI: Richard Harrigan)

Drug resistance testing (Clinical Service-ARP/IDC)

Genotypic HIV V3 Tropism Assay-outcome of number 1 above (Clinical Service-ARP/IDC)

Developed "Recall" software (Clinical Service-ARP/IDC)

## ADMINISTRATION

Dr. Julio Montaner also holds the endowed Chair in AIDS Research at UBC and is the Director of the BC Centre for Excellence in HIV/AIDS as well as the Director of the AIDS Research Program and John Ruedy Immunodeficiency Clinic at St. Paul's Hospital, Providence Healthcare. He is the Past-President of the International AIDS Society, the world's leading independent association of HIV professionals. Dr. Montaner continues clinical training and supervision of medical students, residents and fellows through the Infectious Diseases Residency Training Program at UBC, as well as through the

Preceptorship Program at IDC offered as a 3-month rotation to family physicians to enhance their skills in HIV/AIDS.

Dr. Richard Harrigan is the Director of the Research Laboratory at BC-CfE. Under Dr. Harrigan's leadership the lab has established itself not only as a leading force in Canada, but also as a centre with considerable international influence. The laboratory provides clinical services to the province of BC in the areas of HIV drug resistance testing. The clinical implications and predictors of HIV drug resistance continue to be investigated, both at the BC-CfE and as part of international collaborations. The research laboratory focuses on developing tools with clinical applications that may be employed in the near future. These include techniques for monitoring the side effects and degree of adherence to medications, as well as tracking variations in the HIV and human genomes, which are associated with response to HIV therapy, and virus pathogenicity. In addition to providing HIV drug resistance testing as a clinical service to most of Canada and investigator-driven trials, the research lab has also received peer-reviewed funding for several studies from the Canadian Institutes of Health Research, Michael Smith Health Research Foundation, and the Ontario HIV Treatment Network.

Drs. Evan Wood and Thomas Kerr have been the Principal Investigators at UHRI since its establishment in 2007, focusing on substance abuse, infectious diseases, the urban environment and homelessness. There are currently 12 investigators, 15 staff including Knowledge Translation and Research Coordinators, Ethnographer, nurses, and statisticians. Twelve students also work for UHRI in a number of disciplines. There are many dedicated front-line staff that are responsible for collecting data, including nurses, interviewers, data entry clerks, transcriptionists and others who are responsible for gathering the data which is used to identify and understand the health of urban populations.

Dr. David Moore is the Director of the Community Medicine Residency Program in the School of Population and Public Health (SPPH) at UBC. The Program currently has 13 residents spread over 5 years of training. He is also the co-course coordinator for the resident's seminar course Introduction to Community Medicine Practice (SPPH710). He represents the Program on the Senior Executive Committee of the SPPH, at the Full Faculty Residency Training Committee and on the Community Medicine Specialists Committee of the Royal College of Physicians and Surgeons of Canada.

Dr. Shannon is Director of the Gender and Sexual Health Initiative of the BC-CfE, focused on gender and sexual health research, sex work and HIV/AIDS. There are currently 13 investigators, 16 research staff including research coordinators, statisticians, GIS analyst, research nurses, interviewers and outreach workers, as well as 8 graduate students and postdoctoral fellows. She is the Division of AIDS Representative on the Research Taskforce Committee at the Department of Medicine (2009-present). She is the Chair of the Epidemiology and Public Health Track for the Ontario HIV Treatment Network Scientific Review Committee (2008-2011), and has sat on review committees for both CIHR (2009-2010) and the US NIH (2010).

Dr. Mark Hull continues clinical and bedside teaching of medical students, residents and fellows through the Infectious Diseases Residency Training Program at UBC, as well as through the Preceptorship Program at IDC offered as a 3-month rotation to family physicians to enhance their skills in HIV/AIDS. He is also a member of the Scientific Review Committee of the CIHR Canadian HIV Trials Network.

## FUTURE DIRECTIONS

Insite continues to play an important role as a larger strategy to address complex and long-standing problems associated with addiction, disease, mental illness, homelessness, and poverty. So far, the evaluation research has shown that Insite:

- is being used by the people it was intended for
- has reduced HIV risk behaviour
- promotes treatment of addiction
- has improved public order
- reduces overdose risk and death
- provides safety for women who inject drugs
- offers medical care for injection-related infections
- does not lead to increased drug use or increased crime
- Vancouver police play an important role in supporting Insite

A supervised inhalation facility has been called for after a link between crack cocaine smoking and HIV infection was found during a study conducted by UHRI and published in October 2009 in the Canadian Medical Association Journal. The study's authors are calling for the evaluation of novel public health interventions. The report, 'Drug Situation in Vancouver', contains more than 10 years of data on drug use trends, drug availability, HIV rates and mortality rates among people in the Vancouver area who use hard drugs such as heroin, crack cocaine and methamphetamine.

Dr. Shannon will continue to expand GSHI at BCCfE/ UBC, including research, policy, and interventions, both locally and internationally.

Dr. Moore is working to further develop international research collaborations in Africa and continues to build research capacity with the Division's primary research partner in Uganda, TASO. Dr. Moore is also in the process of developing research studies among men who have sex with men in BC to inform the STOP-HIV initiative.

Dr. Harrigan and his research lab will develop a whole genome sequencing assay as well as pyrosequencing in clinical applications.

## SPECIAL HONOURS AND AWARDS

Montaner:

- Fellow, American College of Physicians.
- Past-President, International AIDS Society (2010-2012).
- Doctor of Science (honoris causa) degree, SFU, Burnaby, Canada, June.

- Aubrey J. Tingle Prize for Outstanding Leadership-Michael Smith Foundation for Health Research (\$10,000), June 15.
- Order of British Columbia. Province of BC, Victoria, Canada, October.
- Prix Galien Canada Research Award. Ottawa, Ontario, November.
- Albert Einstein World Award of Science. World Cultural Council. Toluca, Mexico, December.

Harrigan:

- CIHR/GSK Research Chair Award in HIV/AIDS at the University of British Columbia (\$70,000), Canadian Institutes for Health Research, 2008-2011.
- ACCOLAIDS 2010. British Columbia Persons with AIDS Society. Research/Science/Technology Award. April 18.

Kerr:

- Scholar Award (\$45,000), Michael Smith Foundation for Health Research, 2006-2011.
- New Investigator Award (\$50,000), Canadian Institutes for Health Research, 2006-2011.
- Canadian Institutes of Health Research, Institute of Population and Public Health, Canadian Public.
- Health Association-Population and Public Health Research Milestones recipient.

Wood:

- British Medical Journal (BMJ) Awards—International Junior Doctor of the Year Award.
- British Medical Journal (BMJ) 2009 selected by the US National Institutes on Drug Abuse as a top NIH funded scientific advance for the purposes of lobbying congress and other public health constituencies, February.

- Canadian Institutes of Health Research, Institute of Population and Public Health, Canadian Public Health Association-Population and Public Health Research Milestones recipient.
- Canadian Society for Clinical Investigation Research Prize.

Moore:

- New Investigator Award (\$60,000), Canadian Institutes for Health Research, 2008-2013.

Shannon:

- Bisby Award [declined], Canadian Institutes for Health Research, 2008-2011.
- Fellowship Award [declined], Canadian Institutes for Health Research, 2008-2011.

## PHOTOS

### The Impact of Science & Innovation in the Evolving Global Health Paradigm: HIV & AIDS - A Global Challenge of Olympic Proportion, February 26, 2010

Co-hosted by LifeSciences BC, the BC Centre for Excellence in HIV/AIDS and University of BC

The 2010 Olympic Games provided a rare platform to cast light on international collaborative efforts to halt the progression of HIV and what can be accomplished in the arena of global health when nations participate together. With the backdrop of the 2010 Games, we demonstrated how HIV serves as an example of a truly global health challenge, how the effective implementation and adoption of science and innovation is required to overcome it, and how local excellence is making a global impact. World leaders in HIV health and innovation, including Dr. Michel Sidibé (photographed right), UNAIDS Executive Director and Dr. Nora Volkow, Director of the National Institute on Drug Abuse (NIDA) at the United States National Institutes of Health (NIH), as well as those photographed below, convened at UBC to share their perspectives on the challenges we face under a shifting global health paradigm.





ABOVE L to R: Tommy Sithole, Director of International Cooperation & Development, International Olympic Committee; Dr. Stefano Bertozzi, HIV Director-Global Health Program, Bill & Melinda Gates Foundation; Dr. Daria Hazuda, VP-Worldwide Discovery Franchise Lead-Infectious Diseases, Merck Research Laboratories; Michel Sidibé, Executive Director-UNAIDS and Under Secretary-General of the United Nations; Dr. Julio Montaner.

**HIV/Antiretroviral Update, June 11, 2010**  
**Hosted by the BC Centre for Excellence in HIV/AIDS (Dr. Julio Montaner, Director)**

Since the Fall of 2004, the BC Centre for Excellence in HIV/AIDS has hosted a day-long educational event for all interested healthcare professionals involved in HIV care. The HIV/ARV Update has become a bi-annual event that is held every year in the spring and fall.



ABOVE Front row from L to R: Dr. Peter Phillips, Dr. Judith Currier (UCLA), Dr. Rolando Barrios, Dr. Marianne Harris, Ms. Irene Day, Dr. Silvia Guillemi, Dr. Julio Montaner. Back row from L to R: Dr. Mark Hull, Dr. David Marsh, Dr. Clemens Steinbock (NYC Health Dept)

BELOW: Representatives of the China Center for Disease Control and Prevention, led by Dr. Zunyou Wu (far right), visited the BC-CfE in October 2010 to discuss Treatment as Prevention. Then BC Premier Gordon Campbell (3rd from right) met with the researchers to indicate the provincial government's full support for Treatment as Prevention and the STOP HIV/AIDS pilot project. This has now led the China CDC to embrace Seek & Treat as a pillar of their national strategy to combat HIV and AIDS. Also present were Dianne Doyle, CEO of Providence Health Care (left of Gordon Campbell) and Dr. Jacques Normand, Director of the AIDS Program, National Institute on Drug Abuse (right of Gordon Campbell).



**UNAIDS Treatment 2.0 based on made-in-B.C. "treatment as prevention" strategy**

AIDS 2010 endorses BC-CfE initiative as key pillar in fight against HIV and AIDS



L: Michel Sidibé, Executive Director of UNAIDS, heralded BC-CfE's treatment-as-prevention strategy as the basis for Treatment 2.0.



R: As the President of the International AIDS Society and Co-Chair of the XVIII International AIDS Conference, Dr. Montaner addresses the opening session of Treatment 2.0.



ABOVE: In February 2010, the BC Minister of Health Services Kevin Falcon joined Dr. Montaner along with community and health authority representatives to officially launch the STOP HIV/AIDS pilot project (aka Seek & Treat).



ABOVE: As President of the International AIDS Society, Dr. Montaner served as chair of the XVIII International AIDS Conference held in Vienna, Austria from July 18-23, 2010 and participated in the Human Rights March along side Michel Sidibé, Executive Director of UNAIDS, and Michel Kazatchkine, Executive Director of The Global Fund to Fight AIDS, Tuberculosis and Malaria (all front row dressed in black).

## Division Members

### Professor

Dr. R. Robert Schellenberg

### Clinical Professor

Dr. H. C. George Wong

### Clinical Associate Professor

Dr. Donald Stark

### Clinical Assistant Professor

Dr. Amin Kanani

Dr. Seung Kim



**Dr. R. Robert Schellenberg**  
Professor and Head

## DIVISION OVERVIEW

Our division received approval for a training program at UBC by the Royal College of Physicians and Surgeons of Canada. The program is jointly run with the Pediatric Division of Allergy and Immunology and Dr. Edmond Chan from Pediatrics championed the endeavour with Dr. Donald Stark, the program director for our adult subspecialty. A candidate has been identified from the Pediatric program to commence in July 2011 but the adult program was not matched. We anticipate enhanced exposure of trainees should aid in recruitment to our subspecialty in future years as there is a need for additional training positions and greater awareness by students and residents of the attractiveness of our subspecialty.

We have had an increased number of elective rotations in our division, both residents and medical students, in the last year. Our division is involved in providing clinical teaching in allergy and immunology at all levels and this has involved new initiatives in patient education and CME programs for physicians.

Following on the original work with representatives from the Provincial Blood Services and St. Paul's Hospital Blood Bank and Outpatient Services, we have begun a new program for home self-management of Primary Immune Deficiency patients by training them to administer antibody replacement subcutaneously, thus avoiding the necessity to come into our Medical Short Stay Unit for IVIG treatment. Under the excellent guidance of our nurse-educator, Adriana Martin, there are now over 80 patients on SCIG in BC, including a growing number living in various parts of the province. Goals

are to have a defined clinic where these patients can have access to specialized services and can be part of a national registry. Such a facility would enhance patient care while decreasing the requirement for hospital resources. There remains a critical need for Ministry of Health support for this program which would have major benefits for patients and hospital resources throughout BC.

We are working to expand the number of clinical teachers, including members in Victoria and Kelowna. This is progressing and we would hope to be able to offer electives for students at these sites so that we could accommodate more requests from UBC medical students as well as those from elsewhere. Dr. Seung Kim and Dr. Ross Chang in Burnaby have been most helpful teaching residents and students in their outpatient clinics.

## TEACHING

All members of the Division are actively involved in teaching students, residents, community physicians and lay persons.

The limited exposure to our subspecialty remains a problem but the number of students taking an elective rotation with us has increased substantially. However, we still have more students coming from other universities than our own. This reflects the minimal amount of allergy and immunology in the curriculum despite how common these disorders are in any medical practise. Dr. Schellenberg provides an introductory lecture on the basic mechanisms of allergic inflammation in the Pathology 521 course. All members actively participate in case-based subspecialty teaching seminars for Med III / IV students and provide individual office-based teaching of students who have chosen an elective rotation in the subspecialty. In addition, Drs. Stark, Kanani and Schellenberg teach in the Clinical Skills block for Med I students and conduct bedside teaching sessions with Med II students.

The month-long elective rotation for residents in Internal Medicine and its subspecialties has become increasingly popular in recent years. Clinical members commit a half to a full day per week of their office practice for each resident and Dr. Schellenberg has one on one teaching sessions two half days each week with each resident, reviewing basic and clinical topics

of relevance. The evaluations of this elective rotation by residents and students has been very good.

Major initiatives have been undertaken in community medical education to physicians, other health care professionals and to the lay public. CME programs organized by Dr. George Wong through the auspices of the UBC Community Programs are given in various communities in British Columbia and the Northwest Territories. These have received excellent evaluations and are highly appreciated by physicians in outlying areas. Each member contributes to these programs.

Dr. George Wong has developed specific expertise in evaluation of complementary and alternative medicine practices and has presented a number of interesting papers on these aspects at meetings of the European Allergy, Asthma and Clinical Immunology as well as the World Allergy Organization International Scientific Conference this year. He is a member of the BCMA committee on allied health and alternative therapies.

Dr. Amin Kanani is a member of the Jeffrey Modell Foundation of Canada, an organization that promotes awareness of primary immune deficiency with health care providers and the lay public. He has organized a local Immunology Journal Club that brings together pediatric and adult immunologists to foster interaction and share knowledge and the development of needed laboratory testing. He and Dr. Schellenberg have been involved in an initiative that led to adding the "Ten Warning Signs for Primary Immune Deficiency" to the pamphlet "Do Bugs Need Drugs", a highly successful program in BC and Alberta that reviews signs of infections and general considerations for health care providers (25,000 pamphlets distributed). This collaboration has been very fruitful and further aspects of joint teaching sessions are being discussed.

All members have been actively involved in providing teaching seminars in various communities in British Columbia. Dr. Kanani has been involved with the St. Paul's Internal Medicine Update Course and members of our division are asked regularly to speak at the highly popular St. Paul's General Practitioner Course.

## RESEARCH AND CLINICAL PRACTICE GUIDELINES

The members at St. Paul's hospital have a major interest in management of Primary Immune Deficiency and have initiated a number of research projects as well as interactions with the lay organizations, Canadian Immune Deficiency Patient Organization and the Jeffrey Modell Foundation. Drs. Schellenberg, Kanani and Stark are undertaking a study evaluating the quality of life and health outcome parameters of patients with primary immunodeficiency, comparing IVIG treatment to SCIG treatment. An earlier study evaluating quality of life parameters in patients receiving IVIG demonstrated significant correlation of IgG serum levels to indices of fatigue

Dr. Kanani was a committee member evaluating subcutaneous vs. IV immunoglobulin therapy for Primary Immune Deficiency, evaluating the efficacy and cost effectiveness for the Canadian Agency for Drugs and Technologies in Health (CADTH). This

report has been helpful in defining cost savings with home therapy.

Dr. Schellenberg was a member of a Canadian Blood Services committee formulating evidence-based guidelines for the use of IVIG and sCiG in patients with Primary Immune Deficiency. These have been recently published.

Dr. Schellenberg was also involved in the formation of guidelines for the management of allergic rhinitis and is a member of a multidisciplinary group that has recently published practice guidelines for rhinosinusitis.

Drs. Stark, Kanani and Schellenberg were members of a committee that recently published updated guidelines for management of hereditary angioedema.

Dr. Stark is involved with a national study sponsored by the AllerGen NCE evaluating "Anaphylaxis and Treatment Methods within the School System."

Dr. Schellenberg is a member of the steering committee of the National Lung Health Framework. This organization is now awarding grants aimed at improving awareness and management of lung disorders.

Dr. Wong is conducting studies assessing the use and potential harmful effects of herbal and Chinese medicines and regularly presents at local and international meetings.

## CLINICAL SERVICES

All members are actively involved in providing clinical consultative services in Allergy and Immunology to the community. Dr. Mandl continues to provide allergy clinics to a number of aboriginal communities in Northern BC. Dr. Stark provides outreach clinics in Prince George and Sechelt. He has been active in initiating subcutaneous immunoglobulin treatment for patients in northern BC communities. Dr. Kanani serves needs in Surrey with a clinic one day each week. Dr. Wong has had a specific interest in complimentary medicine practices and the potential harmful effects of specific treatments.

A major initiative at St. Paul's Hospital to improve the care of patients with primary immunodeficiency is being led by Drs. Schellenberg, Stark and Kanani in conjunction with Anita Skihar (Supervisor of Outpatient Services), Daryl Gouthro (Manager of the Blood Bank) and members of the Provincial Blood Coordinating Office. This has led to an excellent document dealing with guidelines, protocols, patient and nursing information on home subcutaneous immunoglobulin therapy which has been adopted by other provinces (available on the PBCO website). The goal of this project is to have a provincial centre and resource for all patients with primary immune deficiency and link registries with others across Canada and globally.

## NATIONAL AND INTERNATIONAL INITIATIVES

Members are very involved with the national programs for Allergy and Clinical Immunology.

Dr. Schellenberg is the Chair of the Examination Committee for Clinical Immunology subspecialty of the Royal College of Physicians and Surgeons of Canada. He is also a Past-President of the Canadian Society of Allergy and Clinical Immunology.

Dr. Stark has been the Chair of the national Subspecialty Committee for Clinical Immunology and Allergy until stepping down this year to work on the development of our training program at UBC. He is also a Past-President of the Canadian Society of Allergy and Clinical Immunology.

Dr. Kanani is a member of the Steering Committee of the Jeffrey Modell Canadian Immunodeficiency Network and a member of the Royal College of Physicians and Surgeons Examination Committee for Clinical Immunology.

Dr. Schellenberg is a member of the Medical Advisory Committee of the Canadian Immune Deficiency Patient Organization. He is also a member of the National Lung Health Framework Steering Committee and the Canadian Hereditary Angioedema Network.

Dr. Stark is a member of the Board of Directors for the Canadian Foundation for Allergy and Clinical Immunology, a charitable organization of which Dr. Stark was the founder.

Dr. Wong is a member of the Adverse Reaction to Drugs and Biologics Committee of the American Academy of Allergy, Asthma and Immunology.

All members are actively involved in local, national and international committees dealing with their areas of interest. Dr. Stark remains the Economics Chair from the section of Allergy and Clinical Immunology for the Society of Specialist Physicians and Surgeons of BC. Dr. Wong is a member of the BCMA Allied Health and Alternative Therapies Committee.

## FUTURE DIRECTIONS

With the successful application for a training program, developed by Dr. Stark and Dr. Edmond Chan with the support of all members of both the Department of Pediatrics and Department of Medicine, we are presently completing curriculum development. We have one Pediatric fellow in the upcoming academic year and hope to learn from this initial year to enhance the program for future candidates. Due to our limited numbers and the expanding requests for elective rotations in our subspecialty, we plan to increase our membership by adding excellent clinical faculty from the community. A number already contribute significantly to our ongoing teaching programs that involve both pediatric and adult programs.

A major initiative of the division is the development of a Comprehensive Care Program for patients with Primary Immune Deficiency in British Columbia. In conjunction with the Provincial Blood Coordinating Office, an in-depth document has been developed for the home therapy with subcutaneous immunoglobulin. This is being used for training both nursing educators as well as patients and our program is already being highlighted across the country. We plan to continue to expand our home SCIG program so that all patients in BC with primary immune deficiency will have the option of home treatment.

We are working collaboratively with groups across the country to establish a registry of these patients for improved care and opportunities for multi-centred research initiatives. Locally we are working to have a specific out-patient clinic where management can be better coordinated, especially as we move to home immunoglobulin replacement therapy. We are the first adult centre to initiate this and are developing a business plan to the Ministry of Health to make this a provincial resource that would provide superior, standardized care at lower cost.

## Division Members

### Professor

Dr. Christopher Buller  
Dr. John Cairns  
Dr. Charles Kerr  
Dr. G. B. John Mancini  
Dr. John Mayo  
Dr. Simon Rabkin  
Dr. Teresa Tsang

### Clinical Professor

Dr. Ronald Carere  
Dr. Anthony Fung  
Dr. Kenneth G. Gin  
Dr. Jaap Hamburger  
Dr. Victor Huckell  
Dr. Andrew Ignaszewski  
Dr. Marla Kiess  
Dr. Ian Penn  
Dr. Donald Ricci  
Dr. John Yeung-Lai-Wah  
Dr. John Webb

### Associate Professor

Dr. Hartmut Henning  
Dr. Karin Humphries

### Clinical Associate Professor

Dr. Sammy Chan  
Dr. Brett Heilbron  
Dr. John Jue  
Dr. James Nasmith  
Dr. Alan Rabinowitz  
Dr. Jacqueline Saw  
Dr. Christopher Thompson  
Dr. Graham Wong

### Assistant Professor

Dr. Krishnan Ramanathan

### Clinical Assistant Professor

Dr. Eve Aymong  
Dr. Matthew Bennett  
Dr. Robert Boone  
Dr. Santabhanu Chakrabarti  
Dr. Jasmine Grewal  
Dr. Saul Isserow  
Dr. Pui-Kee Lee  
Dr. John LeMaitre  
Dr. Robert Moss  
Dr. Parvathy Nair  
Dr. Lynn Straatman  
Dr. Carolyn Taylor  
Dr. Mustafa Toma  
Dr. Stanley Tung  
Dr. Sean Virani  
Dr. David Wood

### Clinical Instructor

Dr. Bradley Munt

### Associate Member

Dr. Amin Aminbakhsh  
Dr. Tom Ashton  
Dr. Margaret Blackwell  
Dr. Albert Chan  
Dr. Eric Fretz  
Dr. Arthur Friesen  
Dr. Lyall Higginson  
Dr. Peter Klinke  
Dr. Akbar Lalani  
Dr. Jonathon Leipsic  
Dr. Paul Novak  
Dr. Randall Sochowski  
Dr. Gerald Simkus  
Dr. Laurence Sterns  
Dr. Elizabeth Swiggum  
Dr. Anthony Tang

\* Joint tenure appointment 50:50 with Department of Radiology



**Dr. Kenneth G. Gin**  
Clinical Professor and Head (VA)

## DIVISION OVERVIEW

The UBC Division of Cardiology is unique in that it has two UBC Division Heads: Dr. Ken Gin, Head UBC Division of Cardiology, Vancouver Acute and Dr. Andrew Ignaszewski, Head UBC Division of Cardiology, Providence Health Care. Their appointments were announced at the end of November 2009.

At the end of 2010, the UBC Division of Cardiology consisted of 45 active faculty (including 9 full-time faculty; one of whom was on leave of absence, and 36 clinical faculty distributed over two large tertiary programs at St. Paul's Hospital and Vancouver Acute (including UBC site). This number includes three new recruits to the Division during 2010: Drs. Matthew Bennett, John LeMaitre and Mustafa Toma. Eleven additional members enjoy emeritus, honorary or adjunct status. The Division has also appointed 4 Associate Members during 2010: Dr. Jonathan Leipsic, who is a Member of the Department of Radiology at St. Paul's Hospital and Drs. Paul Novak, Randal Sochowski and Malcolm Williams, driven in part by the Medical School expansion.

The UBC Division of Cardiology provides a comprehensive range of tertiary and quaternary cardiology sub-specialty services and programs, including ambulatory and inpatient consultative cardiology, specialized clinics including heart function, cardiac intensive care, electrodiagnostics, cardiac ultrasound, interventional cardiology, electrophysiology, nuclear cardiology, adult congenital heart disease, cardiac transplantation and ventricular assist,



**Dr. Andrew Ignaszewski**  
Clinical Professor and Head (PHC)

atherosclerosis risk reduction and cardiac rehabilitation, and advanced cardiac imaging. Unique programs include a cutting edge percutaneous aortic program and a metabolic syndrome clinic. Cutting edge bench research areas have been established in partnership with iCAPTURE.

## TEACHING

Cardiology is extensively involved in teaching at the undergraduate and postgraduate level. Residents from Emergency Medicine, Anesthesia, Family Practice, General and Vascular Surgery and Neurology rotate through the Cardiology rotations. The UBC Cardiology Division teaches ECG and gives didactic teaching sessions to these groups as part of their academic half days. The calibre of teaching is exceptionally high. As an example, four of the top five ranked rotations offered to Internal Medicine residents were provided by Cardiology. Cardiology staff members also regularly receive teaching awards.

### ***Undergraduate Teaching: Dr. David A. Wood (Undergraduate Medical Education Director)***

An integrated, comprehensive cardiovascular curriculum is essential for all undergraduate students regardless of their final career path. To ensure students are prepared for clinical practice, the Division has taken an active and integral role in undergraduate teaching across all 4 years of medical school. In the past year, the Division has contributed over 250 hours in bedside clinical skills teaching, seminars and problem-based tutoring. The Division has accommodated over 30 elective students in

both inpatient and ambulatory rotations. Faculty continues to be involved in curriculum renewal as well as actively recruiting volunteer patients for clinical skills teaching. The UBC medical school now has over 250 students per year, and the Division is committed to its leadership role in undergraduate teaching using evidence-based teaching methods and assessment tools. The introduction of Harvey, a clinical skills simulator, into the third year curriculum has been an important addition to both bedside clinical teaching and cardiovascular medical education scholarship at UBC. Recently, the Division has been instrumental in establishing an online curriculum for undergraduate cardiovascular clinical skills. Third year ambulatory clinics were introduced in 2009 to help supplement the traditional CTU experience and the Division is committed to providing students with realistic outpatient experiences at both SPH and VGH.

As of 2010, Division members now have leadership roles as both Block and Week Chairs for the FMED Undergraduate Cardiovascular Block. Several members also sit on the UBC Department of Medicine Education Task Force. With the incorporation of new technologies such as simulation and online curricula, the Division has shown vision and leadership in the field of undergraduate education. The Division remains committed to the implementation of an integrated, spiral four year cardiovascular curriculum at UBC.

**Postgraduate Teaching: Dr. Parvathy Nair (Director), Dr. Rob Moss (Associate Director)**

The postgraduate training program in cardiology at UBC is the second largest cardiology training program in Canada. There are currently 13 Ministry of Health funded, and 3 externally funded residents in the program. Training occurs at the two Vancouver teaching hospitals, as well as the Royal Jubilee Hospital in Victoria.

The academic program encompasses 7-10 hours of protected educational time, with internal and guest faculty directed lectures, interactive sessions in graphics, bedside clinical skills, journal club, hemodynamics, and a core curriculum. Renowned guest lecturers also contribute to the training program as part of the Distinguished Speakers series. With such a strong educational program and significant clinical exposure to cardiology at tertiary and quaternary levels, the program continues to attract elective residents and students across Canada, and is one of the most desired training sites for postgraduate cardiology.

The program continues to innovate in the field of education with the introduction of simulation technology for technical skills (for procedures such as central venous access and pericardiocentesis) as well as bedside cardiology clinical skills. Resident research has been particularly successful with many high quality resident presentations at national and international meetings. Trainees continue to excel clinically and have enthusiastically embraced the role of the resident-teacher by contributing to both undergraduate and postgraduate teaching. Graduates of the program continue to successfully pass the Royal College exam in cardiology and have pursued subspecialty training in fields such as electrophysiology and combined

imaging fellowships in CT, MRI and echo. Trainees have also been successful in procuring competitive fellowship funding in the U.S. for research and advanced degrees.

## CONTINUING MEDICAL EDUCATION

### *Internal Rounds*

Across sites, the Division of Cardiology presents a rich curriculum of regular lectures and rounds. Cardiology Grand Rounds is presented weekly at each hospital. In addition, a variety of city-wide and hospital-based rounds are held regularly as follows:

- Interventional Cardiology (weekly, both sites)
- Combined Cardiology/Cardiac Surgery (weekly, both sites)
- M&M (weekly at SPH, monthly at VGH)
- Echocardiography (monthly, VGH)
- EP rounds (weekly, SPH/VGH)
- Grand Cardiology Rounds (weekly, VGH and SPH)
- Resident Noon rounds (weekly, SPH)
- Research Rounds (bi-weekly, SPH)
- Journal Club (monthly, city-wide)
- Cardiac CT rounds (twice monthly, VGH)
- Professor Rounds (monthly)
- Distinguished Speaker Rounds (monthly)
- Resident Academic Half Day (weekly VGH or SPH)

In an effort to promote further integration, 50% of rounds are now videolinked between SPH and VGH. Lectures are also widely broadcast to other hospitals including Lions Gate and Royal Jubilee Hospital, Victoria

### *Distinguished Speakers in Cardiovascular Medicine*

2010 saw the seventh year of the Distinguished Speakers in Cardiovascular Medicine series held monthly during the academic year. Hosted jointly with the UBC Division of Cardiac Surgery, this program is directed by Drs. Gin and Andrew Ignaszewski and brings prominent cardiovascular academics to Vancouver for 1 or 2 days of focused activity and interaction including research seminars, resident teaching, and the Distinguished Speaker Lecture itself. A broad range of tertiary and community cardiovascular specialists and researchers attend these lectures. They afford an important opportunity for basic scientists, clinical and academic physicians, cardiac surgeons, as well as faculty and staff from pharmacy and other allied health disciplines to meet and interact.

A key goal of this guest lecture series is to maintain complete academic independence with respect to the choice of speakers and topics. Funding it, however, requires industry support. To resolve this paradox, the cardiac pharmaceutical and device industry was approached at large by the Divisional leadership to provide shared funding without any input regarding content. In 2010, 7 industry partners supported Distinguished Speakers through this arms length funding arrangement and we were fortunate in attracting 8 truly distinguished speakers during the period:

- Dr. Anne Gillis, Calgary
- Dr. James Min, Cornell University
- Dr. Alan Menkis, University of Manitoba
- Dr. Sheldon Magder, McGill University
- Dr. Maria Costanzo, Mayo Clinic
- Dr. Bernard Gersh, Mayo Clinic
- Dr. Paolo Raggi, Emory University, Atlanta
- Dr. Marco Costa, Cleveland, Ohio

### **Course & Convention Leadership / Selected Lectures and Presentations**

#### **Dr. John Cairns**

- Atrial Fibrillation: Increasing Prevalence, Evolving Therapies. Canada-India Cardiovascular Health Conference (CINI) 2010. Surrey. June 20, 2010
- CCS Atrial Fibrillation Guidelines 2010. Prevention of Stroke and Systemic Thromboembolism in Atrial Fibrillation and Flutter. CCS Annual Meeting. Montreal. Oct 2010

#### **Dr. Ron Carere**

- Establishing Effective Quality Improvement for an Interventional Cardiology Program – Sir Run Run Shaw Hospital, Academic Week Hangzhou, China, Oct 23, 2010

#### **Dr. Ken Gin**

- Member, Organizing and Scientific Committee 4th Annual Heart, Lung & Blood Research & Education FEST. March 8-9, 2010. UBC Vancouver.
- “Refractory Hypertension” – Talk – UBC “CME on the Run” conference, VGH, March 12, 2010
- Cardiology talk given to UBC’s “Students Interested in Internal Medicine” (SIIM) undergraduate group (50 students) – March 22, 2010, Vancouver, BC.
- “Atrial Fibrillation – Data to Make Your Heart Quiver” Talk - UBC’s 21st Annual Drug Therapy Decision Making Course, April 10, 2010 (300 attendees)
- “Old vs new Aldosterone Antagonists for CHF” Talk - UBC’s 21st Annual Drug Therapy Decision Making Course, April 10, 2010 (300 attendees)
- “The Top Ten Studies in 2009 to 2010 That Rocked/ Changed my Practice” – Talk - UBC Division of Cardiology 6th Annual Hot Topics in Cardiology – Sat 17 April, 2010, Morris J. Wosk Centre for Dialogue, Vancouver, BC.
- “Management of Coronary Arterial Disease Part I” – Talk: Alaska Glaciers CME Cruise; Sept 12-19, 2010
- “Management of Coronary Arterial Disease Part II” – Talk: Alaska Glaciers CME Cruise; Sept 12-19, 2010
- “Update Cardiology in Women (What’s The Difference?)” Talk: Alaska Glaciers CME Cruise; Sept 12-19, 2010
- “Ask The Expert: Men’s Health Explored & Answered” Panel Member: Alaska Glaciers CME Cruise; Sept 12-19, 2010
- “Refractory Hypertension” - Talk: Alaska Glaciers CME Cruise; Sept 12-19, 2010
- “Atrial Fibrillation” - Talk: Alaska Glaciers CME Cruise; Sept 12-19, 2010
- “The Top Ten Trials in Cardiology in 2010” – Talk to Texas Club of Internists Fall Clinical Meeting, Vancouver, BC.

Sept 27, 2010

- Oct 16, 2010 Presented 2 x 1hr anticoagulation workshops at 2010 UBC Atrial Fibrillation Symposium, Vancouver.

#### **Dr. Scott Lear**

- Lessons from Cross Cultural Studies of Determinants of Cardiovascular Risk. 23rd Meeting of the International Society of Hypertension. Vancouver, BC, Canada. September 26-30, 2010
- Ethnicity and visceral adipose tissue. 1st International Congress on Abdominal Obesity. Hong Kong, China, January 28-30, 2010

#### **Dr. Jonathon Leipsic**

- Vascular Access Issues with TAVI. Scientific Sessions of the American College of Cardiology New Orleans Louisiana April 2011
- Cardiac CT Academy Feb 25-27 Miami Fla. Co-moderated and hosted with Ricardo Cury
- Refresher Course RSNA 2010 Chicago Illinois. State of the Art Coronary CT Angiography 2010
- Invited Speaker: Medical Grand Rounds, Cedars Sinai Hospital - MDCT to Guide Percutaneous Cardiac Interventions. October 21, 2010. Los Angeles, CA.
- Cardiac CT for the Assessment of Valvular and Myocardial Disease. NASCI. October 3-5, 2010. Seattle, WA.
- CCTA for Obstructive Disease. NASCI. October 3-5, 2010. Seattle, WA.
- 2 invited lectures on MDCT for TAVI. TCT 2010. September 21-25, 2010. Washington, DC.
- 5th Annual Society of Cardiovascular CT Scientific Meeting. July 15-18, 2010. Las Vegas, NV. Practical Tips and Tricks for Low Dose and Accurate Coronary CT Angiography.
- 5th Annual Society of Cardiovascular CT Scientific Meeting. July 15-18, 2010. Las Vegas, NV. The Evolving Role of MDCT in Transcatheter Aortic Valve Replacement.
- 5th Annual Society of Cardiovascular CT Scientific Meeting. July 15-18, 2010. Las Vegas, NV. Dose Reduction in CCTA with New Reconstruction Algorithms.
- 5th Annual Society of Cardiovascular CT Scientific Meeting. July 15-18, 2010. Las Vegas, NV. High Definition Low Dose Coronary CT Angiography
- 5th Annual Society of Cardiovascular CT Scientific Meeting. July 15-18, 2010. Las Vegas, NV. Coronary CT Angiography-Read With the Experts
- Advancements in Multidetector CT Imaging. June 8-11 2010. Las Vegas, NV. Transcatheter Aortic Valve Replacement - The Basics
- Advancements in Multidetector CT Imaging. June 8-11, 2010. Las Vegas, NV. Coronary Artery CT Angiography - State of the Art
- Advancements in Multidetector CT Imaging. June 8-11, 2010. Las Vegas, NV. What’s new in Chest CT
- Transcatheter Valve Therapy. June 3-6, 2010. Seattle, WA. Long Term Follow Up of Transcatheter Aortic Valve Replacement with MDCT
- International Society for Computed Tomography. May 19-21, 2010. San Francisco, CA. Iterative Reconstruction in Thoracic CT: Initial Results and Experiences

- International Society for Computed Tomography. May 19-21, 2010. San Francisco, CA. Validating and Defining the Role of ASIR in Coronary CT Angiography
- International Society for Computed Tomography. May 19-21, 2010. San Francisco, CA. Prospectively Triggered Coronary CT Angiography with Zero Padding: Myth or Reality
- The Canadian Association of Radiologists 73rd Annual Scientific Meeting. April 22-25, 2010. Montreal, QC. Dose Reduction Strategies in Cardiac CT
- 13th Annual UBC Advancements in Cardiology Meeting. April 17, 2010. The Case for Coronary CT Angiography in 2010

#### **Dr. G.B. John Mancini**

- Discussant, Session: CAD Outcomes, Transcatheter Cardiovascular Therapeutics 2010, Washington DC, September 22, 2010
- Moderator, Session: The Asymptomatic Patient with Multivessel Disease, Transcatheter Cardiovascular Therapeutics 2010, Washington DC, September 23, 2010
- Co-Chairman, Cardiovascular Residual Risk: LP-PLA2 Inhibition – Will It Live Up To Its Promise? October 25, 2010, Canadian Cardiovascular Congress, Montreal QC
- Invited Speaker: “Digging into COURAGE: Who might benefit from revascularization?” Transcatheter Cardiovascular Therapeutics 2010, Washington, DC, September 23, 2010
- Invited Speaker: “Is there a Role for RAS Blockade in the Non-Hypertensive Vascular Patient with Preserved LV Function?” Canadian Cardiovascular Congress, Montreal QC, October 23, 2010
- Invited Speaker: “The Case for CETP Inhibitors” Canadian Cardiovascular Congress, Montreal QC, October 23, 2010

#### **Dr. Parvathy Nair**

- Course Director, “Women and Heart Disease”, UBC CME, May 15, 2010, Vancouver
- Invited Faculty: Annual Postgraduate Review in Family Medicine (UBC, February 2010), “Women with heart disease”
- Invited Faculty: Canadian Cardiovascular Trainee Day (Montreal CCC, October 2010), “Fellowship Training”

#### **Dr. Simon Rabkin**

- Chair, Annual UBC Cardiology ‘Hot Topics in cardiology’
- Chair, Canadian Hypertension education program committee on management of hypertension in patients with cardiovascular disease
- President of International Society of Hypertension 2010 Scientific meeting - the meeting drew over 2,500 physicians and scientists and led to policy declarations and scientific interchange. He coordinated many of the functions of this highly successful meeting in Canada working with the scientific community, Industry, government and not for profit sectors across the world

#### **Dr. Krishnan Ramanathan**

- 1st Annual UBC Cardiology Symposium in Atrial Fibrillation, Course Co-Director, September 2010

#### **Dr. Teresa Tsang**

- Invited to speak as the “Servier Canada Distinguished Lecturer” At Royal Alexander Hospital/ University of Alberta in Edmonton
- Invited to serve on Canadian Cardiovascular Society as a primary panel member for Canadian Guidelines for Atrial Fibrillation
- Invited to chair a symposium on atrial fibrillation and echocardiography at 2010 AHA
- Invited to serve on the Guidelines Committee for the American Society of Echocardiography.
- Invited speaker at UBC Atrial Fibrillation symposium October 2010

#### **Dr. John Webb**

- London, UK. Brit Soc Inter Card, Keynote lecture, Jan
- Rome, JIM meeting, TAVR update, moderator, speaker Feb
- Vancouver, 3 day TAVR training workshops for new programs, director, Feb, Mar, May, Jul, Aug
- Kyoto, Japan, Circulation society, keynote speaker, Mar
- Sydney, Perth, Adelaide, Brisbane, Newcastle, Bangkok, Singapore, London, Rouen, Karlsruhe, Ottawa, Montreal, Edmonton, Salt Lake, Seattle, San Diego transcatheter valve training
- Atlanta, American College of Cardiology annual meeting, Moderator, Mar
- Chicago, SCAI annual meeting, Moderator, live case demonstration, May
- Seattle, Transcatheter Valvular Therapeutics, Course director, Jun
- Chicago, PICS meeting, moderator, speaker, Jul
- Australia, ANZET meeting, featured speaker Aug 10
- Montreal, CCC/ACC Valve Sessions invited speaker, moderator, Oct
- London, PCR London Valve meeting, board, Oct 11-12
- Basel, Switzerland, invited speaker Oct
- Dallas, Dallas/Leipzig Valve meeting, invited speaker Oct
- Chicago, AHA interventional steering committee, moderator Nov
- Whistler, Excellence in interventional cardiology meeting, Dec

## **RESEARCH**

**Dr. Victoria Bernstein** continues to be actively involved in research. The DAL-OUTCOMES study is ongoing: dalcetrapib compared to placebo to determine if raising the HDL-C with dalcetrapib will reduce CV outcomes in subjects with recent MI/ACS. Two studies were completed in 2010: ACCESSION – reimbursement for smoking cessation Rx compared to no reimbursement for smoking cessation Rx; and PRACTICE – compares bleeding outcomes dependent on clopidogrel exposure (within last 5 days or > 5 days) before CABG for acute MI/ACS. Recruitment has commenced for the PRE-DETERMINE study - A long-term follow-up study to identify a series of genetic markers and biomarkers that specifically predict the risk of arrhythmic death as compared to other causes of mortality among CAD patients with EF greater than 35% and no CHF.

**Dr. John Cairns** continues as co-chair (with Dr. Salim Yusuf, from Hamilton Health Sciences and McMaster University) of CANNeCTIN (CANadian Network and Centre for Trials Internationally), supported by a \$10M award over 5 years from CIHR and \$10M from CFI (matched by a further \$15M from government and philanthropy). CANNeCTIN brings together investigators from across Canada with a wide range of expertise and research achievement in cardiovascular disease and diabetes, to work collaboratively toward major discoveries which are likely beyond the capacity of an individual centre. It comprises a coordinating centre located at the Population Health Research Institute (PHRI) at Hamilton Health Sciences and McMaster University, a collaborative network of over 200 hospitals and clinics in every Canadian province, and an affiliated international network of over 1500 centres. Within CANNeCTIN John co-chairs the working group on Acute Coronary Syndromes. He is co-chair of the Steering Committee of RIVAL, an international study comparing radial vs femoral approaches to PCI. The study will be presented at the ACC meeting in April, 2011 and has been accepted for publication in Lancet. He is a co-investigator and member of the steering committee of TOTAL, an international pilot study examining thrombectomy vs standard PCI in STEMI (funded by CANNeCTIN, Hamilton Health Sciences and Medtronic of Canada). The pilot study attained its planned recruitment of 240 early and an application for funding of the full study was submitted to CIHR in March, 2011. He is also a coinvestigator of a pilot study of the management of non-culprit lesions in STEMI using FFR measurements (co-chaired by David Wood and Graham Wong), and is the co-PI (with Jackie Saw) of a pilot study of antiplatelet therapy in conjunction with CABG. He chairs or is a member of a number of DSMBs of several large clinical cardiovascular trials, reviews regularly for several journals and also chairs the Division of Cardiology research award committee.

**Dr. Ron Carere** continues his interest and work in devices such as novel stent designs for congenital heart disease interventions.

**Dr. Santabhanu (Shanta) Chakrabarti** is active in clinical work and research in electrophysiology and congenital heart disease. He is the co principal investigator for Vancouver centres for the nationwide CASPER and PREPARE studies and is actively involved in the setting up of the regional inherited arrhythmia clinic services with the BC Childrens Hospital group along with the ongoing development of the pediatric ablation program at BCCH and Atrial Fibrillation Clinic program at SPH.

**Dr. Sammy Chan** is active in clinical trials and mechanistic research. His area of interest is preventive cardiology, endothelial function and endothelial progenitor cells.

**Dr. Anthony Fung** continues to be active in clinical research. His area of interest is in the area of interventional cardiology and cardiac imaging. Ongoing studies include: PCI via the radial versus femoral approaches; PCI for chronic total occlusions; validation of CT myocardial perfusion imaging; and clinical evaluation of optical coherence tomography (OCT).

**Dr. Ken Gin** continues to be actively involved in research and has been the local PI on multiple studies including atrial fibrillation (ACTIVE A, ACTIVE W, ACTIVE I-SPORTIF, CAFE), coronary artery disease (CRESENDO, TIMI 25 EXTRACT, PREMIERE, ARISE, FOCUS). He has also been on the steering committee of multiple studies, including The Early Disposition of Patients with Chest Pain – A Clinical Prediction Rule (MRC and Heart & Stroke funded); Aminophylline in Out of Hospital Brady-System Arrest (Heart & Stroke funded), Magnesium for the Prevention of Atrial Arrhythmias after Cardiac Surgery (Heart & Stroke funded); A Randomized Trial of Outpatient Self Adjusted vs Physician Managed Oral Anticoagulation (Heart & Stroke funded). Dr. Gin also provides echo support for multiple studies including CLOSURE (PFO closure study) and 3 trials to assess the cardio effects of various chemotherapeutic agents. Dr. Gin is also co-author of the Guidelines for Appropriate Wait Times for Echocardiography in Canada, published by the Canadian Cardiovascular Society. The Echo group has focused on work in the area of atrial volumes and diastolic filling parameters over the past year

**Dr. Brett Heilbron** continues active research interests, primarily in the field of coronary CT angiography, with 8 peer-reviewed publications and 17 published abstracts in 2010.

**Dr. Karin Humphries'** areas of interest include sex/gender differences in CVD presentation, treatment and outcomes; health services research focused on secondary prevention; population-based rates of treatment, including PCI, CABG, and pharmacological therapy; and atrial fibrillation. Dr. Humphries has led B.C.'s team of contributors to the Canadian Cardiovascular Outcomes Research Team (CCORT) project and GENESIS - Gender and Sex Differences in Cardiovascular Disease - an Inter-disciplinary Capacity Enhancement Team funded by CIHR. A growing area of interest for Karin is investigator-driven randomized controlled trials. With her advanced theoretical and extensive practical knowledge, she supports and informs many such initiatives within the Division. As Principal Investigator, Dr. Humphries presently holds a New Investigator Award from the Canadian Institutes of Health (CIHR), a Career Investigator Award from the Michael Smith Foundation for Health Research, and is the Principal Investigator on three grants funded by the Heart and Stroke Foundation (1) and CIHR (2).

**Dr. John Jue** continues to add to his echo database which currently contains 131,000 studies. Current research work includes bicuspid aortic valve and aortopathy, aortic stenosis and pulmonary hypertension; low gradient severe aortic stenosis, aortic stenosis regression and statins (Astronomer study); tissue strain in Fabry's and Hypertensive patients; pericardial fat in a Fijian population with metabolic syndrome; and Tissue Doppler following conversion of Atrial Fibrillation. He has been an invited speaker yearly at the Canadian Society of Echocardiography and is a board member of this society. As the director of the VGH echo lab, he oversees a number of studies in which echo is involved such as Closure and Respect, 2 atrial septal device closure trials.

**Dr. Marla Kiess:** Co-investigator, Bicuspid Aortic Valve Study Team, CANNeCTIN Adult Congenital Heart Disease Working Group.

**Dr. Scott Lear** continued his active research program during 2010 focused on the prevention and management of cardiovascular and other chronic diseases. As leader of the British Columbia Alliance on Telehealth Policy and Research ([www.BCATPR.ca](http://www.BCATPR.ca)) he received funding for a randomized trial of the 'virtual' heart function clinic. This, and the Internet-based chronic disease management study will investigate the use of the Internet (with telephone supports) for patient self-management and monitoring in patients in small urban and rural communities. He also leads the Multi-cultural Community Health Assessment Trial (M-CHAT), a study of the role of ethnic background in body fat distribution and risk for CVD, now in its fifth year of follow-up and is the lead investigator for the PURE study's Vancouver site (study led by Dr. Salim Yusuf).

**Dr. G. B. John Mancini** has been active in clinical trials through his Cardiovascular Imaging Research Core Laboratory (CIRCL) which provides measurements of endothelial dysfunction (brachial artery ultrasound), carotid ultrasound, quantitative coronary intravascular ultrasound, quantitative coronary angiography (QCA) and Cardiac Computed Tomographic Angiography.

He is providing QCA for the follow-up of the ACROSS-Cypher trial assessing the efficacy of sirolimus eluting stents in chronic total occlusions. The M-CHAT carotid ultrasound study, under the stewardship of Dr. Scott Lear, continues with long-term follow-up scans using funding awarded by CIHR. Brachial ultrasound analyses are being carried out in a study of Marfan's patients in collaboration with Dr. George Sandor at Children's Hospital. IVUS and QCA analyses for the Biomarker/Transplantation project under the direction of Dr. Bruce McManus are on-going.

CIRCL is also supporting Dr. Karen Humphries' study of women with normal coronary angiograms, analyzing the brachial and carotid ultrasounds, QCA and IVUS studies. CIRCL is providing the carotid analyses for the PARADIGM (Primary CARE AuDit of Global risk Management), which is funded by the Canadian Cardiovascular Research Network. The SWAN (Study of Women with Acute Coronary Syndrome and Non-Obstructive Coronary Disease) study IVUS analyses are being carried out in CIRCL. CIRCL is providing carotid and CT angiographic analysis to support Dr. Carolyn Taylor's "Coronary Computed Tomography Angiography and Carotid Ultrasound Correlation Study. QCA analyses for Dr. David Wood's FFR Stability Study are ongoing.

CIRCL is the angiographic and FFR core lab for the DeFACTO study (Determination of Fractional Flow Reserve by Anatomic Computed Tomographic Angiography). CIRCL is supporting Dr. Jan Freidman's study at Children's Hospital on neurofibromatosis patients with brachial and carotid ultrasound analyses. QCA analyses for the ICARUS study (Iodine Content for Diagnostic Accuracy and Patient Comfort for Individuals Undergoing Cardiac CT Scanning) are ongoing. CIRCL is providing carotid ultrasound analyses for the FACT (Family Atherosclerosis Counseling and

Testing Study) under the direction of Dr. Jiri Frohlich at St. Paul's Hospital.

Dr. Mancini is also instrumental in the development of a cardiac risk calculator with funding from Merck-Frosst. Dr. Mancini is the Co-PI, with Dr. P. Theroux of the Montreal Heart Institute, for the Canadian arm of the SOLID trial of a novel, "plaque stabilizing" agent.

**Dr. James Nasmith** remains active as one of two "core lab" ECG readers and consultant in Quebec's evaluation of medical care of acute myocardial infarction in a province-wide, annual registry, AETMIS (agence d'évaluation des technologies et des modes d'intervention en santé).

**Dr. Parvathy Nair's** research is in the area of medical education, specifically in the areas of assessment and the use of simulation technology in the medical curriculum. She is presently the principal investigator for a randomized trial looking at the application of simulation technology on the cardiology clinical skills of undergraduate students. She has published in the area of assessment of echocardiography skills in cardiology trainees and has written grants for further projects in this novel research arena. Dr. Nair is also the Medical Director of the Leslie Diamond Women's Heart Health Clinic, a newly established prevention program. The Clinic is the first in Western Canada and will be an important step in establishing research in cardiovascular prevention care for women.

**Dr. Simon Rabkin's** research interests focus on translational medicine – translating basic concepts in the molecular medicine to clinical cardiology. He has examined aspects of hypertension and its effects on changes in vascular characteristics in large arteries, coronary arteries, cardiac valves and cerebral arteries. His recent publications include the mechanisms of production of aortic stenosis, vascular dementia and coronary artery calcification.

**Dr. Krishnan Ramanathan** continues to be active in all aspects of research ranging from supervision of Internal Medicine residents research projects to executive positions on international multi centre studies, most notable being the NIH/NHLBI FREEDOM trial. In FREEDOM in addition to being the Canadian project manager Dr. Ramanathan also took on the role of country leader following the departure of Dr. Buller from Vancouver. Dr. Ramanathan's research interests are in the area of Acute Coronary Syndromes where he co-developed the ongoing STEMI database. He is also actively involved in ethnicity research and received funding as a co-applicant in a CIHR grant to study the differences in pain perception with ACS by ethnicity. He is also a team member of the St. Paul's Hospital Cardiac CT Angiography (CCTA) research group who has had several presentations at major international meetings. In addition to this he continues to lead locally, many multi-centre international studies.

**Dr. Jacqueline Saw** is an interventional cardiologist with research interests in antiplatelet therapy, interventional cardiology, carotid and peripheral arterial disease. She has over 35 publications in peer reviewed journals. She is the editor of the "Carotid Artery Stenting: The Basics" and the "Handbook

of Complex Percutaneous Carotid Intervention” textbooks by Humana Press. And she is the main author or co-author of 30 book chapters. She is the principal investigator of 2 local trials at Vancouver General Hospital: the ELAPSE study which investigated long-term antiplatelet response to clopidogrel and aspirin with long-term administration (JACC 2008), and the BRIEF-PCI Substudy on clopidogrel and aspirin response and effects on myonecrosis post-PCI (JACC Cardiovascular Interventions 2008). She is also the local site PI of several clinical trials at VGH, e.g. PEGASUS, PERISCOPE, SATURN, TIMI-50, and SAPPHERE-WW Registry. She has been the Program Director for the VGH Interventional Cardiology Fellowship Program since 2007, and she was recently elected as the Head of Clinical Trials Research with the VGH Division of Cardiology in 2010.

**Dr. Lynn Straatman** is currently a co-investigator on four CIHR funded operating grants. She is the leader of a research team involving clinicians and academics from social work, education, psychology and family studies investigating the area of healthcare transitions for adolescents with chronic life-limiting diseases.

**Dr. Carolyn Taylor’s** research interests focus on Cardiac CT Angiography (CCTA) and coronary artery disease risk factors. She is the principal investigator for two trials on the role of Cardiac CT Angiography in risk stratification and the association of risk factor profile with plaque morphology and distribution on CCTA. Dr Taylor is active in the clinical and research activities of both the Advanced Cardiac Imaging Program at SPH and the Healthy Heart Program at SPH and VGH. Dr Taylor has ongoing collaboration with colleagues in Boston on a number of research studies and received funding from the Clinical Investigator’s Program to support these projects.

**Dr. Teresa Tsang’s** research interests include the prediction and prevention of age related first events; epidemiology and imaging of atrial fibrillation and stroke; diastolic function; advanced imaging of atrial remodeling; arterial stiffness. Dr. Tsang’s developing research interests include the proteomics of inflammation and cardiovascular events; ethnicity and heart disease; athlete’s heart. Dr. Tsang’s clinical interests are echocardiography and clinical cardiology. Dr. Tsang has been awarded a Scientific Scholar Grant from Atcor as a PI on “Arterial Stiffness: Relation to Cardiovascular Outcomes” and CIHR Grant “Beyond VO<sub>2</sub>peak: Understanding exercise-induced changes in cardiovascular function after stroke” as a Co-investigator.

**Dr. Sean Virani’s** research interests include cardiac transplantation, acute decompensated heart failure (ADHF) and the cardio-renal axis in heart failure. He is principal investigator on a number of trials designed to look at novel pharmacological targets for both acute and chronic heart failure. He is involved with a number of investigator initiated projects focused on care delivery and healthcare utilization in community heart failure populations.

**Dr. John Webb** is director of interventional cardiology research at St. Paul’s hospital. St. Paul’s Hospital has become internationally known for transcatheter valve intervention. The year of 2009 saw published or in press 25 valve related journal

articles, and 31 invited presentations in 11 countries and one audio interview.

**Dr. Graham C. Wong** remains active in the National Steering Committees for the CANRACE ACS Registry and the CLARIFY Registry of stable angina. A number of abstracts from these two registries have been accepted to ACC and CCC in 2010 and 2 manuscripts were accepted to the American Journal of Cardiology and the Canadian Journal of Cardiology. Dr. Wong remains one of two medical co-leads for the VCH ST elevation myocardial infarction (STEMI) Initiative, which has been successful in implementing a regional reperfusion program for STEMI patients for the Vancouver Coastal Health Authority. A number of abstracts from this database have been submitted to the upcoming CCC meeting in October 2011. Finally, Dr. Wong continues as the co-PI along with Dr. David Wood with the Fractional Flow Reserve (FFR) Pilot study. This study of the stability of FFR measurements in STEMI patients with multivessel disease has enrolled approximately ½ of its target of 70 patients, and a larger feasibility study has been designed that will be presented to CANNeCTIN later this spring.

**Dr. David Wood** is a structural and interventional cardiologist and his primary research interests include transcatheter management of structural and valvular heart disease as well as new device development. His research interests also include the use of high fidelity simulation to understand clinical decision making. In 2010 he was co-author on 27 accepted abstracts and 7 manuscripts. He gave 13 invited presentations in both the United States and Canada. He obtained internal funding from the VGH Division of Cardiology Research Fund for the FFR Stability Study and is the local PI for CORAL, INNOVATE, and VELETI 2. He is actively involved in both coronary and structural advanced cardiac imaging research at both Vancouver General and St. Paul’s Hospital and he is a member of both the Cardiovascular Imaging Research Core laboratory (CIRCL) and the ACS/Interventional Working Group at the Canadian Network and Centre for Trials Internationally (CANNeCTIN).

**VGH Division of Cardiology Research Awards** – In 2006, the VGH Division of Cardiology in conjunction with the VGH and UBC Hospital Foundation established a semi-annual award competition targeting pilot projects led by VGH Division members. Applications are received January 1st, and July 1st and are reviewed by the Research Review Committee comprising Drs. John Cairns, John Mancini and Donald Ricci. During 2010, one award was made (\$25K/year for 2 years), bringing the total number of awards to 11 since the competition began. Dr. Jackie Saw was the successful applicant with a study entitled “Ticagrelor and Aspirin for the Prevention of cardiovascular events after Coronary Artery Bypass Surgery”. The study seeks to determine whether use of dual antiplatelet therapy (DAPT) with ASA and a new generation agent, ticagrelor, can reduce clinical events (death, MI, stroke, repeat CABG or PCI) and vein graft occlusion after CABG.

**Clinical Trials Research, VGH Division of Cardiology:** The Division of Cardiology at VGH has been active with international clinical trials research for over 3 decades. We have 9 full-time staff in our Clinical Trials Research Department in 2010, with 7 research coordinators (Rebecca Fox [Manager], Laura Tarry,

Jackie Chow, Andrew Starovoytov, Naomi Uchida, Rusty McColl and Linda Axen) and 2 support staff (Ronnie Sohal and Cheri Chalmers). The group is managed by a steering committee consisting of Dr. Jacqueline Saw (Head), Dr. Ken Gin, Dr. Graham Wong and Dr. Sean Virani. Our group actively enrolls patients into clinical trials in key areas of cardiology, including acute coronary syndromes (TRACER, TRIPLET, ACCOAST, RADAR, PROTECTION AMI), stable coronary artery disease (DAL-PLAQUE, SOLID, PEGASUS, TRA 2A – TIMI50, AIM HIGH), percutaneous coronary interventions (RIVAL, TOTAL, FFR Stability), non-coronary interventions (SAPPHIRE-WW Registry), congestive heart failure (ASCEND, COMPOSE-CHF), arrhythmias (ELECTRA), coronary artery bypass surgery (Propofol Study), diabetes (REDWOOD), and pulmonary hypertension (LEPHT).

**Research + Innovation: UBC James Hogg Research Centre, Institute for HEART + LUNG Health, and NCE CECR Centre of Excellence for the Prevention of Organ Failure [PROOF Centre] - Dr. Bruce McManus**

A long history of excellent basic and translational research exists in association with the UBC Division of Cardiology through the world-renowned James Hogg Research Centre at St. Paul's Hospital. The more than 30 investigators and 250 scientific personnel in the Centre are working hard to strengthen the relationship between discovery, learning and clinical care of patients with heart, lung and blood vessel diseases.

The UBC James Hogg Research Centre (whose name was shortened and simplified from the James Hogg iCAPTURE Centre for Cardiovascular and Pulmonary Research over the past 12 months) sits under the umbrella of the now community-wide Institute for HEART+ LUNG Health Institute (IHLH). The IHLH now embraces about 20 units across our community wherein fundamental, translational, clinical and community-based research, innovation and implementation occur. The IHLH is based on the integration of the Providence Heart + Lung Institute and the UBC Centre for Lung Health, among other units. In the vision of achieving greater impact on patients and those at risk, scientists at the Institute are reaching across the community, seeking cooperation and opportunities for collaboration among cardiologists, cardiac surgeons, respirologists, physiotherapists, basic and translational life scientists, bioengineers, computational scientists, and other clinical and scientific staff, researchers and technology development members embedded in this inclusive and potent framework.

Among many activities supported by the IHLH and its component units, a few should be mentioned specifically. The Heart + Lung Joint Rounds occur quarterly and bring together researchers and clinicians from the breadth of the heart and lung realms. The 2011 Heart +, Lung and Blood Research and Education FEST, the fifth annual, featured community, clinical and laboratory research from many local teams, as well as from national and international thought leaders and game changers in the cardiovascular and pulmonary fields, in personalized medicine, from policy perspectives, and industry. This annual event will grow in importance as a venue to teach, learn, network, and gain momentum as a British Columbian force

for better heart and lung health. It is especially a vehicle for bringing the stars of tomorrow together, to reach across the usual boundaries, and emphasize the importance of many kinds of expertise in addressing tough and worthwhile questions, whether arising in clinical contexts or in the creative imagination of a scientist.

Through the NCE CECR Centre of Excellence for Prevention of Organ Failure (PROOF Centre), diversely constituted research, development, technology, ethics, economics, and business teams focused on the important role of blood and urine biomarkers of heart, lung and kidney failure along the life cycle of risk through advanced disease, are bringing new molecular and computational tools to bear on pressing needs for better predictors and diagnostics. Many clinical cardiologists, cardiac surgeons, respirologists, nephrologists, and other clinical leaders are active members of the project teams that reach across Canada and internationally. Of the most advanced of PROOF Centre programs, the one focused on biomarker signatures of acute and chronic heart and kidney immune rejection brings leaders of our heart and kidney failure and cardiac and kidney transplant programs to work hand-in-hand with scientists from the James Hogg iCAPTURE Centre and the PROOF Centre itself.

Many other focuses of collaborative research can be noted that bridge between the James Hogg Centre, the PROOF Centre, the UBC Division of Cardiology, the new Institute for HEART + LUNG Health, and other academic and clinical units. The genetic underpinnings of degenerative aortic valve stenosis, the biological basis of aortic aneurysm, the imaging of inflamed myocardium, the biological bases of arrhythmias, and the basis of regeneration of injured myocardium are but a few examples of ongoing directions we take together.

## ADMINISTRATION

### Dr. Kenneth Gin

- Head UBC Division of Cardiology, Vancouver Acute, November 2009 onward
- Head Division of Cardiology, VGH November 2009 onward
- Medical Director, Cardiology, Cardiac Science Program, VA November 2009 onward
- Associate Director CCU, VGH
- Associate Director Echo, VGH
- Director UBC Postgraduate Program in Cardiology 1999-2009
- Member, Provincial Advisory Panel on Cardiac Health

### Dr. Andrew Ignaszewski

- Acting Head, UBC Division of Cardiology/Providence Health Care January 2009
- Head, UBC Division of Cardiology/Providence Health Care, November 2009 onward
- Head Division of Cardiology, SPH
- Medical Director Healthy Heart and Heart Function Programs, SPH
- Acting Director BCT Heart Transplant Program
- Member Provincial Advisory Committee on Cardiac Health

#### **Dr. Ron Carere**

- Vice President Medical Affairs Providence Health, March 2011
- Acting Vice President Medical Affairs Providence Health, May 2010-Feb 2011
- Co-Chair Regional Medical Advisory Committee Vancouver Coastal Health (HAMAC)
- Physician Program Director, Heart Centre, Providence Health Care
- Medical Director Cardiac Sciences Program Vancouver Coastal Health
- Associate Director Heart + Lung Institute Providence Health Care
- Co-Chairman Providence Health Care Critical Care Coordinating Committee

#### **Clinical Sub-Program Leadership**

- **Acute Coronary Care**
    - Krishnan Ramanathan\* Graham Wong\*\*
  - **Adult Congenital Heart Disease**
    - Marla Kiess\*
  - **Advanced Cardiac Imaging**
    - John Mayo\*\*
    - Brett Heilbron\*
  - **Arrhythmia Management**
    - Charles Kerr\* / Charles Kerr\*\*
  - **Cardiac Electrodiagnostics**
    - Marla Kiess\* John Jue\*\*
  - **Cardiac Ultrasound**
    - Christopher Thompson\* John Jue\*\*
  - **VGH & UBC Cardiovascular Clinic**
    - Saul Isserow\*\*
  - **Healthy Heart Program (risk reduction and rehabilitation)**
    - Andrew Ignaszewski\* Saul Isserow\*\*
  - **Women's Heart Health Clinic VGH**
    - Parvathy Nair\*\*
  - **Heart Function and Cardiac Transplantation**
    - Andrew Ignaszewski\* Sean Virani\*\*
  - **iCAPTURE**
    - Bruce McManus
  - **Interventional Cardiology & Cardiac Catheterization**
    - John Webb\* Anthony Fung\*\*
  - **Metabolic Clinic**
    - Sammy Chan\*
- \* SPH Director \*\*VGH Director

#### **Clinical Sub-Program Reports**

##### **Cardiac Intensive Care Unit, St. Paul's Hospital (Dr. Krishnan Ramanathan)**

The Cardiac Intensive Care Unit (CCU) at St. Paul's Hospital continues to be an integral role in the activities of the Heart Centre at St. Paul's Hospital, serving the local community at large as well as the province of British Columbia. In addition it remains a key centre of learning for the University of British Columbia research and national programs such as the Safer

Health Care Now initiative, to reduce the mortality associated with Acute Myocardial Infarction, and decrease the incidence of Ventilator-Associate Pneumonia and Central-Line Associated Infections. Participation in the Safer Health Care Now initiative permits the CICU to be bench marked nationally. The admission rate to the CICU continues to grow; now reaching > 1100 per year.

The year also saw further bolstering of staff members with the addition of Dr Mustafa Toma who returns to Vancouver after training in Cardiac transplantation and Left ventricular assist devices at the Cleveland Clinic. His expertise will nicely complement the Provincial Advanced Heart Failure initiative with many patients in the CICU treated with novel left ventricular assist devices such as the Impella device inserted percutaneously.

In addition to providing high quality care, there is continued enthusiasm to remain engaged in research with participation in many multi-national international trial as well as studies led by the CICU staff in use of blood transfusions in the CICU and discovery biomarkers in patients with advanced heart failure.

The CICU is now established as the principal location for patients to go immediately following percutaneous aortic valve replacements, and thus further broadening the breadth of patients managed in the CICU.

There are ongoing initiatives to further develop the "shared care model" in patients requiring mechanical ventilation with the Intensive Care specialists and the use of peripheral ultrafiltration as a viable treatment option for patients with acute decompensated heart failure with the Nephrologists. Further work is also being done to investigate the role of a post discharge clinic.

The CICU is part of the regional STEMI network and will work closely with the CCU at VGH to develop programs to regionalize the care of ACS patients provincially.

##### **Coronary Care Unit, Vancouver General Hospital (Dr. Graham Wong)**

The 14-bed CCU at Vancouver General Hospital continues to provide tertiary level cardiac care to in-patients at VGH, in the Vancouver Coastal Health Region and the remainder of the province. Over 3000 patients were admitted to the CCU during 2010. The CCU retains the capacity for full hemodynamic and ventilatory support for critically ill cardiac patients, and supports the activities of comprehensive percutaneous coronary intervention and cardiac surgical programs. New initiatives involving the CCU in 2010 include the continued evolution of the advanced heart failure program in conjunction with Dr. Sean Virani. Moreover, the successful recruitment of Dr. Matt Bennett has enhanced the local electrophysiology presence in the CCU. The CCU at VGH continues to be an integral part of the highly successful Regional STEMI Initiative, and provides approximately 60% of all primary angioplasties in the region. During 2010 over 200 primary PCIs for acute STEMI were performed. The final phase of the Regional STEMI Program is set to start in

2011 which will see the use of regional wide 24/7 primary PCI for all acute STEMI patients in the Coastal Health Region. Finally the CCU at VGH continues to be one of the highest rated teaching rotations in the Postgraduate training program in Internal Medicine at UBC, and continues to offer training to residents and fellows in Internal Medicine, Emergency Medicine, Neurology and Anesthesia. It should be noted that many of the CCU attending physicians have won major teaching awards. The CCU has continued to increase research output, with participation in many multicenter clinical trials in acute coronary syndromes, secondary prevention in chronic ischemic heart disease and acute heart failure.

#### ***Pacific Adult Congenital Heart Clinic (Dr. Marla Kiess)***

The PACH Clinic continues to grow and there are now 3000 patients in the database. The number of admissions, open heart surgeries, interventional procedures, electrophysiology procedures, and diagnostic tests has expanded dramatically. In the last fiscal year, we have had 1375 clinic visits, 226 new referrals, and 93 in patient admissions. Weekly case conferences are attended by the PACH cardiologists, congenital cardiac surgeons, advanced imaging radiologists, adult congenital interventionalists, advanced practices nurses, cardiology fellows and medical students. Dr. Michael Patterson has retired. Dr. Sanjiv Gandhi, pediatric congenital surgeon, has joined the team.

A Congenital Heart Pulmonary Hypertension Clinic has been developed in collaboration with the Pulmonary Hypertension Clinic at VGH. Clinics are held once per month and are attended by a PACH cardiologist and either Dr. Robert Levy or Dr. John Swiston.

The weekly Adult Congenital and Echocardiography Rounds are extremely well attended by the echocardiography technologists, cardiologists, surgeons, fellows, residents and medical students.

The St. Paul's-B.C. Women's Cardiac Obstetrics Team has been very active with participation from cardiology, fetal maternal medicine, internal medicine, anesthesiology, obstetrics, and obstetrical and cardiac nursing. The number of pregnant patients continues to grow and over 130 patients were seen this year. In addition, many patients have been seen for pre-pregnancy counseling. The Cardiac Pregnancy Clinic is held twice a month and is attended by Obstetrical and Maternal Fetal Medicine residents and fellows. There are monthly case conferences attended by the entire team.

Research has been active in collaboration with the Canadian Adult Congenital Heart Network in the areas of Eisenmenger's Syndrome and aortopathy in patients with bicuspid aortic valves. There has been active collaboration with the percutaneous pulmonary valve research program of Dr. J. Webb. Abstracts in nursing and psychology aspects of ACHD have been presented at national and international meetings. Teaching is provided to medical students, residents and cardiology fellows.

*Whitehorse Outreach Clinic:* In 2010, four outreach clinics lasting from 3-5 days each were held at Whitehorse Hospital in the

Specialist's Clinic. One of these was a Pacemaker clinic attended by the pacemaker nurse and Dr. John Boone. Three were general cardiology clinics; two staffed by Dr. Kiess and one by Dr. Robert Boone. With the assistance of SPH echocardiography technologists (with a portable echo machine) and ECG/stress technologists, echocardiography, ECG and stress testing services were provided. A direct IT link has allowed echocardiography images to be sent down daily to SPH for interpretation. The echo techs are able to access the SPH echo reporting program remotely.

#### ***Echocardiography, SPH (Acting Director, Dr. Marla Kiess)***

Echocardiography services have expanded dramatically over the past year. The department has acquired 2 new machines and has hired 1.5 new technologists and 1 new clerk. The hours have expanded from 0700 to 1900 Monday to Friday. There has been a 17.5% increase in the numbers of studies performed.

New techniques have been developed to assist complex interventional and electrophysiological procedures. The research program has mainly focussed on echocardiography in the evaluation of patients with valvular heart disease, new interventional procedures, interdisciplinary advanced cardiac imaging and adult congenital heart disease. Large numbers of echos are done to support multicentre trials, particularly in intervention, valvular heart disease, new surgical techniques and follow-up of surgical procedures, advanced heart failure and transplantation and electrophysiology.

The department continues to be actively engaged in teaching at many levels. There are two subspecialty echocardiography fellowship training positions. Cardiology residents and echocardiography technologists are constantly rotating through. There are biweekly echocardiography teaching rounds which are very popular and heavily attended by cardiologists, cardiac surgeons, fellows, residents, medical students, echocardiography technologists and nurses.

#### ***Cardiac Ultrasound, Vancouver General Hospital (Dr. John Jue)***

The echo lab continues to have a high volume of close to 16,000 studies a year. The database now has 145,000 studies. In addition to transthoracic, transesophageal, stress echos, and intracardiac echos being performed, 3D echo is also looming on the horizon. We continue to have high evaluations from a teaching point of view from the cardiology fellows. Abstracts in 2010 were presented at the American Society of Echo, Canadian Cardiovascular Society, and American Heart Association annual meetings. Active research is still being pursued in the areas of bicuspid aortic valve, hypertension, and central arterial pressure. ICE/TEE for LA appendage closure and device closures for ASD and PFO continue to be evaluated.

#### ***Advanced Cardiac Imaging, St Paul's Hospital (Dr. Jonathon Leipsic and Dr. Brett Heilbron, Co-Directors)***

The advanced cardiac imaging program at SPH was founded in January 2008 under the leadership of co-directors Drs. Heilbron and Leipsic. The program represents a collaborative initiative

of both Radiology and Cardiology and includes 5 physicians in total (Taylor, Ellis, Hague) as well as one fellow. A robust cardiac CT and MR program has emerged at Providence Health with approximately 2000 cardiac MRI and Cardiac CT examinations performed in 2010. These include novel imaging applications such as adenosine perfusion MRI and ultra-low dose coronary CT angiography.

The section has been academically active with more than 10 peer-reviewed publications and over 20 abstracts presented in 2010. The program is also part of an international NIH grant submission looking at the role of cardiac CT in patients with positive stress perfusion examinations. The Advanced Cardiac Imaging sections at SPH and VGH have developed a harmonious working relationship during 2010 with joint research projects emerging and the establishment of a combined monthly academic journal club and case presentation forum.

#### ***Advanced Cardiac Imaging, Vancouver General Hospital (Dr. John Mayo)***

The most exciting development in the last year has been the planned replacement of the two 1.5 Tesla MR scanners at VGH with two cardiac capable Siemens Aera 1.5 Tesla MR scanners. This will greatly improve the quality of cardiac MR studies. These scanners are scheduled to be installed over the next 8 months.

In the last year we have gained considerable operational experience with the two state of the art CT scanners at VGH; dual tube Siemens Definition Flash Scanner, sited in the Radiology unit within the Emergency Department and a Toshiba 320 Aquillion One Advanced Cardiac CT, sited in the cardiac catheterization laboratory. We have operationalized these scanners and preferentially direct patients with heart rates less than 70 beats per minute to the Toshiba 320 and those with higher rates to the Siemens Definition Flash Dual Tube scanner. We have gained experience using the Siemens scanner in Flash mode. This mode requires the patient's heart rate to be less than 60 beats per minute and a cardiac scan can be acquired in a single heart beat with a radiation dose less than 2 mSv. Our daily volumes are unchanged from 2010 at approximately 6 patients per day. The most common clinical indication for scanning continues to be discordance between Stress test and MIBI imaging in patients with intermediate risk of coronary disease.

There continues to be excellent cooperation between VGH cardiology and radiology in the joint supervision of the cardiac CT program. Both services continue to share the interpretation of cardiac CT examinations using a weekly rotation. We have initiated a research program investigating cardiac perfusion using dual energy maps (Siemens) and attenuation measurements (Toshiba). In the last year we have 5 papers, 1 case report and two abstracts.

An excellent cooperation relationship continues between VGH and St. Paul's cardiac CT departments. Drs. Wood, Leipsic, Taylor, Nicolaou, Fung, Mancini and Mayo are cooperating on a number of research projects between the two institutions,

leveraging the unparalleled access to the three state of the art cardiac CT scanners housed at VGH (2) and St Paul's Hospital (1) (GE 750 HD). Joint cardiac CT rounds are held on a monthly basis and are videoconferenced between the two sites. We are continuing to refine and align imaging protocols between the two sites with the eventual goal of providing an integrated clinical and research program in Advanced Cardiac Imaging at the two sites.

#### ***Cardiac Rhythm Management (Dr. Charles Kerr)***

The Cardiac Rhythm Management Service (CRMS) is undergoing rapid evolution and expansion. The service has expanded to a regional service involving St. Paul's Hospital, Vancouver General Hospital and Royal Columbian Hospital. This Metro Vancouver program will be an integral part of a provincial EP plan that will provide much needed service in heart rhythm management to these tertiary hospitals and their referral areas. This Metro Vancouver service will be a single service delivered at the 3 sites with electrophysiologists recruited to each site. Initially all electrophysiology studies will be performed at St. Paul's site with potential future expansion to other sites. There will be common research and training programs and regular research and clinical meetings. This year we successfully recruited 2 electrophysiologists, Matthew Bennett at VGH and John LeMaitre to Royal Columbian. The goal is to expand from the existing 6 electrophysiology faculty members to 10-12, including funded scholars. We are planning to expand EP lab facilities by opening labs at the other tertiary hospitals. The CRMS consists of multiple clinical activities, including arrhythmia clinics, pacemaker/ICD clinics, inpatient service, pacemaker and ICD implantation, electrophysiology studies and standard and complex ablations. The UBC service is at the cutting edge of ablation, including ablation of atrial fibrillation and ventricular tachycardia performed by Drs. Yeung, Tung, Chakrabarti, Bennett, and LeMaitre. Dr. Tung is also investigating novel modalities of pacing to improve ventricular function in patients with heart failure and just returned from a 7 month sabbatical in Boston. Research interests include outcomes after atrial fibrillation ablation, outcomes after device implantation, and novel pacing modalities. The program is the leader of the Canadian Registry of Atrial Fibrillation (CARAF), which follows the natural history of patients with atrial fibrillation. The CRMS is headed by Charles Kerr and consists of the other members listed above. We have an active EP Fellowship Program and will have 5 Fellows for 2011/12, working at all 3 tertiary centres.

#### ***VGH Electrophysiology***

Dr. Bennett is the first EP recruit at VGH. His work will involve simple and complex ablations and implantation of CRT/ICD. VGH has completed fundraising for the Per Bruner Professorship in Sudden Cardiac Death and hopes to begin recruitment in 2011. VGH has made submissions to PHSA to develop an on-site EP lab. Infrastructure funding has been raised through private donations.

#### ***Healthy Heart Program (risk reduction and rehabilitation), St. Paul's Hospital (Dr. Andrew Ignaszewski)***

During 2010 the SPH Healthy Heart Program entered into a collaborative agreement with VGH Centre for Cardiovascular Risk Reduction program to create an original program. The physicians involved in the program (Saul Isserow, Sammy Chan, Carolyn Taylor and Andy Ignaszewski) have begun creating a group practice plan in the hope that in future years this could be expanded to involve other cardiac rehab physicians in Vancouver Coastal Health and UBC.

Dr. Carolyn Taylor, together with administrators from VGH and SPH has led the way into expanding cardiac rehabilitation from hospitals to communities. 2010 saw the creation of the first community expansion program under the name Happy Hearts Plus (a low risk cardiac rehabilitation program) and Happy Hearts (a maintenance program) in the Kensington Community Centre, in Vancouver. Later the same year a similar program was created in the downtown Vancouver YMCA. In addition the metabolic syndrome clinic transferred from St. Paul's Hospital to Vancouver's downtown YMCA into a Community Wellness Program. The group plans on developing additional cardiac rehab programs in the community in the future, with the next one being planned for Dunbar Community Centre.

The Healthy Heart Program continues to participate in a number of non-pharmacological trials. The 'virtual' cardiac rehabilitation program (vCRP) has been concluded. This was a randomized trial of 74 patients living in Northern Health or Coast Garibaldi areas. Patients with ischemic heart disease were assigned to either usual care or the 16-week vCRP; a web-based cardiac rehabilitation program was designed to provide care to patients who could not access hospital-based programs. Patients will be followed for a year following the conclusion of the trial, to assess long-term outcomes. The researchers continue to study the efficacy of a 'reduced' cardiac rehabilitation program in 120 patients with CVD at low and moderate risk with the results being available in 2011.

A successful pilot program studying the effectiveness of teleconsultation between a family physician and cardiologist (Rapid Access to Cardiology Expertise, RACE) was overwhelmingly successful and has led to the creation of a specialist billing code to be used by specialists throughout the province to provide timely consultations to family physicians. The program name has now been changed to Rapid Access to Consultative Expertise (RACE) and has been expanded to include 7 specialist groups: Cardiology, Heart Failure, Endocrinology, Nephrology, Psychiatry, Respiratory and Gastroenterology. In phase 3 the RACE program will be expanded across VCH and perhaps to the rest of BC.

The Multi-cultural Community Health Assessment Trial (M-CHAT) continued with its five-year follow-up of men and women of Aboriginal, Chinese, European and South Asian origin to investigate the role of ethnic background on the risk for diabetes and CVD. The Healthy Heart Program participated in the Portfolio study (with colleagues from Quebec, Ontario and Manitoba), and completed Champix™ quit smoking study (with or without AVR), and participated in the Fish Nutrient study (with Quebec and Norwegian groups).

The Prevention Clinic, led by Dr. Gordon Francis, is part of the Healthy Heart Program and is the largest clinic of its kind in Canada. He was chosen to be a PI on a new study funded by AstraZeneca to assess the effects of rosuvastatin in children age 6-18 with heterozygous familial hypercholesterolemia, the CHARON Study, (2 year study that would include the measurement of carotid IMT.).

#### ***Healthy Heart Program (risk reduction and rehabilitation), Vancouver General Hospital (Dr. Saul Isserow)***

The VGH Centre for Cardiovascular Health is an umbrella centre encompassing three healthy heart programs: the Leslie Diamond Women's Heart Clinic, the Happy Hearts Heart Program, a community bridge program and the VGH Healthy Heart Program. We have continued to collaborate closely with St. Paul's Hospital Healthy Heart program and continue to expand, with over 600 patients enrolled annually. We are now completely automated in terms of records and continue to receive laudatory reviews from patients. We have a dynamic mental health component to the program with access to a psychologist and a social worker. We have a unique multidisciplinary and multi-faceted wellness program.

#### ***Women's Heart Health Clinic, Vancouver General Hospital (Dr. Parvathy Nair)***

The Leslie Diamond Women's Heart Health Clinic has successfully expanded since opening in Spring 2009. Because of increasing demand, the clinic has increased the women-only classes from two to four per week, and will continue to grow to meet the cardiovascular needs of women. The Clinic continues to provide primary and secondary prevention rehabilitation programs, encompassing education and exercise classes, directed specifically toward the needs of women who are at high risk of, or who have cardiovascular disease. In addition to providing clinical care, the Clinic has engaged in community activities which specifically promote the cardiovascular health of women. For example, in 2010, the Clinic organized a full-day symposium on heart disease in women, for clinicians and other health care professionals with an interest in this field. With guest speaker, Dr. Louise Pilote, an internationally recognized researcher presiding, and local experts in various aspects of heart disease in women, this educational forum was a resounding success. The Clinic will continue to grow clinically and contribute to the research and education in this field in the coming years.

#### ***Heart Failure Program, Vancouver General Hospital (Dr. Sean Virani)***

With the support of the Division, Cardiac Services BC, private donors and both the VGH and UBC Hospital Foundation, the heart failure clinic officially opened its doors in the spring of 2009. The clinic is currently staffed by a multi-disciplinary team of nurse practitioners, nurse educators, pharmacist, dietitian, social worker and 4 heart failure cardiologists. In 2011, an in-patient heart failure service will be developed to enhance care delivery and compliment the expanding out-patient services.

The VGH HF clinic was recently identified as a regional hub for heart failure care and continues to work collaboratively with other partners in the region and province to improve access to care and optimize the use of evidence based therapies. Going forward into 2011 the clinic will be working with Cardiology, Internal Medicine, Family Practice and Geriatrics to implement care pathways, patient education tools and discharge/transition mechanisms with the goal of reducing hospitalizations related to heart failure by 20% and improving adherence with evidence based therapies by 20%.

New initiatives for the clinic in 2011 will include the development of a Cardiology-Oncology program in collaboration with the BC Cancer Agency and other stakeholders.

***Heart Function and Cardiac Transplantation, St. Paul's Hospital (Dr. Andrew Ignaszewski)***

The Heart Function Clinic is still the biggest clinic of its type in Canada and in 2010 continued to enjoy record popularity, together with the staff from its sister clinic in VGH, the physicians, nurses and administrators have formed the Vancouver Coastal Health Heart Failure Steering Committee to oversee the creation of better heart failure diagnosis and treatment capacity in the region. The Regional HF Program has employed a clinical nurse specialist; a telehealth nurse and two heart failure coordinators. In 2010 the group completed their assessment and the creation of checklists for heart failure patients at Lions Gate Hospital. They anticipate providing a similar service in 2011 at Richmond Hospital and on medical wards at VGH and SPH.

The PHC Heart Function clinic has been chosen to lead the provincial heart failure team overseeing the development of BC's heart failure network. This strategy will see the creation of a special website; a quarterly newsletter and the provision of heart failure specific CME's delivered by the regional heart failure specialists. These initiatives are designed to improve heart failure care in the community.

In 2010 the Heart function Clinic, Pre-Heart Transplant Clinic, and the Maintenance Clinic matched the wait targets for seeing new patients, with the help of the first outpatient Nurse Practitioner. A second inpatient/outpatient Nurse Practitioner has been recruited and will join us in 2011

The Canadian first Advanced Heart Failure Program, set up with financial help from BC Cardiac Services, continues to grow. The program consists of the Advanced Heart Failure pathway in part of the CCU/CSICU, where all treatment modalities for advanced heart failure are administered, and where the outpatient Ventricular Assist Device Program was incorporated; the program continues to flourish. To date, over 80 VADs have been implanted, making it one of the busiest programs in Canada.

Dr. Mustafa Toma has been recruited to provide support to the burgeoning Heart Function Clinic, Heart Transplant program and Advanced Heart Failure program. He will be working in both SPH and VGH.

The Heart Transplant program has enjoyed a record year in 2010 with 24 heart transplants being performed. 2010 also saw the transfer of the pre-transplant clinic to SPH from BC Transplant, which we anticipate translating into the amalgamation of the transplant and VAD programs into one entity and streamline patient care.

***Interventional Cardiology & Cardiac Catheterization, St Paul's Hospital (Dr. John Webb)***

The year of 2010 continued busy with Drs. Aymong, Boone, Carere, Heilbron and Wood. Direct infarct angioplasty from the community is increasing with an uptick in out of hours cases. Congenital and acquired heart disease interventions include septal ablation, coarct/pulmonary stenting, valvuloplasty and atrial, ventricular, paravalvular leak and atrial appendage closure. The transcatheter valve program continues to develop new procedures with valve in valve implants in failed surgical aortic, mitral, tricuspid and pulmonary prostheses becoming increasingly common and very successful. The Virtual Heart Lab was installed in 2010. This facilitates streaming of 6 live high definition fibre optic video signals simultaneously from two video cameras, echo, hemodynamics, fluoroscopy and 3D reconstructions along with two way audio from both the hybrid OR and cardiac catheterization lab to a dedicated video conferencing room, the main lecture theatre and by fiberoptic connections directly to meetings in other cities. The combined clinical and research interventional fellowship program continues with 4 excellent two year international fellows from Switzerland and Australia.

***Interventional Cardiology & Cardiac Catheterization, Vancouver General Hospital (Dr. Anthony Fung)***

In 2010, we performed 1,504 PCI and 2,534 diagnostic procedures. Operators included 4 interventional cardiologists (Drs. Hamburger, Saw, Wood and Fung), 2 invasive cardiologists (Drs. Huckell and Doe), and 2 interventional fellows. In addition to PCIs, we also performed carotid stenting, renal stenting, peripheral angioplasty, ASD/PFO closure, atrial appendage closure, and aortic balloon valvuloplasty.

Active research projects include the study of anti-platelet therapy, femoral versus radial approaches, treatment of chronic total occlusions, clinical evaluation of OCT, CT angiography and ICE.

***VGH Interventional Cardiology Fellowship Program (Dr. Jacqueline Saw)***

The Interventional Cardiology group at Vancouver General Hospital maintains an active interventional cardiology training program. We have 4 interventional cardiology fellows in 2010, Dr Michael Seddon (from the UK), Dr Stephen Hoole (UK), Dr Rohan Poulter (Australia), and Dr Yao Wei Ooi (Singapore). Our fellows perform high-volume multifaceted & complex coronary interventions, including the use of ancillary tools such as FFR, IVUS and OCT. They are also involved with non-coronary and structural interventions, such as carotid stenting, peripheral intervention, renal artery stenting, aortic valvuloplasty, PFO/

ASD closures, and left atrial appendage closures. Our fellows are actively involved with clinical research in areas of PCI, structural heart disease, and cardiac CT angiography.

### **UBC Divisions of Cardiology and Cardiovascular Surgery**

The Division of Cardiology works extremely closely with the Division of Cardiovascular Surgery, led by Dr. Sam Lichtenstein. The UBC Cardiovascular Surgery Division is comprised of 19 surgeons (based at VGH, SPH, RCH and BCCH) and offers state of the art cardiovascular surgery including advanced valve repair, surgical MAZE and COX surgery, trans-apical aortic valve surgery, lead extraction, robotic surgery, cardiac transplant and VAD, and an advanced aortic surgery program, including TEVAR.

### **DIVISION FUTURE DIRECTIONS**

Dr. Buller completed his term as The Sauder Family Heart & Stroke Foundation Chair in Cardiology on December 31st 2008 and chose not to seek reappointment for a second term. The recruitment of a new Chair in Cardiology was deferred as new terms of reference are being considered. The creation of a single cardiovascular program is one of the key areas of focus for Drs. Gin and Ignaszewski who were appointed as UBC Heads at Vancouver Acute and Providence Health Care respectively in October 2009. In 2010 there was significant movement towards the creation of a unified program that will allow for strategic planning and development of a more unified University-wide Division.

The Division at both hospitals continues to recruit new, highly trained and sought after candidates in a variety of sub-specialized fields including molecular cardiology, advanced cardiac imaging, cardiac prevention and rehabilitation, interventional cardiology, echocardiography, adult congenital heart disease and electrophysiology. Three new recruits were in place by the end of 2010, and recruitment efforts are ongoing. This successful recruitment drive holds much promise for the Division's renewal and future success.

The UBC Division of Cardiology is in the process of developing 4 professorships in the following areas:

1. Structural Heart Disease
2. Women and Cardiac Health
3. Electrophysiology – General
4. Electrophysiology – Sudden Death

Fundraising is near completion and it is anticipated that recruitment into these academic positions will be complete by 2011.

### **SPECIAL HONORS AND AWARDS 2010**

#### **Dr. John Cairns**

- Special Service Award, Vancouver Coastal Health, June 2010

#### **Dr. Ken Gin**

- 2010 UBC Killam Teaching Award, Faculty of Medicine

#### **Dr. Andrew Ignaszewski and Healthy Heart Team**

- 2010 UBC College of Health Discipline JF McCreary Prize for Inter-professional Teamwork in the Health Profession. An honorable mention for the Healthy Heart Team

#### **Dr. Andrew Ignaszewski and the Metabolic Syndrome Team**

- Excellence in BC Health Care Awards – Top Innovations – Affiliate 2010 Award of Merit for Metabolic Syndrome Team

#### **Dr. Saul Isserow**

- 2010 UBC Department of Medicine Master Teaching Award

#### **Dr. Charles Kerr**

- President, Canadian Cardiovascular Society, 2010
- Nominated for UBC Faculty of Medicine Bill and Marilyn Webber Lifetime Achievement Award 2010
- Chair, Provincial Advisor Panel on Cardiac Health
- Chair, Steering Committee, BC Heart Failure Network

#### **Dr. G.B. John Mancini**

- Governor for British Columbia – American College of Cardiology

#### **Dr. Parvathy Nair**

- Associate Program Director, UBC Postgraduate Internal Medicine 2010

#### **Dr. James Nasmith**

- 2009-2010 "Most Favoured Post Graduate Teaching Award" from UBC Department of Family medicine

#### **Dr. Alan Rabinowitz**

- Honorary Senior Lectureship, Dept of Medicine, University of Cape Town, South Africa

#### **Dr. Simon Rabkin**

- Associate Editor-in-Chief, Journal of Geriatric Cardiology – a new journal for release in 2011

#### **Dr. Krishnan Ramanathan**

- 1st Annual UBC Cardiology Symposium in Atrial Fibrillation, Course Co-Director, September 2010

**Dr. Donald Ricci**

- Head, Diamond 9 Operations, VGH Division of Cardiology

**Dr. Jacqueline Saw**

- Head, Clinical Trials Research, VGH Division of Cardiology

**Dr. Teresa Tsang**

- Served as Primary Panel member for National Atrial Fibrillation Guidelines Committee for Canadian Cardiovascular Society 2010.
- Served as a member for guidelines committee for the American Society of Echocardiography.
- Invited as Distinguished Lecturer for the Royal Alexander Hospital/University of Alberta.
- Invited to serve on Department of Medicine Recruitment and Resource Committee

**Dr. John Webb**

- Research and Mission Award, St Paul's Hospital, 2010-2011
- Providence Health Care, Department of Medicine Research, and UBC Martin M. Hoffman Award for Excellence in Research Award, 2010-2011

**Dr. Graham Wong**

- 2010 Faculty of Medicine Clinical Faculty Award for Excellence in Clinical Teaching

## Division Members

### Professor

Dr. Peter Dodek  
Dr. James Russell  
Dr. Keith Walley

### Clinical Professor

Dr. Juan Ronco  
Dr. John Tsang

### Associate Professor

Dr. Najib Ayas  
Dr. Delbert Dorscheid

### Clinical Associate Professor

Dr. Dean Chittock  
Dr. Vinay Dhingra  
Dr. Sean Keenan

### Assistant Professor

Dr. Adam Peets  
Dr. John Boyd

### Clinical Assistant Professor

Dr. John Fenwick  
Dr. Gregory Grant  
Dr. William Henderson  
Dr. Cheryl Holmes  
Dr. Zafar Iqbal  
Dr. Ruth MacRedmond  
Dr. Grant McCormack  
Dr. Scot Mountain  
Dr. Steven Reynolds

### Clinical Instructor

Dr. Katherine Craig  
Dr. Craig Fava  
Dr. Carole-Anne Yelle

### Associate Member

Dr. Tharwat Fera  
Dr. Gordon Finlayson  
Dr. Ryan Foster  
Dr. Donald Griesdale  
Dr. Morad Hameed  
Dr. George Isac  
Dr. Grzegorz (Greg) Martinka  
Dr. Demetrios Sirounis  
Dr. David Sweet  
Dr. Andrew Webb



**Dr. Najib Ayas**  
Associate Professor and Head

## DIVISION OVERVIEW

The UBC Division of Critical Care Medicine is multi-disciplinary in nature with 23 full time faculty members and 10 associate members. Our members are qualified critical care specialists with Medicine, Surgery, Anaesthesia and Emergency Medicine backgrounds. They participate in patient care at St. Paul's Hospital, Mount Saint Joseph's Hospital, Royal Columbian Hospital, Richmond General Hospital, Kelowna General Hospital, Vancouver General Hospital, and Surrey Memorial Hospital.

The two-year Critical Care Medicine subspecialty-training program accepts up to 4 new trainees per year and is fully accredited by the Royal College of Physicians and Surgeons of Canada. It is structured to provide trainees with both an outstanding clinical and research environment in which to learn.

The Research Program in Critical Care Medicine is comprehensive, spanning from genetic and molecular biology studies, to education, clinical trials, and quality improvement. The basic science research program is based primarily in the James Hogg iCAPTURE Centre for Cardiovascular and Pulmonary Research at St. Paul's Hospital. The clinical research program is focused primarily in the intensive care units of St. Paul's Hospital, Royal Columbian Hospital and Vancouver General Hospital.

## TEACHING

The University of British Columbia Adult Critical Care Medicine Training Program operates under the direction of Dr. George Isac who has been Program Director since 2009. During their Fellowship,

trainees primarily rotate through three tertiary care hospitals (St. Paul's Hospital, Vancouver General Hospital, and Royal Columbian Hospital), and are exposed to a broad range of patients with critical illnesses. This includes exposure to: patients with HIV, patients who are post-organ transplantation, patients with multiple trauma (including head injury), patients requiring ECMO, and post-cardiac surgery patients. Four new fellows were matched to the program in 2010 and will begin their fellowships in July 2011.

Specialty residents from Medicine, Anaesthesia, Surgery, Emergency Medicine, and Family Practice rotate through the ICU and continue to be highly rated. The ICU residency training program is comprehensive and includes weekly simulator sessions and video-on-demand lectures. Dr. David Sweet, the ICU Resident Education Director at VGH, developed simulator sessions for residents on rotation which include interaction with respiratory therapy students at the simulator and video-on-demand lectures which are observed after each simulator session. He also produced an ICU orientation video for residents to watch on-line before they start their rotation.

Drs. Adam Peets and Najib Ayas continue to supervise the resident training at St. Paul's Hospital and Dr. Craig Fava continues to supervise the resident training at Royal Columbian Hospital. Dr. Cheryl Holmes is the Residency Director of critical care (Family Practice Rural Residents) at Kelowna General Hospital and is currently enrolled in the Masters of Health Professions Education at the University of Illinois, Chicago. Her area of thesis research is incorporating patient safety in the early clerkship years - undergraduate medical curriculum.

Dr. Ayas continues to direct the graduate Respiratory Physiology Course through the Experimental Medicine Program. Many of the Faculty are actively involved in undergraduate medical teaching, including Problem Based Learning.

The 7th Annual Canadian Critical Care Conference was held in Whistler this year and attracted renowned national and international speakers.

## RESEARCH

The Research Program in Critical Care Medicine at UBC is truly comprehensive in its scope. The

basic and translational biology research is based predominantly in the James Hogg iCAPTURE Centre for Cardiovascular and Pulmonary Research at St. Paul's Hospital. Active research is ongoing in the fields of sepsis genetics, biomarkers of infection, inflammatory markers and cytokines, ARDS, pathophysiology of pulmonary embolism, immune signaling and sepsis induced cardiac dysfunction.

The areas of ongoing active clinical and education research include assessment of simulation in teaching, epidemiology and outcomes in traumatic illness (including TBI), impact of resident fatigue, patient safety, and quality improvement. Division members are heavily involved with randomized controlled trials related to critically ill patients, many through the Canadian Critical Care Trials Group.

Specific research interests and accomplishments of the Faculty are outlined below:

**Dr. Najib Ayas – Associate Professor**

Dr. Ayas has expertise in the areas of epidemiology, clinical trials, economic studies, and meta-analysis. His major areas of critical care research focuses on: 1) the impact of human factors (especially healthcare worker fatigue) on patient and occupational safety, and 2) the impact of patient sleep deprivation and disruption on health and quality of life outcomes. He received a CIHR team grant as PI in 2010. In 2010, he had 8 peer reviewed manuscripts published or in press and 4 editorials published.

**Dr. John H. Boyd - Clinical Assistant Professor**

Dr. Boyd's area of research includes the basic mechanisms underlying impaired myocardial function and other organ dysfunction during inflammatory disease states, including sepsis. In 2010 Dr. Boyd received a CIHR operating grant (CpG Oligonucleotides are able to induce suppressive gene networks) and a grant from the National Sanitarium Association (differentiated pneumonia from CHF by use of molecular signatures of plasma transcription). He had 4 peer reviewed manuscripts and 1 book chapter published in 2010.

**Dr. Dean Chittock – Clinical Associate Professor**

Dr. Chittock is interested in clinical trials related to critical illness. He had 3 peer reviewed publications in 2010.

**Dr. Vinay Dhingra – Clinical Assistant Professor**

Dr. Dhingra continues to serve as the Medical Director and Research Director for the VGH ICU. His areas of research interest include the use of simulation for education of code teams and the clinical and research applications of echocardiography in the ICU. He had 3 peer reviewed publications in 2010.

**Dr. Peter M. Dodek – Professor**

Dr. Dodek's areas of research interest include patient safety, organizational culture, end of life care, and family satisfaction in the ICU. He is PI on a CIHR grant received in 2010 investigating the relationship between moral distress in health care workers and patient safety in intensive care units. He is also co-investigator on 3 CIHR grants received in 2010 investigating waiting time and postoperative adverse events for

patients undergoing coronary artery bypass surgery, EPITEC—Epidemiology of Thromboembolism in Critical Care, and the efficacy, cost-effectiveness and ecological impact of Selective Decontamination of the Digestive tract in critically ill patients treated in the Intensive Care Unit. Dr. Dodek continues to be heavily involved with the Canadian Critical Trials Group. In 2010, he published 15 papers and 1 book chapter.

**Dr. Delbert R. Dorscheid – Associate Professor**

In 2010 Dr. Dorscheid was received a \$million grant funded from the National Sanitarium Association, "Bio-airway Research Offering New Concepts in Health (BRONCH) Partnership – Building a Bio-engineered Airway and had continued funding from a CIHR grant, "Conjugated Linoleic Acid: Novel benefits for airway health by promoting epithelial anti-viral host defenses" and an Allergen, NCE grant, "Environmental impact, inflammation and the role of IL-13 Receptor alpha2." He is the co-investigator on the CIHR grant, "The OSCILLation for ARDS Treated Early Pilot Study," (PI M. Meade). In 2010, he had 5 publications.

**Dr. Tharwat Fera – Clinical Associate Professor**

Dr. Fera is involved in clinical trials related to the management of respiratory diseases.

**Dr. Ryan Foster – Clinical Assistant Professor**

Dr. Foster is an Intensivist and Medical Director of Critical Care Services at Kelowna General Hospital (as of Jan 1st 2011). His areas of research Interest are sepsis, delirium, organ donation, and medical education. He had 1 publication in 2010 (Transfusion Medicine, "Use of Intravenous Immune Globulin (IVIG) in the ICU: a retrospective review of prescribing practices and patient outcomes").

**Dr. Donald E. G. Griesdale – Clinical Assistant Professor**

Dr. Griesdale's areas of research interest are observational study design, regression models, systemic reviews/meta-analysis, and airway management of the critically ill. In 2010 he received funding from the UBC Teaching & Learning Enhancement Fund, Vancouver Coastal Health Research Institute (Clinician Scientist Award), and the Vancouver General Hospital iCURE grant. Dr. Griesdale had 6 peer reviewed manuscripts published in 2010.

**Dr. Morad Hameed – Assistant Professor**

Dr. Hameed is a trauma surgeon with an interest in the epidemiology and outcomes related to trauma in the ICU, and the impact of geography and access to care. In 2010, he had 6 publications.

**Dr. William R. Henderson – Clinical Assistant Professor**

Dr. Henderson's areas of research interest include: measurement of respiratory muscle blood flow and glucose control in the critically ill. He is currently obtaining a PhD in Respiratory and Exercise Physiology at UBC under the direction of Dr. A.W. Sheel.

**Dr. Cheryl Holmes – Clinical Instructor**

Dr. Holmes is the Medical Director of Critical Care for Kelowna General Hospital and the Interior Health Authority. Her current areas of research interest are septic shock, medical education, and patient safety and quality. In 2010, she had 1 peer-reviewed publication.

**Dr. Sean P. Keenan – Clinical Associate Professor**

Dr. Keenan is the Program Director for Critical Care Medicine, Fraser Health Authority and an Intensivist at Royal Columbian Hospital. His area of research interest is noninvasive ventilation (NIV). He co-chaired Canadian guidelines on the use of NIV in the acute care setting which is being published in February 2011 in CMAJ. He published 4 peer-reviewed papers and 1 editorial in 2010.

**Dr. Ruth MacRedmond – Clinical Assistant Professor**

Dr. MacRedmond areas of research interest are the role of Erythropoietin in ARDS, demonstrating novel cytoprotective and anti-inflammatory properties and mechanisms, innate immune functions of the airway epithelium, and anti-viral properties of the natural product conjugated linoleic acid. She published 2 peer reviewed papers in 2010.

**Dr. Adam Peets – Assistant Professor**

Dr. Peets' areas of research interest are medical education and the effects of fatigue on clinical performance of healthcare workers. In 2010, he received grants from the Royal College of Physicians and Surgeons of Canada and the UBC Teaching and Learning Enhancement Fund and had 4 peer-reviewed publications.

**Dr. Steven Reynolds – Clinical Assistant Professor**

Dr. Reynolds is the Medical Director of the Royal Columbian Hospital ICU and the Research Director of the Royal Columbian and Surrey Memorial ICUs. He is dual specialized in Infectious Diseases and Critical Care. His research interests include rationalization of antibiotic use in the ICU through the use of biomarkers and clinical algorithms, severe head and neck infections and sepsis. In 2010, he produced 2 peer-reviewed publications and 1 book chapter.

**Dr. James A. Russell – Professor**

Dr. Russell's research themes are (1) randomized controlled trials (RCTs) in septic shock and (2) the genetics of sepsis.

1. RCT: The study team discovered a novel interaction of vasopressin infusion, corticosteroid treatment and mortality of septic shock and is now exploring potential immune mechanisms of that discovery. We also discovered that vasopressin (compared to norepinephrine) improved renal function in patients who were at risk for acute kidney injury in septic shock. We also have found that increasing fluid volumes were associated with increased mortality of septic shock. 2. Genetics of Sepsis: We continue to focus on key coagulation, innate immunity and inflammatory genes in candidate gene studies. We discovered novel markers of the LNPEP (vasopressinase), NFKB-inducing kinase (NIK) and angiotensin II Type 1 receptor-associated protein (AGTRAP) genes predict increased mortality of septic shock while a functional single nucleotide polymorphism of IRAK4 predicts increased risk of Gram-positive infections in the critically ill. Dr. Russell is a leader of an international, multi-centre study of the pharmacogenomics of activated protein C treatment in severe sepsis. We are now completing a Genome Wide Association Study (GWAS) to discover genomic markers of response to vasopressin and to corticosteroids in septic shock. In 2010, he had 8 peer-reviewed publications and 1 book chapter.

**Dr. Demetrios Sirounis – Clinical Associate Professor**

Dr. Sirounis is the Medical Staff Anaesthesiologist, Perioperative Echocardiographer and Intensivist at Providence Health Care. He is also co-chair to the Critical Care Council at Providence Health Care. Special areas of interest include right heart syndromes, airway management, national standards for care in cardiac surgical intensive care units, and the role of echocardiography in critical care units. Dr. Sirounis is the Steering Committee leader for the 'BC Risk Score to Predict Outcomes in Cardiac Surgical Intensive Care Units' research project with the Cardiac Services BC, Provincial Health Services Authority; and co-investigator of clinical trials of Precedex at St. Paul's Hospital.

**Dr. David D. Sweet – Clinical Assistant Professor**

Dr. Sweet is a sepsis consultant and faculty member for the "Evidence to Excellence" collaborative for sepsis improvement in British Columbia. His areas of research interest are emergency department sepsis, simulation, echocardiography, and end of life. He is a Co-applicant for a successful CIHR grant; the total 3 year grant funding is \$283,425, and the project is "A collaborative Quality Improvement and Electronic Community of Practice to Support Sepsis Management in Emergency Department: Investigating Care Harmonization for Provincial Knowledge Translation," 2010, PI= Kendall Ho. He is also Co-applicant for creation of simulation modules to teach trainees communication and collaboration skills, \$8,962.00, Teaching and Learning Enhancement Fund, University of British Columbia. 2010. PI=Adam Peets. In 2010, he had 4 peer-reviewed publications accepted.

**Dr. John Y.C. Tsang – Clinical Professor**

Dr. Tsang's areas of research interests and accomplishments are in the pathophysiology and treatment of pulmonary edema and pulmonary embolism including: gas exchange and regional blood flow, inflammatory mediators in the lung after injury, the role of leukocytes, the effects of inotropes during resuscitation, the role of endothelins, and the spatial distribution of ventilation perfusion mismatch following acute pulmonary thromboembolism. He is also interested in patient-controlled analgesia in the critical care setting. In 2010, he had 1 refereed journal publication.

**Dr. Keith R. Walley – Professor**

Dr. Walley's areas of research interest and accomplishments are pathophysiology of cardiovascular dysfunction in critical illness, oxygen transport in peripheral tissues, and genetic determinants of outcome from critical illness. Dr. Walley continues to work with Dr. Boyd to investigate basic mechanisms underlying impaired myocardial function and other organ dysfunction during inflammatory disease states, including sepsis. Research has continued in the area of Genomics of Critical Care. Studies of SNP's and haplotypes of key inflammatory and innate immunity genes are conducted in (1) critically ill ICU patients who have SIRS, sepsis, and septic shock and (2) cardiovascular surgery patients. In 2010, he had 9 refereed journal publications.

**Dr. Andrew Webb – Clinical Professor**

Although not active in research now Dr. Webb retains interests in fluid management, haemodynamic monitoring, and peri-operative management.

## CLINICAL SERVICES

The ICUs at St. Paul's, Vancouver General, and Royal Columbian Hospitals continue to experience an increase in occupancy and workload. Division members from St. Paul's, Vancouver General and Richmond Hospitals participate, under the direction of Dr. Dean Chittock, as members of the VCH Regional Critical Care Council and continue to develop and implement strategies to improve the delivery of critical care services within the region. The goal of the Regional Critical Care Council is to improve access, patient flow and sustainability through appropriate design and efficiencies and to implement best practices to improve health outcomes.

Dr. Vinay Dhingra, Medical Director of the ICU at Vancouver General Hospital, continued his quality improvement work including VAP prevention initiatives and simulator training for the arrest team. Drs. Ayas and Sirounis continue to oversee the clinical operations at Providence Health Care (both at St. Paul's Hospital and Mt. St. Joseph's Hospital). Dr. Sean Keenan is the Program Medical Director for Critical Care Medicine in Fraser Health and is responsible for coordinating Critical Care Services in the Fraser Health region. Dr. Steven Reynolds is the Head of the ICU at Royal Columbian Hospital, Dr. Grant McCormack is Head of the ICU at Surrey Memorial Hospital, Dr. Greg Martinka is Head of the ICU at Richmond Hospital, and Dr. Cheryl Holmes is the Medical Director of Critical Care for Kelowna General Hospital and the Interior Health Authority.

Insufficient bed capacity remains the largest challenge in provision of adequate, safe and timely care to the critically ill of the province. This may result in problems with patient access to critical care services that are predicted to increase over the next few years.

## FUTURE DIRECTIONS

Our goal is to improve our clinical care, increase research output, and improve our educational efforts (including undergraduate, post-graduate, and CME). Clinical, research, educational, and administrative collaborations among the hospital sites have increased over the past year and are expected to continue. We will continue to examine and adopt innovative clinical approaches and technologies to improve the care of critically ill patients (e.g., echocardiography, ultrasound, computer support/monitoring, checklists, novel methods of cardiac/pulmonary support). We will explore ways to obtain and support excellent clinical and basic science researchers to expand our research capacity and collaborations (locally, nationally, and internationally). The CCM adult fellowship program continues to expand and we expect that with greater clinical workload, expansion of the program will occur at the three major sites. We will incorporate more medical simulation and other technologies (e.g., video on demand) to enhance our educational programs at all levels.

## SPECIAL HONOURS AND AWARDS/ ACCOMPLISHMENTS

### Dr. Najib Ayas

- Visiting Lecturer Allergy Division, Children's Memorial Hospital, Chicago, and Sleep and Circadian Program, Northwestern University, Chicago, July 2010
- Member Grant Review Committee: Small Business Grants for Respiratory Sciences, National Institutes of Health.
- External grant reviewer: National Health and Medical Research Council (NHMRC)
- Invited presentation at the American Thoracic Society Conference, New Orleans. May 2010.
- Co-Moderator of Session and Invited presentation at the Critical Care Forum, Toronto. November 2010.
- Co-chair in Symposium at the American Thoracic Society, New Orleans. 2010
- Co-chair and speaker in workshop at the International Conference of Residency Education, Ottawa. September 2010.
- Member, AARPT Committee, UBC
- Member Clinical Research Ethics Board, UBC

### Dr. John Boyd

- 4 invited presentations at the International Society of Critical and Emergency Medicine Conference, Brussels, Belgium. March 2010.

### Dr. Dean Chittock

- Senior Medical Director, Vancouver General Hospital, and Co-Chair of the Regional Critical Care Council.

### Dr. Vinay Dhingra

- Promoted to Clinical Associate Professor of Medicine
- Served as Director of the Fundamentals in Critical Care Support (FCCS), which has trained and certified in the fundamentals course the largest number of trainees in all of Canada
- Became Board Certified through National Board of Echocardiography in transesophageal echocardiography
- Developed education and simulation models for training residents in ultrasound and in particular echocardiography
- Served on Organizing Committee for the Canadian Critical Care Conference
- Spoke at BC lung health forum in 2010, 2010 Nestle Nutrition Conference, and VGH foundation, and moderator of the Canadian Critical Care Conference in the Sepsis forum
- Member of the VCH Regional Critical Care Council as Medical Director VGH ICU
- Vice Chair of the VGH Organ donation Committee and putting together a DCD program at VGH to enhance organ donation which is now approved by MAC
- Served as a member on the Regional Trauma Advisory Council
- Served as a duty medical director for the 2010 Olympics
- Co-organizer and moderator of the newly developed VGH critical care grand rounds, which is a monthly grand rounds which is simulcast to hospitals/ICUs throughout

BC with a variety of local, national and international speakers. These sessions are recorded and passed on via the BCCCS to all Intensivists in the province. It has had a tremendous amount of support

**Dr. Peter Dodek**

- Received the Invitations in France for Canadian Researchers Award from the French Embassy
- Universite Montpellier, Faculte de Medicine, Honorary Examiner, October 2010
- Invited Speaker Moral Distress in Health Care Symposium, September, 2010
- Invited Speaker, 2 presentations at Hôpital St. Eloi, Montpellier, France. October, 2010
- Invited Speaker, Hôpital Caremeau, Nîmes, France. October, 2010
- Co-chair, Grants and Manuscripts Committee, Canadian Critical Care Trials Group
- Advisor, Critical Care Working Group, BC Ministry of Health
- Reviewer ACP Journal Club
- Reviewer Critical Care Medicine

**Dr. Delbert Dorscheid**

- Committee member of the UBC MD/PhD Selection and Admissions Committee, the IMPACT Fellowship Review Committee, and the CIHR, Health Professional Awards - New Investigator Committee.
- Presented 3 workshops entitled "Management of sepsis in the ICU setting" at the Annual Canadian Society of Internal Medicine Scientific Meeting.

**Dr. Greg Grant**

- Appointed Executive Director, British Columbia Transplant Society

**Dr. Don Griesdale**

- Received 2010 Clinician Scientist Award from VCHRI
- Received UBC Department of Anesthesiology, Pharmacology, and Therapeutics Master Teaching Award
- Appointed Medical Director, Respiratory Therapy, at Vancouver General Hospital
- Invited presentation at the American Thoracic Society International Conference in New Orleans, USA

**Dr. Cheryl Holmes**

- Awarded "Preceptor of the Year" award for teaching by the Rural Family Practice Residents for teaching in the ICU for 2010/2011

**Dr. William R. Henderson**

- President and Chair, BC Society of Critical Care Medicine
- 2010 UBC Four Year PhD Fellowship
- 2010 VGH iCURE Award

**Dr. George Isac**

- Promoted to Clinical Associate Professor

**Dr. Sean Keenan**

- Promoted to Clinical Associate Professor
- BC Critical Care Working Group Member
- BC Society Critical Care, Fraser Health Representative

**Dr. Ruth MacRedmond**

- Promoted to Clinical Assistant Professor

**Dr. Grant McCormack**

- Promoted to Clinical Assistant Professor

**Dr. Adam Peets**

- Received Outstanding Clinical Teacher Award from Emergency Medicine Training Program (UBC/PHC)
- Appointed Junior Scholar at the UBC Centre for Health Education Scholarship

**Dr. Steven Reynolds**

- Promoted to Medical Director Royal Columbian Hospital
- 3 invited presentations, Canadian Critical Care Conference, BC Respiratory Therapist Society, UBC Department of Infectious Disease Professors Plenary sessions
- Manuscript reviewer for Journal of Critical Care and Canadian Critical Care Trials Group
- Chair, Ad-hoc BC wide H1N1 critical care working group

**Dr. James Russell**

- Chair, Steering Committee, and Principal Investigator of a Phase IIA trial of a novel vasopressin AVPR1a agonist in septic shock.
- Associate Editor, Journal of Innate Immunity
- Section Head, Sepsis and Multiple Organ failure, Faculty of 1000 Medicine
- Invited Speaker Australia New Zealand Intensive Care Society Annual Meeting, Melbourne, Australia, October 2010. "Should we use vasopressin in septic shock?" and "Controversies in the management of sepsis."
- Invited Speaker, Chest, 2010. "Critical Care Medicine 2010: Year in review."

**Dr. Demetrios Sirounis**

- Co-chair, Critical Care Council at Providence Health Care
- Appointed Olympics 2010 Duty Medical Administrator, St. Paul's Hospital
- Chair, Combined ICU-CICU-CSICU Journal Club
- BC Lower Mainland Health Authority People First – Celebrating Success, Strategic Implementation Forum

**Dr. David Sweet**

- Grant reviewer for The Physicians' Services Incorporated Foundation, 2010
- Appointed provincial Clinical Head for sepsis improvement with the newly formed Clinical Care Medicine Improvement Initiative with Patient Safety and Quality Council and Ministry of Health.
- Became Board Certified through National Board of Echocardiography in transesophageal echocardiography

**Dr. John Tsang**

- Member Clinical Research Ethics Board, UBC

**Dr. Keith Walley**

- Received the 2010 UBC Killam Research Prize in the Science Category
- Received the Izaak Walton Killam Memorial Fund Research Prize
- Vice Chair, Heart & Stroke Foundation of B.C. & Yukon, Research Advisory Committee
- Member, Clinical Investigator Advisory Committee, Alberta Heritage Foundation for Medical Research
- Member, Centre for Drug Research and Development Review Committee
- Chair, Review Committee for the Regional Department of Medicine
- Associate Editor, American Journal of Respiratory and Critical Care Medicine
- Committee member CIHR Cardiovascular System B Committee
- 10 invited presentations at national and international conferences, including 30th International Symposium on Intensive Care and Emergency Medicine, Brussels, Belgium, University of Pittsburgh School of Medicine, Pittsburgh, PA, and Critical Care Canada Forum, Toronto, ON

**Dr. Andrew Webb**

- Received Honorary Membership from the Intensive Care Society
- Received the Alan Gilston Medal which is awarded annually for delivery of an eponymous lecture by invitation.
- Board member of the BC Academic Health Council
- Sit on provincial committees including the steering committees for the Patient Safety learning System and the Clinical Care Management System and UBC curriculum reform implementation steering committee.
- Delivered three lectures at the Intensive Care Society conference in Leeds, UK (May 2010)

## Division Members

### Professor

Dr. Keith Dawson (*Emeritus*)  
Dr. Gordon Francis  
Dr. Jerilynn Prior  
Dr. Ehud Ur

### Clinical Professor

Dr. Hugh Tildesley

### Clinical Professor

Dr. Graeme Wilkins (*Emeritus*)

### Clinical Associate Professor

Dr. Richard Bebb  
Dr. Marshall Dahl  
Dr. Sabrina Gill  
Dr. David Kendler  
Dr. Sandra Sirrs

### Clinical Assistant Professor

Dr. Thomas Elliott  
Dr. Michelle Fung  
Dr. Michelle Johnson  
Dr. Jason Kong  
Dr. Stuart Kreisman  
Dr. David Miller  
Dr. Barbara Priestman  
Dr. David Thompson  
Dr. Clarissa Wallace  
Dr. Adam White

### Clinical Instructor

Dr. Agnieszka Barts  
Dr. Jennifer Klinke  
Dr. Robert Mase

### Adjunct Professor

Dr. Diane Finegood

### Associate Member

Dr. Greg Bondy  
Dr. J-P Chanoine  
Dr. Daniel Holmes  
Dr. Daniel Metzger  
Dr. Dina Panagiotopoulos  
Dr. Ralph Rothstein  
Dr. Laura Stewart



**Dr. Ehud Ur**  
Professor and Head

## DIVISION OVERVIEW

The division is making great progress in organizational renewal and reinvigoration of its academic mandate. The islet cell transplant work, clinical trials in diabetes, lipids, osteoporosis, and women's health remain the focus. The Thyroid clinic at SPH is a great success and we are actively recruiting for a director of the clinic. Currently we are in the process of developing a multidisciplinary pituitary clinic at VGH and developing new models of care for diabetes that utilize new technologies (electronic health records, virtual consultations).

## TEACHING

### *Undergraduate*

The Division of Endocrinology is an active participant in the Endocrinology & Metabolism Block of the 2nd year undergraduate curriculum (FMED). Division members and fellows act as preceptors in the problem-based learning sessions and provide lectures to the undergraduate class. The division members at both St. Paul's and Vancouver General Hospitals are also actively involved in 3rd and 4th year undergraduate electives, providing clinical instruction in outpatient clinics and inpatient hospital management, as well as presenting formal teaching sessions to the senior students throughout the year. Some division members serve as attending physicians on CTU and are involved in teaching internal medicine to clinical clerks.

### *Postgraduate*

The Division of Endocrinology fellowship is a Royal College accredited, 2 year subspecialty training program in Endocrinology and Metabolism. The program offers 2-3 provincially funded training positions per year. The program may also accept well-qualified externally funded applicants. For internal medicine and other specialty residents the Division offers 4-week elective rotations at Vancouver General, St. Paul's and Royal Columbian Hospitals. The training program offers a balance of clinical exposure in both in-patient and out-patient endocrinology, as well as research to provide a broad spectrum of clinical and academic training.

### *Community*

Our division provides an increasing number of educational activities to community physicians. The Division organizes annual Professional Development courses such as the Diabetes Directors Symposium and BC Endocrine Days as well as participating in other annual CPD programs such as the Annual Review of Internal Medicine and the Live Well with Diabetes Symposium. Division members continue to provide a large number of invited lectures to community physicians across the province. Dr. Prior has a very active web-site ([www.cemcor.ubc.ca](http://www.cemcor.ubc.ca)) which allows people all over the world to learn about her research in the area of women's health. Also the Division has a tremendously successful educational website ([www.livewellwithdiabetes.com](http://www.livewellwithdiabetes.com)) which was created as a detailed and free information site both for patients with diabetes as well as for health care professionals.

### *Committees*

- Dr. Ur is past chair of the Canadian Diabetes Association, a member of the Endocrine Society and American Diabetes Association and is on the board of Directors for Obesity Canada. He is a member of the Clinical Expert Review Panel for Diabetes of the Canadian Agency for Drugs and Technology in Health (CADTH) and also serves as a member of the Special Advisory Committee on Metabolic therapies to Health Canada
- Dr. Dahl serves on the Medical Services Commission of British Columbia and is a member of the Clinical Expert Review Panel for Diabetes of the Canadian Agency for Drugs and Technology in Health (CADTH)

- Dr. Tildesley is the Chair of the organizing committees for B.C. Endocrine Days, Kelowna Endocrine Days and the Diabetes Directors Seminar
- Several division members are involved in the preparation of the 2008 Canadian Diabetes Association's Clinical Practice Guidelines: Dr. Thompson (Chair Diabetes in Pregnancy section, steering committee), Dr. Dawson (aboriginal issues, steering committee), Dr. Tildesley (insulin therapy in type 1) and Dr. Bebb (erectile dysfunction), Dr Ur (Chair Diagnosis and Prevention, steering committee)
- Dr. Sirrs is on the national committee for Fabry's disease.
- Dr. Prior continues on the Board of the Society for Menstrual Cycle Research (she was President for 2007-2009), is a member of the Endocrine Society where the Centre for Menstrual Cycle and Ovulation Research's successful randomized trial of Progesterone for Hot Flushes and Night Sweats was featured in an Endocrine Society Press Conference. She is also an active member of the American Society for Bone and Mineral Research (an international organization). She peer reviews manuscripts for Journal of Clinical Endocrinology and Metabolism, Human Reproduction, Osteoporosis International, J. of Bone and Mineral Research and several others.
- Dr Gill is a member of the Publications committee in the Endocrine Society and on the Task forces for Endocrine Mentoring, Endocrine Fellows and Endocrine Clubs with the Endocrine Society as well as on the Communications committee in Women in Endocrinology. She is also a member of the CEU steering committee in the Endocrine Society and Associate Editor for Canadian Diabetes Association.
- Dr. Kendler is Past-President of the International Society for Clinical Densitometry. He is Chair of the ISCD membership Committee, chairs the Western Osteoporosis Alliance, is on the Board of the Canadian Menopause Society, is a member of the Scientific Advisory Committee of Osteoporosis Canada, and is on the Committee of Scientific Advisors of the International Osteoporosis Foundation.
- Dr. Paty is an Associate Editor for the Canadian Journal of Diabetes, a Grant reviewer for the Canadian Diabetes Association and a manuscript reviewer for the journal "Diabetes".
- Dr. Elliott is the Chair, Endocrinology & Metabolism Society of BC
- Dr. Francis is a member of the Canadian Lipid Guidelines panel and a member of the Heart and Stroke Foundation of BC and Yukon Research Advisory Committee
- Dr. Bebb is a member of the Endocrine Society, a contributor to the 2008 Canadian Diabetes Association guidelines, and Endocrine consultant to the B.C. Men's Health Initiative. Dr. Bebb is also co-organizer of the Medicine Sun Peaks Conference, now in its 14th year.
- Several division members are involved in the preparation of the 2013 Canadian Diabetes Association Clinical Practice Guidelines.

## RESEARCH

Research within the Division of Endocrinology and Metabolism continues to thrive and grow. In 2008 an annual Divisional Research Fest was added, and is now a regular part of the divisional annual academic schedule, with presentations by divisional members and fellows as well as invited speakers from basic science and clinical research fields in Greater Vancouver. Presentations by our residents and fellows at the Resident Research Day are frequently awarded research prizes. Gordon Francis has been appointed Director of Research for the Endocrinology and Metabolism Fellowship to help coordinate and guide the fellows in their research projects. Most division members are involved in a number of areas of clinical or basic research, with the major ones listed below.

- Dr. Ur: diabetes (clinical trials, health care delivery models), lipids, obesity, neuroendocrinology (clinical trials), basic laboratory studies on adipokines. President of the BC Endocrine Research Foundation
- Dr. Francis: basic and clinical research on dyslipidemias, HDL formation, lysosomal cholesterol storage disorders, atherosclerosis, smooth muscle cell biology, and LDL apheresis; Chair of the 2010 International Atherosclerosis Society Workshop on HDL
- Dr. Dawson: diabetes care in First Nations communities, clinical trials
- Dr. Elliott: clinical trials, development of electronic medical records system
- Dr. Fung: islet cell transplantation, inpatient diabetes care delivery, lipid disorders
- Dr. Kong: diabetes in pregnancy, clinical trials
- Dr. Sirrs: adult metabolic disease, lipid disorders
- Dr. Dahl: evidence-based review of diabetes health care delivery and transgender health
- Dr. Thompson: islet cell transplantation, diabetes in pregnancy
- Dr. Bebb: male reproductive health
- Dr. Prior: ovulation, menstrual cycles, perimenopause, women's health (in general), osteoporosis, progesterone therapy, vasomotor symptom causes, epidemiology and treatment, and reproduction and osteoporosis epidemiology. Scientific Director of the Centre for Menstrual Cycle and Ovulation Research and BC Centre Director of the Canadian Multicentre Osteoporosis Study.
- Dr. Tildesley: diabetes care, clinical trials, use of allied health personnel in internet diabetes management
- Dr. Kreisman: thyroid disease, cystic fibrosis and diabetes
- Dr. Gill: women's health
- Dr. Kendler: osteoporosis. assessment of skeletal health, metabolic bone disease, clinical research
- Dr. Johnson: pituitary disease
- Dr. Paty: diabetes, islet transplantation and the endocrine consequences of bone marrow transplantation.

## **CLINICAL SERVICES**

The Division of Endocrinology provides consulting services to Vancouver General, St Paul's and BC Women's hospitals. We also are involved in a number of specialized, multidisciplinary outpatient clinics:

Diabetes: Vancouver General, St. Paul's, BC Women's Hospital

Lipid: St. Paul's Hospital

Osteoporosis: Women's Hospital

Adult Metabolic: Vancouver General

Thyroid – St. Paul's Hospital

Pituitary – St. Paul's Hospital

## **FUTURE DIRECTIONS**

The division aspires to further develop its teaching and research base as well as to work on business models that will support the new initiatives and activities more effectively.

## Division Members

### Professor

Dr. Hugh Chaun (*Emeritus*)  
 Dr. Hugh Freeman  
 Dr. Walter MacDonald (*Emeritus*)  
 Dr. Urs Steinbrecher  
 Dr. Stanford Stordy (*Emeritus*)  
 Dr. Eric Yoshida

### Clinical Professor

Dr. Michael Byrne  
 Dr. Robert Enns  
 Dr. James Gray  
 Dr. Lawrence Halparin  
 Dr. Alan Weiss

### Associate Professor

Dr. Baljinder Singh Salh  
 Dr. Frank H. Anderson (*Emeritus*)  
 Dr. Walter McDonald (*Emeritus*)

### Clinical Associate Professor

Dr. Peter Kwan  
 Dr. Eric Lam  
 Dr. Paul Winwood

### Assistant Professor

Dr. Isabella Tai

### Clinical Assistant Professor

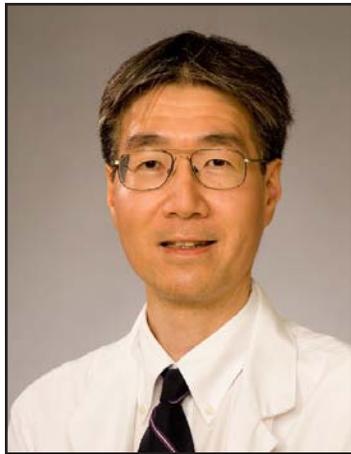
Dr. Jack Amar  
 Dr. Kenneth Atkinson  
 Dr. Brian Bressler  
 Dr. Nazira Chatur  
 Dr. Justin Cheung  
 Dr. Siegfried Erb  
 Dr. Martin Fishman  
 Dr. Cassie Lin  
 Dr. David Pearson  
 Dr. Robert Penner  
 Dr. Alnoor Ramji  
 Dr. Ranjit Singh  
 Dr. Jennifer Telford  
 Dr. John Whittaker

### Clinical Instructor

Dr. Henry Chung  
 Dr. Jin Ho  
 Dr. Joanna Law  
 Dr. Victor Wong  
 Dr. Iman Zandieh

### Associate Member

Dr. Alan Buckley  
 Dr. Sharlene Gill  
 Dr. Stephen Holland  
 Dr. Kathy Kozial  
 Dr. Kwok Yik



**Dr. Eric Yoshida**  
**Professor and Head**

## DIVISION OVERVIEW

The UBC Division of Gastroenterology consists of the faculty of the two main teaching hospitals, Vancouver Acute (Vancouver General Hospital and UBC Hospital), and St. Paul's Hospital (Providence Healthcare). The Division also has faculty members at the distributed sites including Richmond General Hospital, Royal Columbian Hospital and Lion's Gate Hospital in the Lower Mainland, the Victoria and Vancouver Island Hospitals, in Kelowna and Prince George. The faculty consists of both GFT and Clinical Faculty Association members. There are also associate members who were appointed by the Associate Dean of distributed sites as well as associate members who share areas of academic interest in common with the Division of Gastroenterology. The Division has four emeritus faculty members and one visiting faculty member.

## CLINICAL SERVICES

Full clinical in-patient and out-patient services are provided at the teaching hospitals as well as the distributed hospital sites. In particular, the main teaching hospitals, Vancouver General Hospital and St. Paul's Hospital are provincial quaternary hospitals and are the main destinations for patient transfers from community hospitals throughout BC and the Yukon Territories via BC Bedline and the "Life, Limb or Transplant" policy. Specialized therapeutic endoscopy consisting of ERCP, both diagnostic and therapeutic, is offered as a clinical service at the Vancouver General Hospital, St. Paul's Hospital and Royal Columbian Hospital sites in the lower mainland and at the Victoria Hospital Corporation institutions. The specialized modalities

of endoscopic ultrasound and capsule endoscopy are available at St. Paul's Hospital but are not available at the Vancouver General Hospital. Endoscopic ultrasound is available at the BC Cancer Agency Vancouver Clinic and is performed by VGH faculty with cross-appointments (Dr. Alan Weiss and Dr. Michael Byrne). As well, the Division is involved in clinical activity with the British Columbia Transplant Society and the British Columbia Cancer Agency (PHSA). The BC Hepatitis Program, which is a partnership of the BC Centre for Disease Control and the UBC Division of Gastroenterology, is actively involved in clinical services related to viral hepatitis and liver disease. It is located within the Division of Gastroenterology's block in the Diamond Health Care Centre of the Vancouver Hospital. The St. Paul's Hospital group, Pacific Gastroenterology Associates, also offers specialized out-patient care in luminal gastroenterology and viral hepatitis. Dr. Frank Anderson has a large private office group (the Liver and Intestinal Research Centre) that offers out-patient services including out-patient endoscopy. In terms of long-term nutritional support and care, the province's Home Enteral and Parenteral Program is based at St. Paul's Hospital under the leadership of Dr. J. Scott Whittaker who is the Medical Director of the Program.

## TEACHING

### *Undergraduate*

The Division of Gastroenterology is an active participant in the GI Block of the 2nd year undergraduate curriculum (FMED 424). Division members provide lectures to the undergraduate class as well as participate as preceptors in the problem-based learning sessions as well as the hepatology seminars. Drs. Jin Kee Ho and Eric Yoshida are the Block Co-Chairs and Drs. Peter Kwan, Bill Salh and Eric Yoshida are Week Chairs for FMED 424.

The division members at both the St. Paul's Hospital and Vancouver General Hospital sites have been actively involved in the 2nd year bedside examining skills course as well as 3rd and 4th year undergraduate selectives. Ambulatory clinical instruction out-patient, office setting, clinics are offered to the undergraduate class yearly during their gastroenterology selectives. Dr. Nazira Chatur is currently the Undergraduate Program Director for Gastroenterology for these clinical years.

## *Postgraduate*

The Division of Gastroenterology has a strong gastroenterology fellowship training program. The core program consists of two senior GI Fellows, Drs. Janakie Singham and Holly Weisinger and three junior GI fellows, Drs. Nawal Al Nahdi, Dr. Michelle Buresi and Dr. Albert Chang. Drs. Singham and Weisinger are also the appointed Chief Gastroenterology Fellows. The training program has many applicants both internally and externally each year and competition for GI fellowship positions has become increasingly fierce. Dr. Nazira Chatur is the Program Director and Dr. Peter Kwan is the Associate Program Director as well as a Fellowship Training Committee that includes representation from both teaching hospitals, the community group and a trainee representative. The training committee members, aside from Drs. Chatur and Kwan, include Drs. Albert Chang (Fellow), Alnoor Ramji, Eric Lam, Bill Salh, Marty Fishman and Eric Yoshida. The GI fellowship training program has full accreditation from the Royal College. Next year's trainees are Drs. Saad Al Kolwaiteer, Zamil Karim and Edward Kim.

The Division of Gastroenterology offers specialized training programs beyond the core Royal College Gastroenterology Fellowship Program. For many years we have had the liver transplantation and hepatology training program based at the Vancouver General Hospital in association with the BC Transplant Society. The 2010 Hepatology/Liver Transplantation Fellows was Dr. Maz Haque (Queensland, Australia). The 2011 Fellow is Dr. Al Moutaz Hashim (Saudi Arabia).

The Division of Gastroenterology also has a formal therapeutic endoscopy training program. Drs. Rob Enns and Mike Byrne are the co-directors. All the therapeutic endoscopists of St. Paul's Hospital and Vancouver General Hospital are involved in this including Drs. Eric Lam, Jennifer Telford, Urs Steinbrecher and Alan Weiss. A non-therapeutic endoscopist division member will serve in an advisory role. Dr. Eric Yoshida was appointed by Drs. Enns and Byrne in 2007. The therapeutic endoscopy training program involves diagnostic and therapeutic ERCP and endoscopic ultrasound. The current Therapeutic Endoscopy Fellow is Dr. Marcus Chin of Melbourne, Australia.

## *Experimental Medicine*

Dr. Bill Salh co-ordinates the gastroenterology aspects of the experimental medicine program at UBC. The program involves graduate students registered in experimental medicine as well as summer students and post-doctoral fellows.

## *Continuing Medical Education*

The UBC Division of Gastroenterology has organized several CME conferences and both the Vancouver General Hospital and St. Paul's Hospital Divisions organize a weekly Gastroenterology/General Surgery/Radiology/Pathology multi-disciplinary rounds that is accredited for the Royal College of Physicians and Surgeon Maintenance of Competence Program. The UBC Division of Gastroenterology also organized the 14th Annual Digestive Diseases Week Review for sub-specialists including gastroenterologists and general surgeons from throughout

BC. This event was very well attended and received favourable comments from attendees. The St. Paul's Hospital Division organizes the annual GI Forum that features live endoscopy and speakers from across Canada and the United States.

Many of our division members have participated in national and international CME events including the telerounds of the Canadian Association of Gastroenterology, Canadian Digestive Diseases Week (the annual meetings of both the Canadian Association of Gastroenterology and the Canadian Association for the Study of Liver) and conferences organized by out of province universities. Dr. Ramji is the Organizer of the annual Course for Family Physicians in Internal Medicine at St. Paul's Hospital. Dr. Robert Enns was a speaker at the Canadian Digestive Diseases Week Live Endoscopy presentation. Dr. Eric Yoshida was an invited speaker at the Hepatitis C Forum at Canadian Digestive Diseases Week. He also was an invited speaker at the International Digestive Diseases Forum in Shanghai, China that was organized in conjunction with the Shanghai World Expo. Dr. Yoshida was the BC representative of "Team Canada" organized by the Canadian Liver Foundation for this event. Dr. Yoshida was also a member of the Implementation Committee of CDDW 2010. Numerous CME lectures were provided by Division members for local organizations including the BC Centre for Disease Control, Gut Club, as well as local hospital rounds and lectures.

## **ADMINISTRATION**

### *Clinical Academic Special Programs*

The UBC Division of Gastroenterology members are involved in several specific and specialized clinical academic programs. Dr. Alan Weiss is a member of the BC Cancer Agency Hepatoma Program. Both Dr. Weiss, Dr. Siegfried Erb and Dr. Eric Yoshida are involved in multi-disciplinary hepatoma rounds that include the UBC Division of Gastroenterology, the UBC Division of General Surgery, and the Vancouver General Hospital Department of Interventional and Abdominal Radiology. This multi-disciplinary group is involved in clinical decision making for hepatocellular carcinoma cases referred from communities throughout the province. It is also involved in clinical research in the area of liver cancer.

Drs. Erb, Steinbrecher and Yoshida (Medical Director) are members of the Liver Transplant Program of the BC Transplant Society. This provincial program provides clinical care to post-liver transplant recipients, assessment of end-stage liver disease patients referred to the Transplant Society, as well as administrative leadership both at a provincial and national level and both clinical/basic science research in the field.

The BC Hepatitis Program, which is a partnership of the BC Centre for Disease Control and UBC Division of Gastroenterology, is situated within the Division of Gastroenterology's block in the Diamond Health Care Centre of the Vancouver Hospital. Its members include Drs. Erb, Steinbrecher, Kwan, Weiss, and Yoshida (Head of the BC Hepatitis Program). The BC Hepatitis Program staff includes Ms. Jo-Ann Ford (Associate Director), Ms.

Kerri Earnshaw, Sarah Ho (hepatitis nurses) and Messrs. Kirby Lau, Jeff Lin, Ms. Victoria Kan and Drs. Kate Lu and Marisa Guan (clinical research assistants).

The program is involved in clinical care and patient teaching in the area of viral hepatitis. The BC Hepatitis Program is actively involved in clinical research with industry sponsored clinical trials and non-industry sponsored clinical studies. There are close collaborative research partnerships with BCCDC and the UBC Virology Laboratory.

The BC Hepatitis Program is actively involved in continuing education at all levels and has organized CME events. It is also involved actively in nursing education and is part of the UBC Faculty of Pharmaceutical Sciences PharmD program with preceptorship of clinical rotations as well as the provision of formal class lectures.

At the national level, Ms. Jo-Ann Ford is the Past President of the Canadian Association of Hepatology Nurses and Dr. Eric Yoshida is the President of the Canadian Association for the Study of Liver (CASL). The BC Hepatitis Program has been involved with the Canadian Liver Foundation and Ms. Ford and Dr. Eric Yoshida serve on the National Board of Directors. Dr. Yoshida is the Vice-Chair of the Canadian Liver Foundation Medical Advisory Committee.

#### *Committee*

The faculty of the Division of Gastroenterology are very involved in both clinical and basic science research. Drs. Salh, Steinbrecher and Tai are actively involved in basic science research programs supported by national and provincial granting agencies including CIHR, HSFC, CCFC, and the Canadian Society for Intestinal Research (CSIR).

Clinical research is very strong within the Division of Gastroenterology and appears to be expanding.

The specific areas of clinical research within the Division have encompassed: liver disease, viral hepatitis, hepatocellular cancer, liver transplantation as well as solid organ transplantation and donation, inflammatory bowel disease and therapeutic endoscopy. Dr. Rob Enns has a clinical trials unit located at the Pacific Gastroenterology Associates office block. Dr. Enns is also actively involved in non-industry clinical research and has developed outstanding clinical research expertise in capsule endoscopy and therapeutic endoscopy. He has published many publications this year in these areas. Dr. Eric Lam is also actively engaged in clinical research in the field of endoscopic ultrasound. Dr. Brian Bressler, is establishing a clinical research program in inflammatory bowel disease. At the Vancouver General Hospital and Health Sciences Centre, Dr. Hugh Freeman continues to be a prolific author of many clinical research papers in inflammatory bowel disease and celiac disease.

The BC Hepatitis Program and the Liver Transplant Program of the BC Transplant Society have been very active in clinical research both in industry sponsored clinical trials and non-industry sponsored clinical studies.

The Division of Gastroenterology at Vancouver General Hospital has also created a separate Lumenal Gastroenterology Clinical Trials Unit under the leadership of Drs. Michael Byrne, James Gray and Bill Salh with Ms. Cindy Cheong-Lee as the Research Manager of the unit. It is expected that clinical research will continue to expand at both the main teaching hospitals and is a major strength of the Division

## **FUTURE DIRECTIONS**

From a clinical perspective, there are many challenges facing the Division, including dwindling out-patient resources in the face of demand that is increasing yearly, and an increasing demand for in-patient admission/consultation via the Emergency Department, the hospital wards and inter-hospital transfers via BC Bedline. This is a particular source of concern for the VGH Division as the appropriateness, as well as the process, of the requests for consultations has been questioned by almost all Division members at many Divisional meetings.

At the VGH site, there are still many challenges with regards to endoscopic equipment. Through a partnership and fund-raising with the Vancouver General Hospital Foundation, private funding was raised to purchase endoscopic ultrasound and a fibroscan unit and the VGH Division is still fund-raising to obtain capsule endoscopy. It appears that this may be the main avenue of acquiring new technologies at this site in the future.

Academically, there has been great progress towards enhanced collegiality and co-operation between the two main teaching hospitals, the Vancouver General Hospital and St. Paul's Hospital as well as the distributed sites in the community. It is anticipated that collaboration between these two institutions and the community sites will increase in the near future.

The development of an Academic Financial Plan (AFP) by the University of British Columbia and the Government of BC would greatly enhance the Division of Gastroenterology's academic productivity and ability to compete with other Canadian centres. Without an AFP, the future viability of the UBC Division of Gastroenterology will be compromised significantly. If the current model continues, future productivity will be entirely contingent on the dedication and willingness of individual faculty members to engage in such activity to the detriment of their personal economic situations. This will only contribute to an environment of academic instability with long-term uncertainty. This situation is not unique to Gastroenterology and is true of all Divisions within the Department of Medicine. This should be a concern for this University, especially given the expansion of the undergraduate medical school and the medical residency training program, and for the province of British Columbia given the significant overall economic benefits of dedicated and sustained research programs.

Lastly, the Division hopes to enhance future collaborations with other Departments within the Faculty of Medicine (including the Department of Surgery, the Department of Radiology, Department of Laboratory Medicine and Division of Pediatric Gastroenterology), with other Divisions within the Department

of Medicine, and with other health-care institutions within BC and the rest of Canada.

## SPECIAL HONOURS, AWARDS AND DISTINCTIONS

### *Notable Service to the University and the Community*

Many Division members serve on UBC, BCMA and other provincial committees and many Division members have served as reviewers of numerous Canadian and international peer-review journals and grant funding agencies. **Dr. Eric Yoshida** is the Deputy Editor of the Canadian Journal of Gastroenterology (official journal of the Canadian Association of Gastroenterology and the Canadian Association for the Study of Liver) and Associate Editor of the Annals of Hepatology (official journal of the Mexican Association for the Study of Liver and the Latin American Association for the Study of Liver).

**Dr. David Pearson** is on the Editorial Board of the Canadian Journal of Gastroenterology.

**Drs. Michael Byrne, Hugh Freeman and Eric Yoshida** are on the Editorial Board of the World Journal of Gastroenterology and **Dr. Freeman** is the Associate Editor-in-Chief of the "Observations" section of the World Journal.

**Drs. Byrne and Yoshida** are on the Editorial Board of the Internet Journal of Gastroenterology and **Dr. Michael Byrne** is an Editorial Consultant for the Physicians Information and Education Resource (PIER) published by the American College of Physicians.

**Dr. Urs Steinbrecher** is a member of the editorial board of the Journal of Lipid Research.

**Dr. Eric Yoshida** is an appointed member of the Editorial Board of Liver International, the official journal of the International Association for the Study of Liver (IASL).

**Dr. Hugh Chaun** is the President-Elect of the Bockus Internal Society of Gastroenterology and continues to serve as the Society's Secretary General. Dr. Chaun is also the Chair of the Governing Board of the Canadian Digestive Health Foundation.

**Dr. Michael Byrne and Dr. Eric Lam** are members of the National Endoscopy Committee of the Canadian Association of Gastroenterology which has **Dr. Rob Enns** as the Committee Head.

**Dr. Rob Enns** is also Head of the Capsule Endoscopy Special Interest Group of the American Society of Gastrointestinal Endoscopy.

**Dr. Jennifer Telford** is the Medical Director of Colon Check.

**Dr. Alnoor Ramji** is a member of the Blood Borne Infectious Diseases Committee of the BC College of Physicians and Surgeons.

**Dr. Eric Yoshida** is the President of the Canadian Association for the Study of Liver with his term finishing this year. He is also the Chair of the BC Pharmacare Adjudication Committee in Viral Hepatitis.

**Dr. James Gray** is the Chair of the Medical Advisory Committee of the Canadian Society for Intestinal Research (CSIR) as well as the President of the BC Society of Gastroenterology.

**Dr. Bill Salh** is a member of the Medical Advisory Committee of CSIR.

**Drs. Nazira Chatur, Martin Fishman, Peter Kwan and Eric Lam** are examiners for the Western Canadian Trainee Examinations in Gastroenterology (annual preparatory examination for the Royal College of Physicians and Surgeons specialist examination in gastroenterology).

**Dr. Scott Whitaker** is an Examiner of the Royal College of Physicians and Surgeons for the Gastroenterology Subspecialty Certification Examinations.

At Royal Columbian Hospital, which is the third teaching hospital, **Dr. Ken Atkinson** is Chief of the Medicine and Deputy Chair of the RCH Medical Advisory Committee.

In Prince George, **Dr. Paul Winwood** is Head of Medicine of the University Hospital of the North and is on many committees including the Endoscopy Steering Committee of UHNBC.

The Lower Mainland Innovation Initiation Fund Gastroenterology Steering Committee has provided advice to the health authorities. **Drs. Martin Fishman, Robert Enns and Michael Bryne** are members of the committee.

In terms of community service, many Division members have given lectures at public forums on aspects of luminal gastroenterology and liver disease.

**Drs. Enns, Jennifer Telford, Peter Kwan and Yoshida** have also worked with the print media, radio and television with regards to health-care issues that affect the residents of BC.

**Dr. Martin Fishman** is on the Board of Governors of King David High School in Vancouver, **Dr. Hugh Freeman** is on two committees for a public parks board on Bowen Island. During the 2010 Winter Olympic and Paralympic Games, Dr. Hugh Freeman was the Chief Gastroenterologist and **Drs. Michael Byrne, Jim Gray, Alan Weiss and Eric Yoshida** were volunteer on-call specialists for the Games.

### *Special Honours and Awards*

**Dr. Alan Weiss** as well as the rest of the Division's members involved in liver cancer (**Dr. Siegfried Erb, Eric Yoshida and Ms. Jo-Ann Ford**) were honoured in November 2010 with the Canadian Liver Foundation's Tribute Award. This is the second tribute award that the CLF has bestowed on the Division within three years.



In loving memory of Dr. Donald M. Carr



*Special Tributes*

In remembrance of the outstanding teaching contributions of the late **Dr. Donald M. Carr**, who was our beloved colleague and clinician, the Division of Gastroenterology at Vancouver General Hospital created the **Donald M. Carr Teaching Award** to be given to the “Best VGH Faculty Teacher” as selected by the GI fellows, medical residents and medical students rotating through gastroenterology. The 2009-10 recipient was Dr. Alnoor Ramji.

In honour of his outstanding contributions to Gastroenterology at UBC and throughout the Province of British Columbia, the UBC Gastroenterology Fellows created the Dr. Hugh Chaun Mentorship Award. **Dr. Jin Kee Ho** was named the recipient for 2009-10 at the UBC GI Training Program’s Academic Quarter Day was given to Dr. Eric Yoshida.

*Trainee Awards*

The annual AstraZeneca Canada Gastroenterology Medical Residents Award were given to **Dr. John Wong** (VGH Hospital Site) and **Dr. Zdruvova Trotsov** (SPH site).

**Drs. Janakie Singham and Holly Weisinger** were the Chief Gastroenterology Fellows for 2009-10 and received a plaque from the Division for their outstanding service.

# GENERAL INTERNAL MEDICINE & COMMUNITY INTERNAL MEDICINE

## Division Members

### Professor

Dr. C. Edward McDonnell  
(*Emeritus*)  
Dr. Bruce Paige (*Emeritus*)  
Dr. Anita Palepu  
Dr. Michael Schulzer (*Emeritus*)

### Clinical Professor

Dr. Barry Kassen  
Dr. Iain Mackie  
Dr. Jake Onrot

### Associate Professor

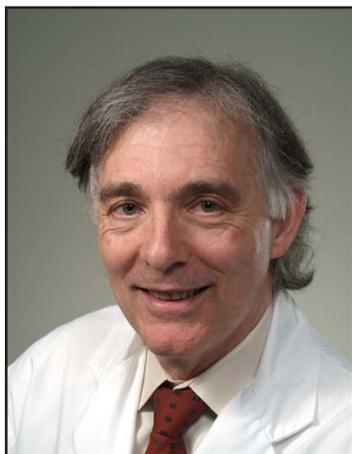
Dr. Kevin Eva  
Dr. Nadia Khan  
Dr. Robert Rangno (*Emeritus*)  
Dr. Donald Studney (*Emeritus*)

### Clinical Associate Professor

Dr. Hector Baillie  
Dr. Rose Hatala  
Dr. James Kennedy  
Dr. Laura Magee  
Dr. James Mark Roberts  
Dr. Stephen Sullivan  
Dr. Gary Victor

### Clinical Assistant Professors

Dr. Mir Ali  
Dr. Yaemin Arikan  
Dr. Richard Arseneau  
Dr. Edward Auersperg  
Dr. Khalid Bashir  
Dr. Sarah Broder  
Dr. James Busser  
Dr. Brian Chai  
Dr. Nora Cummins  
Dr. James Dunne  
Dr. Chadwyn Dyck  
Dr. Ryan Foster  
Dr. Shavinder Gill  
Dr. Abu Hamour  
Dr. Phillipa Hawley  
Dr. Lawrence Hollands  
Dr. Zafar Iqbal  
Dr. Shahin Jaffer  
Dr. Mehdi Keshmiri  
Dr. David McDonald  
Dr. Scott McKee  
Dr. Donald MacRitchie  
Dr. Christopher Mahony  
Dr. Christopher Main  
Dr. Sebouh Matossian  
Dr. Tun Maung  
Dr. Simon Min  
Dr. Danny Myers  
Dr. David Naude  
Dr. May Ong-Lam  
Dr. Willie Pewarchuk  
Dr. Peter Sherk  
Dr. Steven Sutcliffe  
Dr. Susan Taylor  
Dr. Arul Varadarasa  
Dr. Sara Wadge  
Dr. Robert Wakefield  
Dr. Dave Williams  
Dr. Lawrence Winkler  
Dr. Ewa Wojtowska  
Dr. Steven Wong  
Dr. Tung Chuo Yang



**Dr. Barry Kassen**  
Clinical Professor and Head

This year's annual report will be a combined report from the University General Internal Medicine and Community General Internal Medicine. It was the recommendation of the External Review of both these divisions that there be a new combined division. We are in the process of exploring this. Along with this would be a new administrative and executive group.

## DIVISION OVERVIEW

The new UBC Division of General Internal Medicine and Community Internal Medicine has 83 faculty members that participate in activities at various sites including BC Women's Hospital, BC Cancer Agency - Vancouver, Vancouver Acute, St. Paul's Hospital, Campbell River & District General Hospital, Kelowna General Hospital, Nanaimo Regional General Hospital, Lions Gate Hospital, Penticton Regional Hospital, Richmond Hospital, Shuswap Lake General Hospital (Salmon Arm), St. Mary's Hospital (Sechelt), Victoria General Hospital, Abbotsford Regional Hospital, Royal Columbian Hospital and Delta Hospital. The specific site activities are varied. Members are involved with Palliative Care (Dr. P. Hawley heads the program at the Vancouver Cancer Agency), Obstetrical Medicine (Drs. Laura Magee and Sue Purkiss at BC Women's and Children's Hospital), HIV care (Drs. Iain Mackie and Jake Onrot), eating disorders (Drs. Ric Arseneau, Debbie Rosenbaum and Jane McKay), addiction medicine (Drs. Alex Chan and Cary Cuncic), Heart Failure Clinic (Dr. Mark Roberts), UBC Sports Medicine (Dr. Mark Roberts) at St. Paul's Hospital and Vancouver

Acute, Community GIM (Victoria General Hospital – Dr. Laura Farrell, Dr. Jim Spence; Campbell River – Dr. Jennifer Grace, Penticton – Drs. David Kincade, Sarah Broder, Shannon Walker, Chad Dyck; North Vancouver – Dr. Kevin McLeod; Nanaimo & Outreach – Dr. Mike Kenyon. The division is also involved with geriatrics (Dr. Bob Wakefield), and clinical pharmacology (Drs. James Wright and Tom Perry), as well as clinical toxicology (Dr. Jim Kennedy). Two members do echocardiography as part of their practice (Drs. David Kincade and Dr. JP Lim).

The General Internal Medicine division provides consultation and ongoing care to a wide variety of patients. This may take place in an inpatient setting (clinical teaching unit), consultation service to inpatients, perioperative service or an ambulatory setting.

The GIM physicians provide expertise, core teaching and research in addiction medicine, pain management, eating disorders, hypertension, HIV management, drug and poison control and hemochromatosis. One of the division members is involved in scleroderma research and patient management.

Our members are program leaders in medical education, research and administration and are recognized locally and nationally in these areas.

Our membership has an emphasis on medical informatics and has strong well-recognized leadership in these areas. Dr. Ric Arseneau (development of web evaluation, etc), Dr. Jim Busser (development of CTU Tracker) and Dr. Ken Cunningham (online medical grand rounds) are the active members currently.

## MEDICAL EDUCATION

The core element for general internal medicine is teaching in a variety of settings, whether this is classroom, seminar, small groups, clinical inpatient or outpatient services or with simulation. We teach at all sites. Our clinical care and teaching are usually synonymous. Virtually all clinical services have an educational component as trainees are generally involved.

### Clinical Instructor

Dr. Sherri Caswell  
Dr. Alex Chan  
Dr. Kenneth Cunningham  
Dr. Timothy Deutscher  
Dr. Frank Ervin  
Dr. Ezz Fam  
Dr. Laura Farrell  
Dr. Jennifer Grace  
Dr. Anna Kang  
Dr. Michael Kenyon  
Dr. David Kincade  
Dr. Emily Lai  
Dr. Kevin Lai  
Dr. Iain McCormick  
Dr. R. Jane McKay  
Dr. Kevin McLeod  
Dr. Shelley Perlman  
Dr. Susan Purkiss  
Dr. Debbie Rosenbaum  
Dr. Doug Skinnider  
Dr. Shannon Walker

### Associate Member

Dr. Aslam Anis  
Dr. Michael Lapin  
Dr. Tom Perry  
Dr. Patrick Zaidel  
Dr. John Ward  
Dr. James Wright

Dr. Mark Roberts is director of the Department of Medicine Postgraduate Program and is supported by 2 co-directors, one of whom is Dr. Rose Hatala, a division member. Dr. Hatala manages the evaluation portfolio of the program. The core internal medicine program oversees the training of over 150 residents.

Dr. Roberts heads the Clinical Teaching Unit at Vancouver General Hospital (VGH) and Dr. Kassen heads the St. Paul's Hospital (SPH) Clinical Teaching Unit. With the expansion of the undergraduate program to the distributed sites, all undergraduate students in Vancouver are taught at VGH, SPH or Royal Columbian Hospital. All of the postgraduate training in CTUs and GIM clinics are conducted at these sites as well.

Trainees are also mentored in eating disorders, pain management, HIV and addiction medicine. We have a strong program in palliative care and maternal-fetal medicine (using a mentorship model). The CTU faculty is instrumental in the International Medical Graduate Program at St. Paul's Hospital in both training and evaluation.

Drs. Jim Busser and Debbie Rosenbaum are current directors of the Undergraduate Clerkship Program at VGH and SPH respectively.

New initiatives have been adopted through the research and subsequent implementation of tools such as mini-CEX (research and subsequent implementation in evaluation of trainees in the CTU setting) and pioneering the use of simulations in medicine (Drs. Rose Hatala, Iain Mackie, Ric Arseneau and Barry Kassen). The latter program will teach central line insertion (and has used this opportunity to study and publish in this area), as well as promote learning and evaluation using simulation models.

Under the leadership of Dr. Anita Palepu, the General Internal Medicine Fellowship Program has expanded and has been very supportive of the fellows. Many fellows are pursuing additional training independent of their clinical training as part of their fellowship and are doing so locally and at distant sites such as Harvard.

Drs. Hatala, Cuncic, Roberts and Kassen are active medical educators doing research. CTU heads in the community are as follows: Drs. Jim Spence (Victoria), Paul Winwood (Prince George) and Gerald Da Roza (New Westminster). Drs. Roberts and Kassen are respective CTU heads at VGH and SPH. The CTUs are similar with large volumes of acute medically complex patients. St. Paul's Hospital has a mandate to

evaluate and teach Royal College Program residents, family practice program and international medical graduate trainees.

The VGH and SPH sites have also initiated the undergraduate ambulatory rotation within the 8 weeks of CTU medicine for 3rd year students. Victoria, Prince George and New Westminster are as well initiating ambulatory rotations for MSI's. In September 2009, 3rd year medical students were introduced to outpatient internal medicine. The initiative was led by Drs. McKay, Arseneau, Busser and Kassen. The practice and model and funding have been approved by the UBC Undergraduate Committee. The initiative has been reviewed by UBC and has received positive feedback from students and the Council of Undergraduate Deans. A general internal medicine and clinical educator fellow, Dr. Peter Weerasinghe, is participating in the evaluation process as part of his Masters in Medical Education.

There have been new education initiatives with the use of simulation. Drs. Hatala, Mackie, Arseneau and Kassen teach on the cardiac simulator to the undergraduate and postgraduate groups. Simulation is also used to teach procedures.

Continuing medical education is provided by a large number of the membership. This is often done on an individual basis. In October 2010, the division hosted the Canadian Society of Internal Medicine (CSIM) meeting, combined with the Rocky Mountain meeting and the American College of Physicians meeting (Western chapters). The theme of the meeting was "Community Internal Medicine. Co-chairs were Drs. Kevin McLeod and Barry Kassen. Most members of the division had a role in the conference and many members presented national workshops.

Dr. Rose Hatala chairs a subgroup of the division interested in Medical Education. The group meets monthly and all fellows and division members are invited.

An addition to our division and a member of this group and CHES is Dr. Kevin Eva. Dr. Eva is Senior Scientist in CHES and Associate Professor, Director of Educational Research in the Department of Medicine. Dr. Eva has come from McMaster University. His current research interests are broadly defined within the context of research into educational practices within the health professions.

Dr. Hatala is active in medical education and research. She is a leader in CHES and recently as well has been collaborating with national and international research initiatives (medical education/simulation).

Dr. Mark Roberts and a fellow, Dr. Callum Reid, have been pursuing “point of care” ultrasound. They are in the process of developing a curriculum to teach these skills to undergraduates, postgraduates and faculty. They have presented this work locally and at national forums.

## NEW TRAINING SITES

Penticton continues to be a training site for Internal Medicine’s Core Residents. Nanaimo, Victoria and Lions Gate Hospital have become training sites for Fellows in GIM. In addition to these sites, internists from Salmon Arm, Kelowna, Abbotsford and Campbell River have been added to the division.

## RESEARCH

Research is conducted at all sites including VGH, SPH, BC Cancer and BC Women’s Hospital. There is a core group of funded researchers with dedicated time for research activities.

**Dr. Anita Palepu** is the Vancouver PI for The Health and Housing in Transition (HHIT) Study: A longitudinal study of health of homeless and vulnerably housed adults in Vancouver, Toronto and Ottawa (CIHR 2008-2012). Her group has completed the baseline enrollment of 200 homeless persons and 200 persons who are vulnerably housed in the single room occupancy hotels, which was a challenging task. They began the first year follow-up in March 2010 after the Olympics and have been able to achieve ~80% follow-up rate. They are currently doing their second year follow-up.

Dr. Palepu continues to be the co-editor of Open Medicine (<http://www.openmedicine.ca>), which is an independent, peer-reviewed, open-access general medical journal that publishes high quality content. She is the department director for the Clinical Investigator Program and sits on the CIHR Health Services Research New Investigator Award Committee.

**Dr. Rose Hatala** is involved in the following research:

- Medical Council of Canada Grant – “Determining the utility of the mini-clinical evaluation exercise as a summative assessment tool of clinical competence: a multi-centered pilot study”. Principal Investigators: R. Hatala, R. Sidhu.
- 2008 RCSC Medical Education Research Grant – “A pilot study of a modified long-case OSCE format for the high stakes assessment of clinical performance”. Principal Investigator: R. Hatala, S. Marr.
- RCPC Study – “Assessment tools for assessment of cardiac physical examination skills”. Co-investigators: R. Hatala, M. Bacchus, B. Kassen.
- Grant submitted for: “The role of dual reasoning strategies for learning cardiac physical examination skills”. Co-investigators: M. Sibbald, R. Hatala, K. Eva.

**Dr. Nadia Khan** is very active in social determinants of cardiovascular disease including the impact of ethnicity on chronic diseases such as cardiovascular disease management and outcomes. She has received many prestigious supporting grants including CIHR and Michael Smith Awards, and has received the CIHR New Investigator Award, the Genesis Scholar Award and the SPH Physician Scholar Award. She has a CIHR operating grant exploring gender and ethnic differences in patients with hypertension. Dr. Khan is a member of the Canadian Hypertensive Society Education and Research Group. She also serves as a scientific committee member of the Heart and Stroke Foundation Trainee Award Program and a CIHR operating grant peer-review committee. She has been successful in obtaining competitive operating grant funding from CIHR in the most recent competition.

**Dr. Laura Magee** continues her research in maternal-fetal medicine, concentrating on hypertension in pregnancy and is the principal investigator of the CIHR-funded multi-site CHIPS randomized controlled trial examining these issues of tight versus lenient blood pressure control in pregnancy. She has been highly productive and widely recognized as a leader in her field.

Medical education research is a focus for **Drs. Rose Hatala, Iain Mackie, Mark Roberts and Barry Kassen**. Previously this group was awarded a Stemmler Grant (from the National Board of Medical Examiners from the USA) and completed a national study. There have been presentations and publications from this work. This group has also published their experience with the development of a quality improvement process for postgraduate first year trainees, and have been awarded a Royal College Grant to continue this work. Follow-up studies are being done with the research group of the Royal College Internal Medicine Examination group and involve cooperative studies with international colleagues.

**Dr. Cary Cuncic** is working with Dr. Rose Hatala on a modified OSCE with the Royal College with the 4th year GIM residents. This will be piloted in January 2011 with the 4th year medical students. Dr. Cuncic is also involved in a qualitative research project with UBC Faculty Development (The role of the student-preceptor relationship for enhancing teaching in a longitudinal integrated clerkship).

**Dr. Paul Winwood** is the supervisor on a study entitled: “Do medical students perceive benefit from pharmacist-led pharmacotherapy tutorials and daily involvement?”. This study is an evaluation of a new pharmacist-led pharmacotherapy teaching program on the CTU in the Northern Medical Program and is run for pharmacy resident Sandra Katalinic. The methodology involves a satisfaction survey and a pre and post test of students’ knowledge.

## SCHOLARLY

**Dr. Hector Baillie**, a general internist from Nanaimo, is editor-in-chief of the periodical Canadian Journal of General Internal Medicine. Along with being an active advocate for General Internal Medicine, he is in full-time clinical practice in Nanaimo.

**Drs. Kevin McLeod** (North Vancouver), **Chad Dyck** (Penticton) and **Steve Wong** (Richmond) are educational and clinical leaders in their respective sites.

**Dr. Jim Spence** continues in the role of CTU Director and more recently associate program director for Internal Medicine in Victoria. He has modified his practice and dedicates much of his time to teaching and administration for undergraduate medical students and residents in medicine and family practice. He has been awarded a special teaching award by the UBC Medicine residents. Dr. Spence continues to lead the GIM undergraduate and postgraduate IM experience in Victoria and has joined the Postgraduate Residency Training Program.

Since his appointment, Dr. Winwood's university time has largely been dedicated to teaching, in particular to developing and running the Clinical Teaching Unit in the Department of Internal Medicine at Prince George. He is the Discipline Specific Site Leader (DSSL) for Internal Medicine in the Northern Medical Program. This includes a significant administrative role in the coordination of teaching and clinical experiences of 3rd year clinical clerks, family practice residents (R1s) and Internal Medicine residents (R2s & R3s). He also chairs regular CTU meetings with the teaching faculty in Internal Medicine at Prince George (every 2 to 3 months) for which minutes are kept. The community members are involved in medical administration for the various hospitals and health care regions. Some members are active nationally in the Royal College, with the oral and written examinations in Internal Medicine, as well as promoting the development and the values of General Internal Medicine in Canada. Drs. Kenyon and Baillie are examiners for the Royal College in Internal Medicine.

The medical school expansion is integral to the promotion of the community division. The capacity to develop new training sites and new training directions is a primary focus of the GIM Division's teaching program.

## CLINICAL SERVICES

### *Inpatient/Acute Medicine*

The bulk of inpatient acute medicine is in the CTU structure (in university settings) with most members participating at SPH, VGH and RCH sites. There is a well an active consultation service promoted at both St. Paul's and VGH.

Both VGH and St. Paul's Hospital have an HIV service. Dr. Iain Mackie is the director of this service at VGH. Drs. Onrot and Mackie participate in the inpatient services.

### *Addiction*

Dr. Alex Chan has been the lead physician involved in substitution therapy trial for persons with refractory addiction to opiates. The NAOMI Clinic is located on the corner of Abbott and East Hastings streets in the heart of Vancouver's Downtown East Side. The clinic began as the site of the NAOMI clinical trial of prescription heroin. After the study was completed, the NAOMI Clinic remained open as an addiction clinic and is currently funded by Providence Health Care. The clinic focused on providing opioid replacement therapy to people with heroin addiction who were unable to access other local clinics. The clinic also manages other acute medical problems that are often associated with substance abuse including soft tissue infections, respiratory diseases and psychiatric co-morbidities. Medical staff includes nurses, and physicians from Family Practice, Internal Medicine and Psychiatry. Social workers and drug counselors also facilitate engagement with psychosocial services including drug counseling and residential recovery housing programs, free dental programs, food bank, etc. The NAOMI Clinic also runs an on-site pharmacy to facilitate daily medication dispensing and encourages engagement with clinic staff. Referral sources include St. Paul's Hospital, the Community Transitional Care Team, local Vancouver Coast Health clinics and self-referrals.

### *Eating Disorders*

The GIM division has continued to provide medical support to the Tertiary Eating Disorders program. Drs. Arseneau, Rosenbaum and McKay provide this support. Our service model has transitioned to a consultation role with psychiatry taking on the direct care responsibilities of this group. Their role is to provide acute care services to the severely unwell eating disordered (ED). They also have four outpatient clinics for the medically unwell ED patient. This year they introduced a multi-disciplinary clinic; the Complex Care Clinic. It serves to provide medical (GIM), psychiatric, nutritional and nursing support to the province's sickest ED patients.

The provincial consultation support to family physicians and secondary ED centers continues to thrive.

The group's teaching and educational role is expanding. They engage medical students, residents and fellows from GIM, clinical biochemistry and psychiatry in our clinics.

Their teaching role in the province is expanding; we provide 4 educational sessions per year for families of the eating disordered. We participate in web-cased lectures to 24 ED sites throughout the province.

The group's research role is limited, however Dr. Rosenbaum is exploring Chronic Renal Failure in the ED patient and has a study protocol in place to quantify the burden of renal failure in this group.

Dr. McKay will present in the fall at the Canadian ED Conference in Toronto.

## *Hypertension*

The St. Paul's Hospital Blood Pressure Clinic, operated by Dr. Jake Onrot, is a multi-disciplinary teaching clinic, operating out of the Rapid Access General Internal Medicine Clinic. This is a referral clinic that receives patients from all over the province. Although the focus is lowering of high blood pressure, the prime goal of treatment is to reduce the patients' overall risk factor profile and improve quality of life. Medical students, residents, fellows in General Internal Medicine, and elective students and residents from other programs (primarily family practice) are integrated into the clinic, see patients and receive primarily case-based teaching in an evidence-based academic environment. Dr. Onrot is a general internist and clinical pharmacologist with 30 years' experience in hypertension in clinical, research, teaching, administration and advisory policy areas. He has been mentoring one of our PGY5, Dr. Cori Gabana, in hypertension.

### *Congestive Heart Failure*

Dr. Mark Roberts has a VGH based clinic for the ongoing management of patients with congestive heart failure.

## *HIV*

Members of the Division of General Internal Medicine participate in the care of HIV positive patients at both St. Paul's Hospital and Vancouver General Hospital. Drs. Mackie and Onrot have joint appointments with the Division of AIDS.

The HIV Clinical Care Program at Vancouver General Hospital is a joint venture between the Division of Infectious Disease and the Division of General Internal Medicine. It provides ambulatory care through the HIV/AIDS Clinic as well as consultation and care for hospitalized patients.

Dr. Mackie and Onrot also function as consultants for the AIDS ward at St. Paul's Hospital, providing expert care to hospitalized patients and teaching expertise for the residents and medical students who undertake elective rotations on the ward.

### *Perioperative Clinic (SPH/VGH)*

There is a newly established clinic at St. Paul's Hospital. This is done in conjunction with Anesthesia, Surgery and the Division of GIM. Discussions are ongoing at the VGH site to establish a similar clinic. Both sites see preoperative patients in their outpatient clinics and provide a rapid access service. The clinics are an active training site and will be focus of future research.

### *Medical Complications of Pregnancy*

Clinics are held on most days of the week at BC Women's Hospital and Health Centre. General and subspecialty internists (endocrinology and hematology) provide specialist outpatient and inpatient consultative services to all maternity care providers, in midwifery, family practice, medical genetics, general obstetrics and gynecology, and maternal-fetal medicine. Consultations cover the breadth of medical disorders in pregnancy, as well as reproductive toxicology counseling. Trainees in these clinics are restricted to post-graduate learners,

who attend as part of their ambulatory care rotation in general internal medicine (UBC) or as part of an on-site elective in obstetric medicine (UBC and other national and international institutions). BC Women's is a stand-alone maternity hospital and as such, offers trainees the opportunity to assume a high level of responsibility for patients.

### *Ambulatory GIM*

Ambulatory care is the cornerstone of GIM in the community with all members participating. Both VGH and St. Paul's Hospital have active ambulatory medicine programs which include a rapid access component. Because of the acute care commitments at the VGH site the ability to see ambulatory patients 5 days a week is limited but the clinic is expanding under the guidance of Dr. Iain McCormick. Royal Columbian Hospital has a perioperative and active ambulatory clinic (Dr. Matt Bernard).

The ambulatory general internal medicine services at SPH continue to be provided through the rapid access clinic at SPH. Our ambulatory program focuses on providing outpatient care to the adult patient with complex medical health problems. Our referral base is growing with a focus on post CTU discharge, Emergency and GPs in the catchment area of SPH. Our numbers of referrals are increasing, with over 3000 outpatient visits in the 2009 year. The educational role of our outpatient clinic is thriving. In 2009 we provided educational opportunities to all of the GIM fellows with a combination of a block rotation and longitudinal clinics. We continue to have core IM residents in our clinics with over 24 residents in 2009. Preoperative consultation is a growing area in the GIM outpatient clinic spectrum. We hope to increase this service in the future.

### *Ambulatory MSI Program SPH/VGH*

In September 2009, 3rd year medical students were introduced to outpatient internal medicine as a 2 week sub rotation of their CTU training time. The curriculum development is led by Drs. Arseneau and McKay. The service and educational components of this program continue to grow. This initiative has received positive feedback from the students, clinicians and the Council of Undergraduate Deans. Funding has been secured to continue to develop this program in the future.

It is anticipated that 75 students will rotate through our outpatient sub-rotation in 2010.

Our GIM fellow, Peter Weerasinghe, is participating in the evaluation process as part of his Masters in Education. This program has been incorporated at VGH under the supervision of Dr. Jim Busser.

### *Community*

The members of the community group provide Internal Medicine care to their respective communities. These activities include consultation to hospitals and outpatient groups, intensive care medicine, acute coronary care unit, pacemaker clinics, dialysis, perioperative and emergency services. In short, this group provides the entire spectrum of Internal Medicine

services in many communities throughout the province. The group's activities are absolutely essential to the function of all acute care facilities.

Some of the Nanaimo internists, including Dr. Mike Kenyon, continue to volunteer and spend time in Kandahar, Afghanistan working in the field hospital and providing Internal Medicine services and critical care services to the military and civilians in this region. Dr. Kenyon also services Northern BC communities in ACU/GIM and incorporates this with a teaching service for fellows in GIM and medical residents. Dr. Kenyon's clinical rotation is universally well received by the trainees. Dr. Kevin McLeod has a clinical rotation which involves the LGH and Whitehorse. Again all residents and fellows find this a very valuable experience.

Each general internist provides Internal Medicine services to their community, as well as some specialized care unique to that individual (e.g., Dr. David Kincade in Penticton provides echocardiography services).

All of the community general internists teach clinically in the ambulatory as well as the hospital setting. Many have leadership roles in their hospitals/communities.

Dr. Kevin McLeod and Danny Myers are leaders in the BCMA Section of Community and Rural Internal Medicine of BC and are principle players in developing and promoting remuneration for our clinical activities (CRIM).

A list of the community internists and their activities will appear in the next annual report.

## ADMINISTRATION, DIVISION ORGANIZATION AND MEMBERSHIP

Members of the division play key roles in administration locally, provincially and nationally.

**Drs. Nadia Khan, Iain Mackie, Jake Onrot and Barry Kassen** are on the Executive of the Rocky Mountain Review Course (a University of Calgary Internal Medicine initiative) as well as the executive of CSIM.

**Dr. Anita Palepu** is the Department Director of the Clinical Investigator Program, and the Director of the GIM Fellowship Program. She is the Co-Editor of Open Medicine, an independent, peer-reviewed open access general medical journal and Associate Editor at the Annals of Internal Medicine.

**Dr. Tom Perry** directs the undergraduate program at the UBC site.

**Dr. Mark Roberts** is CTU Director at VGH, Postgraduate Program Director, a member of the GIM Fellowship Training Committee and a member of the Oral Examination Board of the Royal College in Internal Medicine.

**Dr. Rose Hatala** is research director for the Internal Medicine Examination Committee, was recently appointed Chair for the English Oral Board for the RCPC, and is a member of the Faculty Development Group in the Faculty of Medicine. Dr. Hatala also mentors researchers in medical education (in various departments) and medical educators.

**Dr. Jim Busser** is clerkship director at VGH and Dr. Debbie Rosenbaum is clerkship director at SPH. Dr. Dunne is director of the Scleroderma Clinic at SPH.

**Dr. Jane McKay** is director of the Ambulatory Care at SPH and the Provincial Eating Disorders Program. Dr. Iain McCormick directs the VGH Ambulatory Care Program.

**Dr. Barry Kassen** is Head, Division of General Internal Medicine at UBC, VGH and SPH, SPH Associate Head, Department of Medicine, Acting Division Head, Community Internal Medicine, CTU Director SPH, Representative to Rocky Mountain and Canadian Society of Internal Medicine, past Governor of British Columbia for the American College of Physicians, member of the UBC Internal Review Committee, past chair of the Internal Medicine Examination Committee (RCPSC), member of the Working Group in GIM (RCPSC), member of the Evaluation Committee (RCPSC), member of the Health and Public Policy Committee (RCPSC) and member of the International Advisory Group (RCPSC).

There have been some changes in our division membership.

**Dr. Eliana Castillo** has left the division for the University of Calgary.

We have recruited **Dr. Cary Cunic** from our fellowship program. Dr. Cunic has her office at the VGH site. She has completed her Masters in Medical Education through UBC CHES and participates in ambulatory and inpatient medicine. She also trained in Addiction Medicine and is practicing this at the St. Paul's Hospital site.

**Dr. Jim Kennedy** is working clinically at the Mt. St. Joseph's site as a general internist. He is continuing his role as consultant to the Poison Control Centre. He remains active in the hospital administrative group.

## CONTINUING MEDICAL EDUCATION

The 2010 CSIM meeting these was Community General Internal Medicine. The co-chairs for this meeting were Dr. Kevin McLeod, a locally involved community general internist and Dr. Barry Kassen. Many division members participated in the programs. Dr. Mackie, Khan, Onrot and Kassen were on the executive planning committee for this meeting.

Dr. Jane McKay co-chairs the annual St. Paul's Hospital Annual Internal Medicine Review for Primary Care Physicians held May 2-5, 2010. The GIM division and other members of the Department of Medicine, participate in this review.

## RECRUITMENT

Our recruitment continues. The major focus is to recruit clinicians to the community and the VGH site. We anticipate six new recruits: **Drs. Callum Reid, Cori Gabana, Harp Nagi, Penny Tam and Peter Weerasinghe** to start at VGH Site July 2011 and 3 new recruits to the community (**Drs. JP Lim, Matt Bernard and Stephane Voyer**). **Dr. Sharm Das**, currently on maternity leave, is anticipated to join the division in January 2012.

We are also recruiting **Dr. Aman Nijjar** for a significant research role (chronic disease management and outcomes among different ethnic groups), starting September 2011.

**Dr. John Staples** continues his post fellowship studies and is an intern at the New England Journal of Medicine.

**Dr. Tabassum Firoz** has been awarded a two-year Clinical Investigator Fellowship. She will continue her work in maternal-fetal medicine focused on global maternal health.

**Dr. Gil Kimel** has taken a position at St. Paul's Hospital in Palliative Care and will be recruited to the division in the New Year.

**Dr. Stephane Voyer** has been recruited to UBC St. Paul's/VGH and will continue his medical education research and community medicine.

## ALTERNATE FUNDING PLAN

This initiative has been maintained but the components have changed. A letter sent to the Minister of Health helped to accelerate the time line.

There are now ongoing negotiations with a model that encompasses the "fee for service" model (rather than the previous model). In addition there is a component that would support research administrators, education and innovation. It is this component that is presently being negotiated.

The division feels that this plan offers distinct advantages with potential generalizability to other groups of internists (at distributed sites).

**Dr. Ric Arseneau** has joined the core group and is fundamental in these initiatives.

The plan continues to be patient-centered with an emphasis on safety and quality of care.

The elements of the plan will emphasize our service delivery to the two major teaching hospitals of UBC (Vancouver Acute and St. Paul's). The plan encompasses our active teaching mandate and recognizes that research and medical education are very important activities in our division.

There is a significant component of the plan which stresses our innovation initiatives. These are urban GP linkage, education

in the ambulatory setting, and streamlining inpatient flow. A fourth innovation strategy is being considered but may not be in the initial proposal. That strategy is community rural linkages with community physicians (both internists and general practitioners in British Columbia). One of the aims of the alternate payment plan is to recruit. Although we have been somewhat successful in our current system, we intend to actively recruit another 14 FTEs over the next 3 years.

## FELLOWSHIP PROGRAM

**Dr. Anita Palepu** is the Director for the Fellowship Program in General Internal Medicine. She has been very successful in recruitment to the program, which has a strong structure and is supported by administrative assistance from Betty Cristofoli and Isabel Ferens. We currently have 3 PGY4 and 5 PGY5-6 fellows training in the program. They are Vanja Petrovic, Naveen Sandhu, David Shanks, Callum Reid, Penny Tam, Sharmistha Das, Tabassum Firoz and Cori Gabana. The fellows pursue individualized training in their second year. Callum Reid is developing advanced skills in bedside ultrasound and working on a curriculum for the core internal medicine trainees, Penny Tam went to St. Michael's Hospital and was immersed in medical consultation, quality improvement and patient safety, Sharmistha Das focused on chronic disease management, Tabassum Firoz is in Obstetrical Medicine and Cori Gabana is training in hypertension. David Shanks has been accepted into the Clinical Educator Fellowship Program for his PGY5 and Tabassum Firoz was accepted into the Clinical Investigator Program (CIP) for PGY6 and 7. **Dr. Aman Nijjar** completed the CIP and is being recruited to our division. **Dr. JP Lim** completed 6-months training in echocardiography and is serving remote and rural regions in British Columbia including Campbell River and Terrace. We had unprecedented interest in our fellowship program and were able to accept seven GIM Fellows who will begin their training in July 2011. Five are from UBC (Laura Kuyper, Mark Choi, Sam Gharbi, Liam Brunham, David Sohi) and 2 are external (Kristin Marosi from McGill and Ben Beheshti from University of Toronto). The trainees are expected to have 4-6 months in community rotations. We have expanded the community sites and will have more of a presence in Victoria, Nanaimo and in the rural communities in northern Vancouver Island thanks to the efforts of **Drs Laura Farrell** and her colleagues in Victoria and **Michael Kenyon** and his colleagues in Nanaimo.

The journal clubs continue to be of very high quality and valuable to the trainees and divisional membership. The twice-monthly scholarly sessions have also been a success and are well reviewed.

The fellowship program promotes general internal medicine practice in the community and university setting and is focused on tailoring the PGY5 training to meet the professional needs of the fellow.

## FUTURE DIRECTIONS

- There is presently an ongoing discussion to consolidate GIM from the previous university and community groups to one division. This is in response to the External Review of the division. There would be some administrative reorganization that would be required.
- The recognition and promotion of GIM as a new subspecialty in Medicine (at the Royal College) will not diminish the role of the division but should enhance the role in the eyes of the university, government and trainees. We will promote this new subspecialty in all areas.
- There continues to be a large focus on Community General Internal Medicine. This is seen in the promotion of distributed teaching sites. This was emphasized at the CSIM Annual Meeting and the momentum from that meeting continues.
- Recruitment of our trained GIM fellows to the community and university group is a priority we are pursuing actively. This is recruitment aimed at all sites. There is now active involvement by the government (postgraduate administration headed by Libby Posgate). GIM development and recruitment is a new priority through the health care system and continues to be an emphasis of our division.
- Development of an outreach program. Presently there is a pilot site (Williams Lake). This is being developed and would be the template for other sites. Recruitment to the division is emphasizing that this is an expected activity of the new members.
- There is an ongoing redevelopment of the clinical services in GIM at VGH. This will reorganize the CTU and will try and address the consultation service in GIM. There will also be an attempt to harmonize all the clinical services in Medicine (including the hospitalists).
- There will be an expansion of the division membership, with the emphasis on VGH site. This will necessitate a need for more space at this site. There is an ongoing review for infrastructure support at this site. Solutions are being explored.
- Support and mentoring for the new recruits will be a prime area of emphasis this year. We want our recruits to be successful clinically and will try to minimize their administrative (and other activities) in their first year. We will work with each of them to introduce and develop their special skills and interests to enhance the division and the health care system. We will support and mentor curriculum design, simulation, ultrasound point of care, patient safety and quality, medical education and assessment and special areas of expertise.
- There will be continued emphasis of our alternate payment system that will reward and enhance the non-clinical activities of the division.
- We will work to recruit to our division and to recruit to GIM for the province of BC. We will continue to emphasize GIM and to emphasize our community component of GIM. We will promote the new subspecialty of GIM (at the Royal College).
- We will continue to be valuable collaborative partners within the hospitals and health authorities and will promote the ongoing patient-centered focus for our division.
- We will support our fellows and trainees. We will try and ensure there is the best training for them and that this training aligns with their professional goals and objectives. We will try and align these with the health care needs of British Columbia.
- We will continue to support the academic mission of the division and its members. The development of a medicine educational group led by Dr. Rose Hatala will be a major focus for the division.
- Our division will continue to support the mandate of the Department of Medicine and to promote scholarship, citizenship and excellent high quality care the citizens of British Columbia.
- Our division will consider new models of health care delivery.
- Our division will expand and strengthen our educational leadership for the undergraduate and postgraduate training programs.

## Division Members

### Professor

Dr. Dr. B. Lynn Beattie (*Emeritus*)  
Dr. Janet McElhaney  
Dr. Graydon Menelly

### Clinical Professor

Dr. Reva Adler  
Dr. Larry Dian

### Clinical Associate Professor

Dr. Roger Wong  
Dr. Amanda Hill

### Assistant Professor

Dr. Phil Lee  
Dr. Kenneth Madden

### Clinical Assistant Professor

Dr. Maria Chung  
Dr. Scott Comeau  
Dr. Wendy Cook  
Dr. Obid Kahn  
Dr. Janet Kushner-Kow  
Dr. Deviani Maher  
Dr. Peter O'Connor  
Dr. Christopher Rauscher

### Clinical Instructor

Dr. Ima Alimoradi  
Dr. Kim Barnett  
Dr. Marilyn Bater  
Dr. Kathryn Bell  
Dr. Anna Forbes  
Dr. Kim King  
Dr. Joy Liao  
Dr. Marilyn Malone  
Dr. Janice Menezes  
Dr. Caroline Petrossian  
Dr. Hetesh Ranchod  
Dr. Dorothy Williams



**Dr. Janet McElhaney**  
Professor and Head

## DIVISION OVERVIEW

The Division of Geriatric Medicine currently has 16 faculty members within Providence Health Care (PHC) and the Vancouver Health Services Delivery Area (HSDA), and 12 faculty members contribute to the teaching program at the distributed sites of the UBC Medical School. Emeritus Professor, Dr. Lynn Beattie, remains very active in Division and is Acting Director of the Centre for Healthy Aging at Providence.

We congratulate the following faculty in 2010:

- **Dr. Amanda Hill** – Promotion to Clinical Associate Professor July 1st 2010
- **Dr. Roger Wong** – Promotion to Clinical Professor July 1st, 2010
- **Dr. Larry Dian** – Donald L. Whitelaw Award for Outstanding Medical Grand Rounds
- **Dr. Joy Liao** – accepted into the MPH Program at Johns Hopkins University

The Division provides a wide range of clinical services across these sites, including active geriatric consultation services, in-patient acute care for elders (ACE), geriatric activation and assessment beds, geriatric ambulatory services and multiple outpatient clinics. The ACE Units at Vancouver General Hospital celebrated their 10th year of operation. Under the leadership of Dr. McElhaney as Physician Program Director, Elder Care Acute/Rehab Services and Division Head for Geriatric Medicine at Providence Health Care, a complete redesign of in-patient and ambulatory geriatric services was implemented in 2010. This included

the establishment of the Geriatric Consult and Outreach Team for inpatient consultation at St. Paul's Hospital (SPH) and ambulatory services designed to provide rapid access to an interdisciplinary team and geriatric consultation. Dr. Amanda Hill served as the operations lead for the implementation of these services. The 17 beds for geriatric rehabilitation at SPH were replaced by an 18-bed Integrated Care for Elders Unit at Mount St. Joseph's Hospital under Dr. Janet Kow.

Efforts by Dr. McElhaney continued to build support for the Vancouver Initiative To Add Life to Years (VITALITY). Work is ongoing with the UBC Development Office to support the VITALITY interdisciplinary research team. Several CIHR grants have been awarded or are currently under review. The Division's major areas of research emphasis are in health services research and active research programs in diabetes, dementia, osteoporosis, falls prevention, cardiovascular disease, inflammation, immunosenescence and vaccination provide a foundation for the scholarship and service that will promote health, wellness and independence for seniors in the community of Vancouver Coastal Health and British Columbia.

In November 2010, a letter of intent proposing the Care of Older Adults with Acutely Compromised Health Network (COACHNet) was submitted for a full application to the National Centre of Excellence competition. This \$23M proposal is to support cross-Canada network of researchers led by Janet McElhaney as the Scientific Director. COACHNet is a framework for action that will engage older patients/caregivers with interprofessional teams and research strategies to improve our understanding of how to mitigate risk and provide optimal treatment approaches during acute health events requiring hospitalization. New knowledge translation approaches will guide the ethically sound application of knowledge and assist in elucidating the health economic benefits to be gained. Our goals are to optimize health outcomes, improve access, and reduce care-related costs for older Canadians. The research output will increase the capacity of the existing acute care system to meet current and future demands for access to hospital care by all Canadians.

## TEACHING

### *Undergraduate*

Dr. Kushner-Kow continues on the Undergraduate Education Committee overseeing the third year Internal Medicine Clerkship and its distribution to Victoria, Northern BC and the Fraser Valley. She is also Faculty Development Liaison for the third year committee, a Week chair for the Brain and Behaviour Block in year two, and organizer for the geriatrics component of the clinical skills course in year two.

In July 2010, three Fellows entered their second year and one new Fellow entered the geriatrics fellowship program. Dr. Anson Li was appointed as the Chief Resident and has worked with Dr. Maria Chung to organize the Geriatric Grand Rounds.

All of the Division members teach in various components of problem-based learning and clinical skills, as well as on the clinical teaching services in geriatrics and internal medicine. Students continue to seek electives in geriatric medicine and the Division members see this as our primary opportunity to attract these students into this field of medicine.

### *Postgraduate*

Dr. Kushner-Kow continues as Vice-chair for the Royal College Geriatric Medicine Examination Committee and has been involved in the transition to Standardized Clinical Examinations (StaCERs), a context-specific real-life evaluation method to ensure Geriatric Medicine trainees demonstrate clinical competencies.

Dr. Kushner-Kow also continues as the Program Director in Geriatric Medicine. The Program was internally reviewed and approved in 2010.

Dr. Roger Wong continues as the Associate program director, postgraduate medical education, Department of Medicine UBC. He continues to champion the development of innovative curriculum and teaching methodologies for the department of Medicine. In 2009, Dr. Wong was appointed as the Assistant Dean for Faculty Development, rounding out his academic focus on career development and mentorship at all levels of medical training and scholarship.

All Division members continue to be actively involved in the teaching of internal medicine residents and fellows in the principles of the care of the frail elderly, including the clinical teaching units and noon rounds for medical residents. Residents have rated teaching in geriatric medicine among the highest of the Divisions in the Department of Medicine.

### *Continuing Medical Education*

Drs. Kushner-Kow continues to work with the UBC Care for Elders group, an interprofessional group dedicated to developing educational modules for interprofessional teams, as well as encouraging recruitment to the health professions dealing with working with Seniors. Dr. McElhaney continued to work with the Inter-Professional Education in the Care of Elders (IPECE) project

based in Providence Health Care and supported by the UBC Care for Elders group. IPECE provides semi-annual workshops for students from all health care disciplines to develop skills in the care of older patients.

Dr. Kushner-Kow is an associate with the UBC Office of Faculty Development and continues to run the ACT (Advanced Clinical Teaching) course for mid-career faculty to improve their skills in medical education. She is also the CME director for the Canadian Geriatrics Society.

Several members of the division continue to be active in CME including national and provincial initiatives in the areas of dementia, osteoporosis, cardiovascular fitness, immunosenescence and vaccine preventable diseases.

## RESEARCH

Division members continue to develop their research programs. Dr. Meneilly continues his research program in diabetes in older adults and this has led to a collaboration with Dr. McElhaney to study 'inflammaging' in older adults with diabetes and the metabolic syndrome, and its effect on immune function; this work was funded by a new CIHR operating grant in 2008. Dr. Madden continued in the second year of his CIHR Operating Grant to conduct a randomized, controlled trial of aerobic, strength to measure its effect on arterial stiffness and the cardiovascular control measures that prevent syncope during upright tilt.

Dr. McElhaney has established an international collaboration with CIHR funding that has now validated laboratory assays for the different immunologic correlates of protection against influenza developed in her research program. She is a Co-PI on a CIHR Pandemic Team grant with collaborators across Canada that is addressing issues related to the 2009 influenza pandemic. Work continues on a NIH U01 grant developing a model system for pre-clinical testing of new vaccine/adjuvant combinations that has attracted interest from industry and new collaborators. These projects including the work on her NIH R01 at the University of Connecticut, have also attracted the interest of World Health Organization for pandemic planning in developing countries that are experiencing rapid aging of their populations.

Dr. Adler is working with the Presidents Office and Senate of the Republic of Rwanda on a four-phase research initiative funded by the J. William Fulbright Scholarship Board of the US State Department targeting primary prevention of ethnic violence in the Great Lakes region of Central Africa. Dr. Adler is a member of the invitation-only Global Futures Forum, a joint initiative of the U.S. State Department and the Privy Council of Canada. Dr. Adler continued her BCD-E research initiative in West Darfur to identify and support the conflict-related mental health sequelae and treatment needs of average citizens in the Darfur region of Sudan. Locally, her ongoing research "Newer Older Immigrants to Vancouver" identifies the health services needs older Chinese and South Asian immigrants to the lower mainland to British Columbia.

Dr. Roger Wong continues to conduct research in acute care service delivery for older adults, and in medical education with the development of new curriculum to enhance competency

in quality improvement, health advocacy, and communication among internal medicine residents.

Dr. Beattie is involved in multiple research projects related to dementia and is Chair of the Research Policy Committee for the Alzheimer Society of Canada and the BC Network for Aging Research, a member of the CIHR Gender, Sex and Health Committee, and Acting Director, Centre for Health Aging at Providence.

Dr. Hill is involved in interventions and health care delivery research in the areas of management of congestive heart failure and delirium.

Dr. Cook has continued to develop her research skills in the area of falls prevention and fall-related injuries and in 2009, will undertake a part-time PhD program to continue to develop her research skills in the area of falls risk assessment and management in older adults.

Dr Alimoradi has been involved in program evaluation and various aspects of osteoporosis research through the Falls Clinic.

Dr. Lee received funding for his work on medication use in the residential care setting from the Cullen Family through the Tapestry Foundation of PHC. He was also awarded an annual honorarium from the Ralph Fisher Family and Alzheimer Society of BC Endowed Professorship to conduct studies through the UBC Alzheimer Clinic Research Unit and the Center for Brain Health.

### ***Clinical Services***

At both PHC and VA, clinical activities continue to increase. At VGH, ACE units continue to operate at maximum capacity of 69 beds. The Geriatric Consult and Outreach Team was launched in June 2010 at St. Paul's Hospital and is developing interprofessional collaborative practice to achieve patient-centred goals of care, with training opportunities for all health care disciplines. The Division is actively involved in patient assessment and management at the VGH STAT Centre in the newly renovated Centennial Pavilion.

A collaboration between VGH and PHC has extended geriatric outreach network to most of the Community Health Centers within Vancouver Community Health and is working to strengthen the collaboration between primary, community and acute care. Dr. Chris Rauscher continues his work on the Frail Elderly Collaborative project and as a "clinical quality improvement advisor" working throughout BC with the Ministry of Health and Vancouver Coastal Health, including the Transforming Seniors Care Initiative.

Drs. Dian, Kushner-Kow, and Madden are part of the Geriatrics Outreach Teams to Northern BC. They provide specialized Geriatric Medicine consultation services to Northern, rural and remote communities including Queen Charlotte City, Masset, Prince Rupert, Terrace, Kitimat, Smithers, Burns Lake, Vanderhoof, Fraser Lake, McBride, Dawson Creek, Fort St John and Fort Nelson. This unique model of care involves Geriatric Medicine specialists pairing with Geriatric Psychiatrists, visiting

communities on a regular basis and working in tandem with community service providers in those towns. Dr. Alimoradi provides a similar service to Kelowna and Interior Health.

Dr. Wendy Cook and Dr. Alimoradi continue to develop the SPH falls clinic and supported an interdisciplinary team members in a project to evaluate the services under the falls prevention program run through the clinic.

Dr. Lee continues to provide consultation in memory disorder clinics at St. Paul's Hospital and the Alzheimer's and Related Disorders Clinic at UBC Hospital.

## **ADMINISTRATION**

Dr. Janet McElhaney is the Division Head of Geriatric Medicine for UBC, PHC, and VGH; the PHC Physician Program Director for Elder Care Acute Services and the Regional Medical Lead for the Seniors Continuum for Vancouver Coastal Health.

- At VA, Dr. Meneilly is Chair of the Department of Medicine at both VA and UBC.
- Dr. Amanda Hill is the Physician Operations Leader at St. Paul's Hospital.
- Dr. Reva Adler is Medical Director of the VGH STAT Centre.
- Dr. Roger Wong is Associate Medical Director, Medical Services at Vancouver Acute.
- Dr. Ken Madden is Deputy Division Head, Geriatric Medicine, and Medical Manager, ACE units at VGH.
- Dr. Maria Chung is Medical Director, UBC Hospital.

Becky Nagra continues as the Administrative Manager for UBC, VGH and SPH site. Becky has taken on the major responsibility for the educational program, human resources, financial and divisional issues for the Division. In addition, Becky provides support to the division head and division's academic staff and activities.

## **FUTURE DIRECTIONS**

The UBC Division of Geriatric Medicine has launched a strategic planning process engaging Faculty Members across the province. The process seeks to understand how senior friendly care, geriatric outreach, and a focus on transitions between community, hospital and residential care could improve the health of older British Columbians. Building on the work of the VITALiTY team and the COACHNet initiative, the Division will build research and educational capacity to become a provincial and national leader in health care for older adults. We look forward to aligning our goals with UBC's new strategic plan, "Place and Promise".

## **SPECIAL HONOURS AND AWARDS**

- **Dr. Larry Dian, Clinical Associate Professor**  
Donald M. Whitelaw Award for Outstanding Grand Rounds Teaching

## Division Members

### Professor

Dr. Edward Conway  
Dr. Keith Humphries  
Dr. Allan Jones  
Dr. Peter Lansdorp  
Dr. John Schrader

### Clinical Professor

Dr. Penny Ballem  
Dr. Michael Barnett  
Dr. Donna Hogge  
Dr. Stephen Nantel  
Dr. Thomas Nevill  
Dr. John Shepherd  
Dr. Linda Vickers

### Associate Professor

Dr. Agnes Lee  
Dr. Clayton Smith

### Clinical Associate Professor

Dr. Barrett Benny  
Dr. Raewyn Broady  
Dr. Donna Forrest  
Dr. Heather Leitch  
Dr. Charles Li  
Dr. Heather Sutherland  
Dr. Cynthia Toze

### Clinical Assistant Professor

Dr. Yasser Abou Mourad  
Dr. Luke Chen  
Dr. Lynda Foltz  
Dr. Shannon Jackson  
Dr. Chantal Leger  
Dr. Khaled Ramadan  
Dr. Kevin Song  
Dr. Gayatri Sreenivasan  
Dr. Peter Tsang  
Dr. Paul Yenson  
Dr. Leslie Zypchen

### Clinical Instructor

Dr. Hatoun Ezzat  
Dr. Tanya Petraszko

### Associate Member

Dr. Kate Chipperfield  
Dr. Robert Coupland  
Dr. Connie Eaves  
Dr. Xiaoyan Jiang  
Dr. Aly Karsan



**Dr. Michael Barnett**  
Clinical Professor and Head

## DIVISION OVERVIEW

In 2010, the UBC Division of Hematology included 37 staff and 5 associate staff members based at the Vancouver General Hospital (VGH), the Vancouver Cancer Centre (VCC) and the Terry Fox Laboratory (TFL) of the British Columbia Cancer Agency (BCCA), St. Paul's Hospital (SPH) and the University of British Columbia (UBC). The year was characterized by one departure, two changes in leadership, several arrivals, trainee successes and two name changes.

After a highly successful tenure of 7 years as Director of the Leukemia/Bone Marrow Transplant (BMT) Program of BC, Dr. Smith decided to step down and take on a new challenge at the University of Pittsburgh (as Chief of the Leukemia & Stem Cell Transplant Services at the Medical Center and Director of the Hematologic Malignancies Program at the Cancer Institute) in September 2010. We thanked him for his considerable achievements in Vancouver and wished him well in Pittsburgh. On July 1, 2010 Dr. Shepherd assumed the position of Director from Dr. Smith. Dr. Shepherd joined the senior staff of the UBC Division in 1987 and has become a seasoned hematologist, accomplished clinical investigator and astute administrator. We welcomed Dr. Shepherd to his new role as Director of the Leukemia/BMT Program.

Dr. Humphries became the Director of the TFL on July 1, 2010 taking over from Dr. Eaves (associate member of the Division and Vice President Research, BCCA). Dr. Humphries is recognized internationally for his work in the regulation of hematopoietic stem cells. We welcomed Dr. Humphries to his new role and congratulated Dr. Eaves on a job well done. Dr. Chipperfield (Department of Pathology &

Laboratory Medicine), Dr. Jiang (Department of Medical Genetics) and Dr. Karsan (Department of Pathology & Laboratory Medicine) became associate members of the Division. We were delighted to welcome them as their membership will afford mutual benefits from both clinical and research standpoints in the fields of transfusion medicine, myeloproliferative neoplasms and myelodysplastic syndromes, respectively.

Dr. Chen, having completed fellowship training in Clinical Education, joined the General Hematology group at VGH on July 1, 2010. Also at VGH, Dr. Broady switched camps from General Hematology to Leukemia/BMT and her responsibilities in the Apheresis Program (see below) were taken by Dr. Zypchen. At SPH, Dr. Foltz took a 6 month maternity leave during which Dr. Camilla Boldt provided admirable locum coverage.

2010 was a banner year for the graduating Hematology trainees. Having completed residency in June (and later successfully navigated the Royal College examination): Alina Gerrie was awarded entry into the UBC Clinical Investigator Program and, on the basis of this, made a successful application for an American Society of Hematology (ASH) Clinical Research Training Institute scholar award to work in the field of chronic lymphocytic leukemia (under the supervision of Dr. Toze, Dr. Joe Connors and Dr. Tanya Gillan) in Vancouver; Dr. Judith Rodrigo joined the Leukemia/BMT group in Vancouver as a clinical associate; Dr. Natalia Rydz was awarded a Bayer Hemophilia fellowship to work in the field of hemophilia (under the supervision of Dr. David Lillicrap) at Queen's University, Kingston; Dr. Chris Venner was awarded a Sangara Myeloma fellowship to work in the field of myeloma (under the supervision of Dr. Song, Dr. Shepherd and Dr. Jamie Cavenagh) in Vancouver and at St. Bartholomew's Hospital in London.

Finally, the Cell Separator Unit (CSU), under the directorship of Dr. Sreenivasan, changed its designation to the Apheresis Unit as the actual facility of the newly named Apheresis Program of BC. The name was created in order to reflect both the variety of activities and the provincial mandate of this important service. In a similar vein, the Hematology Clinical Trials Unit (HCTU), developed in 2005, became the Hematology Research & Clinical Trials Unit (HRCTU) in order to convey the unit's involvement in areas of research other than clinical trials.

Laboratory research programs at TFL, UBC and Vancouver Coastal Health Research Institute (VCHRI) achieved peer-reviewed operating support of \$3.5 million and clinical research at

VGH and SPH brought in \$1.4 million. There was a total of 53 peer-reviewed publications. Patient care and training remained at the forefront of clinical activities. Trainees in the Division as a whole included 11 Hematology residents, 14 Leukemia/BMT fellows and 6 laboratory post-doctoral fellows.

## TEACHING

### *Undergraduate*

Dr. Sreenivasan served as Week Chair of the Blood & Lymphatics Problem Based Learning (PBL) block (two weeks) for undergraduates. A number of members of the Division participated in the PBL teaching course.

### *Postgraduate*

A total of 67 residents in the Internal Medicine Program took hematology-based electives during the past year. These were one or two month blocks spent on the Hematology Consultation Service at VGH or SPH.

### *Subspecialty Training*

Dr. Tsang served as Director of the Hematology Training Program. Eleven Hematology residents were based at VGH. Rotations included the General Hematology Consultation Service, Leukemia/BMT Service, Blood Transfusion Service, Apheresis Unit, Out-patient Clinics and Hematopathology. Rotations were also taken at SPH, VCC, BC Women's and Children's Hospital. These positions were taken by Drs. Alina Gerrie, Judith Rodrigo, Natalia Rydz and Chris Venner (July 2008 to June 2010); Kim Ambler, Vicky Chan and David Telio (July, 2009); Maha Badawi, Gloria Lim, Erica Peterson and Ursula Skalska (July, 2010). Dr. Luke Chen completed a 2 year fellowship in Clinical Education at UBC (July 2008-June 2010).

Dr. Song served as Director of the Leukemia/BMT Training Program. The Program had fourteen positions available for clinical training in the management of patients with hematological malignancies and those undergoing hematopoietic stem cell transplantation. These positions were taken by Drs. Adisak Tantiworawit (June, 2008); Lea Bernard (January, 2009); Girish Ravindranathan (June, 2009); Zayed Al-Zahrani and Rahul Bhargava (July, 2009); Manoj Unni and Stefan Woehrer (August, 2009); Shishir Seth (September, 2009); Chandran Nair (October, 2009); Sathish Gopalakrishnan (January, 2010); Larry Bacon, Shyam Rathi, Chris Venner (July, 2010) and Kannadit Prayongratana (September, 2010).

### *Postdoctoral Training*

Division Members conducting bench research at the TFL and UBC trained 6 postdoctoral fellows, 5 of whom were PhDs.

### *Doctoral Training*

The TFL accommodated 4 graduate students as well as 5 research and co-op students.

## CONTINUING MEDICAL EDUCATION

Members of the Division organized an exemplary series of meetings in 2010: Canadian Blood and Marrow Transplant Group Biennial Conference (Drs. Humphries and Nevill) in April; Conference of the Canadian Society of Transfusion Medicine (Drs. Chipperfield and Petraszko) in May; Hemophilia Symposium (Drs. Jackson and Vickars) in June; Canadian Conference on Myelodysplastic Syndromes (Drs. Hogge, Karsan, Leitch and Nevill) in September; Earl Davie Symposium on Hemostasis and Thrombosis (Dr. Conway) in November; Update on Myeloid Malignancies (Dr. Forrest) in November.

## RESEARCH

Clinical research involved hematological malignancies, hematopoietic stem cell transplantation, apheresis, blood product support, thrombosis, bleeding disorders, iron overload and HIV/AIDS. As well as in-house studies, significant contributions were made to national and international trials. A Thrombosis Research Program, including collaboration with investigators at the Centre for Blood Research at UBC, is being developed by Dr. Lee. A similar undertaking for the development of an Inherited Bleeding Disorder Research Program is being pursued by Drs. Vickars and Jackson.

From early 2005, a major initiative has been the development of the Hematology Research and Clinical Trials Unit (HRCTU) (made possible by substantial initial and ongoing support from donors). The goals of the HRCTU are: to produce and evaluate new treatments for blood diseases that are more effective and less toxic; to provide British Columbians with access to new treatments much earlier that would otherwise be possible; to improve quality of life for patients with blood diseases. The HRCTU was awarded a grant from the Ministry of Health Services, BC in late 2008. In parallel with the HRCTU, a Hematology Cell Bank (HCB) was developed in 2005 (Dr. Smith and Coordinator Anna Koochin). The HCB collects and stores specimens of blood and marrow from patients and donors for research. In 2006, the HRCTU became the study centre for a trial of the Canadian Blood and Marrow Transplant Group (Dr. Toze, Dr. Smith and Coordinator Holly Kerr). The trial (funded by the National Institute of Health, USA) recruited transplant groups in Australia, New Zealand, Saudi Arabia and the USA in 2008. Important research related to the value of iron chelation therapy in patients with myelodysplasia and myelofibrosis (Drs. Leitch and Vickars) continues and has gained international recognition.

Laboratory research based at the TFL (Drs. Hogge, Humphries, Lansdorp and Smith) involved the regulation of normal and malignant hematopoietic cell growth and differentiation with special emphasis on the myeloid leukemias, Hox genes, telomeres and transplantation. Cytokines, antibodies and vaccines were the major themes at the Biomedical Research Centre, UBC (Dr. Schrader). The interplay between the coagulation and the complement systems was the focus at the Centre for Blood Research, UBC (Dr. Conway). Collaborative research in graft versus host disease and graft tolerance was conducted at the Immunity and Infection Research Centre, VCHRI (Dr. Broady).

## CLINICAL SERVICES

The Leukemia/BMT group at VGH/VCC had 14 members: Drs. Smith/Shepherd (Director), Hogge, Barnett, Nantel, Nevill, Sutherland, Toze, Forrest, Song, Abou Mourad, Power, Broady, and Narayanan. The group provided comprehensive inpatient (T15 Ward) and outpatient (Krall Centre, Centennial Pavilion) care to patients with hematological malignancies and those undergoing hematopoietic stem cell transplantation. In 2008, new Marrow Failure and Graft Versus Host Disease clinics (weekly) opened as well as Outreach clinics (monthly) in Abbotsford, Prince George and Victoria (the Kelowna clinic having opened in 2006).

The General Hematology group at VGH had 9 members: Drs. Tsang (Head), Benny, Sreenivasan, Li, Broady, Zypchen, Lee, Yenson and Chen. The group was responsible for the Hematology Consultation Service at VGH. The number of consultations has increased steadily over the past 5 years. In addition, the patient population includes those with complex medical and surgical problems. Each member also had outpatient clinics. In 2009, a new Thrombosis clinic (daily, 5 days per week) was opened. Three of the group, Drs. Tsang, Li and Zypchen provided a consultation service and call coverage for the B.C. Women's Hospital (BCWH). They held a weekly outpatient Hematology clinic at BCWH which included teaching of trainees from Medicine, Hematology and Obstetrics. Five of the group, Drs. Sreenivasan (Director), Benny, Broady/Zypchen and Yenson had a cross appointment with the Apheresis Unit (under a Clinical Services Contract). A significant challenge for the General Hematology group at VGH relates to remuneration and resources. Payment for clinical work is on a fee for service basis. From a number of perspectives, an alternate funding plan would be more appropriate.

The Division of Hematology at SPH had 8 clinicians: Drs. Vickers, Leitch, Leger, Ramadan, Foltz/Boldt, Jackson and Ezzat. The group was responsible for the care of patients with a complete spectrum of hematological disease both benign and malignant, including acute leukemia and aggressive lymphoma (some HIV-associated) and those conditions requiring treatment with apheresis. The workload was demanding. Primary and consultative care for inpatients at SPH was provided on a rotational (weekly) basis. Daycare activity was carried out on the Medical Short Stay Unit (MSSU) at SPH. Outpatient clinics were conducted in a facility across from SPH on Burrard Street. Drs. Vickers and Jackson held a Hemophilia clinic weekly and Drs. Vickers and Ezzat a Hemoglobinopathy clinic twice a month. Drs. Leitch and Leger ran a monthly HIV/AIDS Hematology clinic. The group received remuneration from a Clinical Services Contract as well as sessional funds for Hemophilia, Hemoglobinopathy and Hemosiderosis clinics. By far the major problem for the group at SPH is, with the exception of the Hemophilia, Hemoglobinopathy and Hemosiderosis Programs, lack of infrastructure support. Funding for such positions as a clinical associate, research nurse and data coordinator would result in significant benefit.

## ADMINISTRATION

Drs. Smith/Shepherd (Director of the Leukemia/BMT Program at VGH and VCC), Dr. Nantel (Medical Director of the Clinical Practice Unit (CPU) for Hematology/BMT at VGH), Dr. Tsang (Head of General Hematology at VGH and Director of the Hematology Training Program), Dr. Sreenivasan (Director of the Apheresis Program at VGH), Dr. Vickers (Medical Director of the Adult Hemophilia, Hemosiderosis and Hemoglobinopathy Programs at SPH) and Dr. Barnett (Head of Hematology at UBC, VGH and SPH) continued in leadership positions.

At VGH, the activities of the Division were overseen by a Hematology Executive made up of Drs. Barnett, Smith/Shepherd and Nantel. Dr. Nantel was chairman of the Hematology/BMT CPU committee whose membership was as follows: Dr. Barnett, Dr. Smith/Shepherd, Dr. Tsang, Dr. Sreenivasan, Ms. K. Hermkens (Administrative Manager, Hematology), Ms. N. Edge (Patient Services Manager, Hematology/BMT), Ms. L. Leith (Operations Director, Medicine) and Mr. J. Nickel/Mr. M. Opeka (Finance Manager). The committee met monthly to review issues arising and to propose new initiatives.

At SPH, interactions with the administrative group were on an ad hoc basis. Dr. Paul Man (Head of Medicine), Dr. Jeremy Etherington/Dr. Ron Carere (Vice President, Medical Affairs) and Dr. Yvonne Lefebvre (Vice President, Research and Academic Affairs) were most supportive of the group. Mr. Ken Harman (Leader, Medical Affairs) and Ms. Salima Harji (Leader, Medical Affairs) worked diligently on the group's behalf. Ms Anita Skihar (Operations Leader, Ambulatory Care Medical Clinics) was a helpful resource in regard to issues related to hematological activity on the MSSU.

## FUTURE DIRECTIONS

The infusion of new blood in the form of key recruitments over the last 3 years has allowed the Division to create a broad and strong platform from which to pursue future directions. It is intended that the major initiatives over the next 5 years will be to:

- Sustain the Hematology Research and Clinical Trials Unit
- Enhance translational research in hematological malignancy and stem cell transplantation
- Develop a comprehensive Thrombosis Program
- Promote collaborations with the Centre for Blood Research
- Create fellowships in areas other than Leukemia/BMT
- Develop comprehensive Hemophilia and Hemoglobinopathy Programs
- Determine the provincial need for Hematology Services

## Division Members

### Professor

Dr. Yossef Av-Gay  
Dr. William Bowie  
Dr. Robert Brunham  
Dr. Anthony Chow (*Emeritus*)  
Dr. Neil Reiner  
Dr. Grant Stiver

### Clinical Professor

Dr. David Burge  
Dr. Robert Chan (*Emeritus*)  
Dr. Peter Phillips  
Dr. Michael Rekart

### Associate Professor

Dr. Zakaria Hmama  
Dr. Theodore Steiner  
Dr. Mark Tyndall

### Clinical Associate Professor

Dr. Valentina Montessori  
Dr. Natasha Press

### Assistant Professor

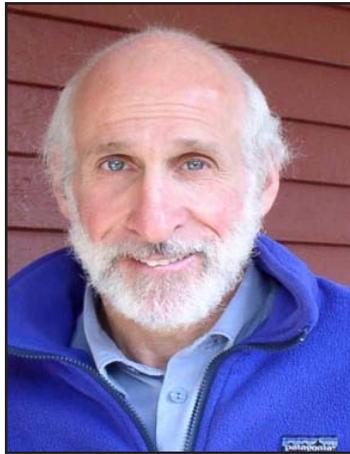
Dr. Devki Nandan

### Clinical Assistant Professor

Dr. Richard Lester  
Dr. Neora Pick  
Dr. Robert Reynolds

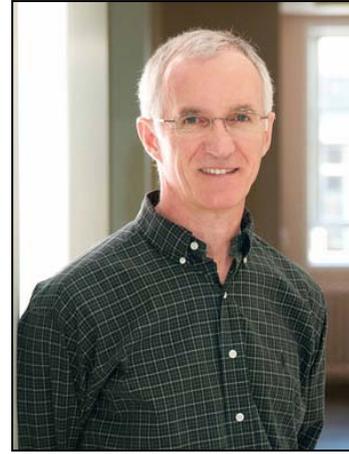
### Associate Member

Dr. Yasmin Arikian  
Dr. Wayne Ghesquiere  
Dr. Jennifer Grant  
Dr. Jan Hajek  
Dr. Mark Hull  
Dr. Sangita Malhotra  
Dr. Janet McElhaney  
Dr. Robert McMaster  
Dr. Yazdan Mirzanejad  
Dr. Deborah Money  
Dr. David Patrick  
Dr. Laurenna Peters  
Dr. Steven Reynolds



**Dr. Neil Reiner**  
**Professor and Head**

*April 1, 1996 - September 30, 2010*



**Dr. Peter Phillips**  
**Clinical Professor and Head**

*October 1, 2010 - present*

## DIVISION OVERVIEW

The Infectious Diseases active faculty in 2010 included 17 clinicians, clinical scientists, full time research faculty, another 13 associate members, and 2 emeritus faculty.

Activities have been focused at the three teaching hospitals located at Vancouver General (VGH), St. Paul's (SPH) and BC Children's & Women's Hospitals, and at the BC Centre for Disease Control. In October, Dr Neil Reiner completed the final month of 16 years as Head of the Division of Infectious Diseases. Dr Peter Phillips, who has been with the Division of Infectious Diseases since 1986, replaced him as the new Head of the Division. Dr. Ted Steiner has been appointed as the Associate Head and Dr. Reiner as the Director of Research for the Division.

Among the five new associate members who joined the Division are Dr. Jan Hajek and Dr. Laurenna Peters, both of whom provide clinical services, teaching, and administrative support to the Tuberculosis Control Program at the BC Centre for Disease Control. Dr Hajek will be taking a one year leave of absence to develop a multidrug-resistant TB control program in Uzbekistan with Medecins Sans Frontieres. Drs. Mark Hull, Steven Reynolds and Sangita Malhotra provide clinical services at St. Paul's Hospital, Vancouver General Hospital ICU and Royal Columbian Hospital respectively.

## TEACHING

### *Undergraduate*

The Division's significant commitment to medical undergraduate teaching includes the Host Defense Infection (HDI) Block in the Problem Based Learning course, which has been thoroughly revised this past year under the direction of Dr. David Patrick and Dr Ashley Roberts. Dr Bill Bowie is the Undergraduate Education Supervisor for the Division of Infectious Diseases. Basic science training in the Immunity and Infection research laboratories at VGH also continues to attract outstanding students. A number of faculty teach undergraduate microbiology to Science students as well as supervising co-op and directed studies students in the labs.

### *Postgraduate*

Residency Training Program Director, Dr Natasha Press, along with Medical Education Coordinator, Kirstie Lang coordinated inpatient and outpatient training for a steadily increasing number (58) of residents from a range of UBC medical and surgical programs at St. Paul's and Vancouver General Hospitals as well as trainees from other Canadian medical schools. Training opportunities include both inpatient and outpatient core rotations and electives in general Infectious Diseases and also HIV/AIDS (Immu

odeficiency Clinic and the St. Paul's Hospital AIDS ward). The Subspecialty Training Program continues to attract exceptionally qualified and talented applicants who successfully complete the two year training program. This year the trainees included 6 Fellows from Infectious Diseases and 3 from Medical Microbiology. Due to the expansion of the medical school and limited space and teaching resources, fewer trainees for elective and clinical fellowship training from other Canadian and international programs are being accepted.

### **Graduate Students**

Division members at various locations supervised masters and PhD science students who are primarily affiliated with the Experimental Medicine Program, Health Care and Epidemiology, Laboratory Medicine and Microbiology and Immunology, and Medical Genetics.

## **RESEARCH**

Research programs being conducted at all four principal sites of the Division are diverse and broad-based as detailed below. The Division's research programs are highly productive and innovative, resulting in grant funding totaling \$ 4 M during 2010.

### **Host defense and pathogenesis**

The Division maintains an active basic research program in molecular microbial pathogenesis and host defense at VGH. Pathogens under study include *M. tuberculosis*, *Leishmania*, *E. coli*, *Staphylococci*, *Streptococci* and *Chlamydia*. In addition to addressing mechanisms of pathogenesis, ongoing research is concerned with both innate and acquired immune responses to infection including vaccine development. The Division's research program has an important bioinformatics focus with additional state-of-the art expertise in molecular modeling and computer-aided drug design.

### **HIV/AIDS Research**

The AIDS Research Program conducted through the BC Centre for Excellence (BC CFE) in HIV/AIDS, involves faculty members at the St. Paul's site. It is nationally and internationally recognized for work in all facets of HIV, including behavioral studies, epidemiology, clinical trials and basic sciences. The epidemiology group has been actively developing and maintaining long-term analyses of the drug treatment program in Vancouver, including harm reduction strategies to prevent HIV transmission. Recent clinical research has been launched into HIV co-infections with hepatitis C and human papillomaviruses.

### **Epidemiological Research**

The wide ranging research of ID Faculty at the UBC CDC includes STD prevention, control and service delivery; control of emerging infectious diseases; assessment of the human papillomavirus infection (HPV); reduction of antimicrobial misuse as linked to the emergence of resistant organisms; detection and description of unique outbreaks such as *Cryptococcus gattii*

disease; and early interruption of transmission of diseases from infected food products.

### **Clinical Research**

There are a number of both industry sponsored and investigator-initiated studies that division members are involved with that recruit volunteers for new anti-infective agents. Recent observational studies have also included immune reconstitution inflammatory syndromes.

## **CLINICAL SERVICES**

The Division maintains two very active inpatient consultation services at SPH and at VGH. The trend of increasing complexity, greater numbers of consultations, (7% growth per year at VGH), and the ongoing effect of antibiotic resistance, make the ID clinical programs dynamic and challenging to administer. In addition to general ID cases, there is increasing demand to treat infections in reconstructive orthopedics including spine, neurosurgery, bone marrow and solid organ transplant, and tuberculosis. The SPH group has a special interest and competency with the treatment of infections related to cardiovascular disease and interventions, HIV/AIDS, injection drug use, and infections in marginalized populations. The AIDS ward based at SPH is a unique Canadian facility (since 1997) which provides care for 20 inpatients with various HIV-related diseases.

## **ADMINISTRATION**

Neil Reiner is the Interim Director of the Immunity and Infection Research Centre, Vancouver Coastal Health Research Institute (VCHRI)

## **SPECIAL HONOURS AND AWARDS**

**Dr. Robert Brunham** was the recipient of the Order of British Columbia (October 2010)

## Division Members

### Professor

Dr. Charles Blanke

### Clinical Professor

Dr. Joseph Connors  
 Dr. Karen Gelmon  
 Dr. Paul Hoskins  
 Dr. Richard Klasa  
 Dr. Nevin Murray  
 Dr. Susan O'Reilly  
 Dr. Amil Shah  
 Dr. Ken Swenerton  
 Dr. Kenneth Wilson

### Associate Professor

Dr. Kim Chi  
 Dr. Sharlene Gill  
 Dr. Kerry Savage

### Clinical Associate Professor

Dr. Christopher Coppin  
 Dr. Christian Kollmannsberger  
 Dr. Barb Melosky  
 Dr. Kevin Murphy  
 Dr. Laurie Sehn  
 Dr. Tamara Shenkier

### Assistant Professor

Dr. Winson Cheung  
 Dr. Stephen Chia

### Clinical Assistant Professor

Dr. Sharon Allan  
 Dr. Abdul Al-Tourah  
 Dr. Helen Anderson  
 Dr. Vanessa Bernstein  
 Dr. Thuan Do  
 Dr. Greg Dueck  
 Dr. Susan Ellard  
 Dr. Karamjit Gill  
 Dr. Jason Hart  
 Dr. Cheryl Ho  
 Dr. Hagen Kennecke  
 Dr. Kong Khoo  
 Dr. Meg Knowling  
 Dr. Janessa Laskin  
 Dr. Lyly Le  
 Dr. Ursula Lee  
 Dr. Chris Lee  
 Dr. Howard Lim  
 Dr. Caroline Lohrisch  
 Dr. Nicol Macpherson  
 Dr. Lee Ann Martin  
 Dr. Jorg Michels  
 Dr. R. Michael C. Noble  
 Dr. Gary Pansegrau  
 Dr. Ravi Sawhney  
 Dr. David Stuart  
 Dr. Sophie Sun  
 Dr. Marianne Taylor  
 Dr. Brian Thiessen  
 Dr. Anna Tinker  
 Dr. Dorothy Uhlman  
 Dr. Robert Winston  
 Dr. Muhammad Zulfikar

### Clinical Instructor

Dr. Daygen Finch  
 Dr. Catherine Fitzgerald  
 Dr. Heidi Martins  
 Dr. Sanjay Rao  
 Dr. Sheila Souliere  
 Dr. Judith Sutherland  
 Dr. Tamana Walia



**Dr. Charles Blanke**  
 Professor and Head

## DIVISION OVERVIEW

The Division of Medical Oncology, UBC Department of Medicine, comprises staff at the British Columbia Cancer Agency, including the Vancouver, Fraser Valley, Abbotsford, and Vancouver Island Cancer Centres, and the Centres for the North and Southern Interior. The sixth regional centre (in the North) formally opens in Prince George in 2012. In addition to the clinical division, there is a laboratory section (Experimental Therapeutics), comprising senior scientists and clinical investigators who have appointments at the Vancouver Cancer Center, Department of Medical Oncology, and which is located in the British Columbia Cancer Research Center, Vancouver. Medical Oncology clinical services are organized as a Provincial Systemic Therapy Program reaching across the Province. Vancouver Cancer Centre has its own inpatient unit, while also utilizing beds at the Vancouver General Hospital. The regional centres are affiliated with a variety of local hospitals.

## TEACHING

Undergraduate teaching occurs in the Vancouver, Victoria, Fraser Valley, and Kelowna Cancer centres. Postgraduate teaching occurs primarily at the Vancouver Cancer Centre, with additional elective opportunities available at all five active cancer centres. UBC clinical faculty at all centres participate in undergraduate and/or resident teaching.

The Medical Oncology Undergraduate Training Committee, led by Drs. Howard Lim and Winson Cheung, introduces an introduction to neoplasia via the Principles of Human Biology course, part of the undergraduate MD program. It also coordinates clinical skills teaching, including the history-physical examination sessions in Internal Medicine. Members of the staff conduct the Academic Half-Day sessions in Medical Oncology during the Internal Medicine clerkship in third year and participate in scheduled bedside teaching. An elective in Medical Oncology is available to UBC and visiting medical students. Additionally, since the opening of the Island Medical Program, most 3rd year medical students have spent part of their internal medicine rotation learning medical oncology at the Vancouver Island Cancer Centre.

Dr. Tamara Shenkier is the Postgraduate Training Program Director. With the help of the Residency Training Program Committee, she plans and supervises the two year subspecialty-training program in Medical Oncology. This program is based at the Vancouver Cancer Centre, with opportunities for core training available at other regional centres by request. There are five blocks of elective time available in the second year of training which can be applied to community oncology practice, clinical or translational research or other relevant academic pursuits nationally or internationally. Residents are expected to conduct clinical research and have been quite successful in publishing and presenting at national and international meetings. Over half of the residents compete successfully for post-residency academic subspecialty fellowships. The program, now one of the largest such in Canada, enrolls four to five residents per year and is fully accredited by the Royal College of Physicians and Surgeons of Canada. The Vancouver Cancer Centre also accepts two to five national and international Fellows per year for further subspecialty training and research.

The Medical Oncology Residency Training Program also offers four and eight week electives for postgraduate trainees from UBC and other Canadian universities. In this academic year Medical Oncology accommodated approximately 50 internal medicine residents; 40 from UBC and eight and from other universities. In addition some 15-20 residents from other specialty disciplines spend elective periods at the Vancouver Cancer Centre. The Fraser Valley Cancer Centre

trains an additional four to eight postgraduate residents per academic year. Opportunities are available for electives at the other regional cancer centres as well.

Medical Oncology faculty are very committed to active participation in community outreach/education programs and to the education of health care professionals around British Columbia. Many regularly lecture to family physicians, community oncologists, cancer nurses and pharmacists, both locally and at the various community oncology centres throughout BC. Faculty have organized and conducted multiple oncology conferences, including the Western Canada Lung Cancer conference, the West Coast Colorectal Cancer Conference, and a recent two day Island Oncology Conference. The BCCA Annual Cancer Conference is highly regarded by medical personnel from across the Province.

Members have become quite active in the American Society of Clinical Oncology, participating on its Education Committee and being invited to speak at the annual program and subspecialty meetings. Others are active in educational efforts of the American Society of Hematology and the American Association for Cancer Research.

## RESEARCH

Conducting innovative research is integral to the Medical Oncology mission. The B.C. Cancer Research Center has been quite instrumental in furthering this effort. It encompasses a wide range of laboratory research programs including molecular oncology, hematologic cellular biology and leukemias, and core programs in genomic analysis, gene expression profiling, novel imaging and tumor modeling and population based epidemiology and biostatistics. The B.C. Cancer Agency Genome Sciences Centre continues to forge collaborative projects with several tumor groups within Medical Oncology, including breast cancer, gastrointestinal cancers, and lymphoproliferative neoplasms.

Members of the Division are involved in a wide variety of phase I, II, III and IV clinical trials. These include the development of new anti-cancer drugs, the evaluation of new schedules and combinations of drugs in the phase II and III settings, and additional design of and participation in multi-institutional phase III studies and post-marketing phase IV trials, evaluating effective new treatments on specific categories of malignancy. Significant numbers have published and presented in first-tier journals and international oncology meetings. The Vancouver Island PREDICT (Personal Response Determinants in Cancer Therapy) project remains a unique example of one such effort. Newly referred cancer patients who have not received chemotherapy or radiotherapy in the past 5 years are essentially all approached to donate a sample (10 cc) of blood to be stored for future research projects. This resource has now been used for a wide-variety of REB-approved research initiated in B.C and across Canada.

Medical Oncology also has an extensive population-based research program, primarily in the areas of breast, GI and gynecological malignancies and lymphoma outcomes. Recent initiatives to collect archival tumor tissue samples and correlating biomarker status with population based outcomes and have led to highly successful research collaborations and publications.

The next few years pose exciting challenges and opportunities. Medical oncologists and hematologists have increasingly been using biologic, targeted therapies. University faculty have made significant advances toward achieving the age of truly individualized therapy for cancer.

## CLINICAL SERVICES AND ADMINISTRATION

Medical Oncology is chaired by Charles D. Blanke, M.D., F.A.C.P., F.R.C.P.C. Each centre also has a regional leader for systemic therapy. The five B.C. Cancer Centres now provide medical oncology consultations for almost 12,000 new patients annually, with more than 81,000 ambulatory care visits to these institutions. The Provincial Systemic Therapy Program, headed by Dr. Charles Blanke and aided by Dr. Susan O'Reilly, manages the \$174,000,000 provincial oncology drug budget, which supports the care of patients both within BCCA centres and in community hospitals. Medical Oncology is poised to further develop a program of "world-class care closer to home" utilizing modern telehealth equipment.

## FUTURE DIRECTIONS

The major academic goal of the Division is to continue to build upon translational and population research successes, utilizing the excellent basic science capabilities at the British Columbia Research Centre, input from the Genome Science Centre, efforts of the academic medical oncologists, and the participation of our diverse patient population.

British Columbia has again recently demonstrated top-ranked cancer survival statistics in Canada for a number of solid tumours, and Medical Oncology plans to continue to carry out outstanding quality province-wide treatment programs. We strive for continuous improvement in both the research and service arenas.

## Division Members

### Professor

Dr. Eugene C. Cameron  
 Dr. Paul Keown  
 Dr. John Price (*Emeritus*)  
 Dr. Gary Quamme (*Emeritus*)  
 Dr. Roger Sutton (*Emeritus*)  
 Dr. Norman Wong (*Emeritus*)

### Clinical Professor

Dr. Clifford Chan-Yan (*Emeritus*)  
 Dr. David Landsberg  
 Dr. Adeera Levin  
 Dr. Angus Rae (*Emeritus*)  
 Dr. Jean Shapiro  
 Dr. Paul Taylor  
 Dr. Ron Werb  
 Dr. Kit Yeung

### Associate Professor

Dr. John Gill

### Clinical Associate Professor

Dr. Victor Chan (*Emeritus*)  
 Dr. Michael Copland  
 Dr. Gerald Da Roza  
 Dr. John Duncan

### Assistant Professor

Dr. Jagbir Gill

### Clinical Assistant Professor

Dr. Monica Beaulieu  
 Dr. Aaron Cass  
 Dr. Anthony Chiu  
 Dr. Linda De Luca  
 Dr. Abeed Jamal  
 Dr. Olwyn Johnston  
 Dr. Beverly Jung  
 Dr. Mohamud Karim  
 Dr. Mercedes Kiaii  
 Dr. Peter Neufeld  
 Dr. Suneet Singh  
 Dr. Nadia Zalunardo

### Associate Member

Dr. Marlyce Friesen  
 Dr. Kevin Horgan  
 Dr. George Lam  
 Dr. Daniel Schwartz



**Dr. David Landsberg**  
**Clinical Professor and Acting Head**

## DIVISION OVERVIEW

The Division of Nephrology includes 21 current members and 7 emeritus members based at two principal sites: St. Paul's Hospital and Vancouver General Hospital, which provide provincial leadership in research, education, and clinical care within the field of renal medicine.

The Division currently has 9 associate members, representing the Fraser and Vancouver Island Health authorities, as a result of the expanded presence of the distributed Medical Program of the Faculty of Medicine across BC.

The Division has a strong clinical base and provides integrated and decentralized nephrology care throughout Vancouver Coastal Health, including Richmond, North Vancouver and coastal areas, and even as far north as the Yukon Territory, with a strong working collaboration with Fraser Health. The Division has an important role in the UBC undergraduate medical curriculum, has a mature nephrology postgraduate training program, and participates actively in the Experimental Medicine and Clinical Investigator programs of the Department of Medicine. Research activities encompass both laboratory and clinical sciences, and combine genetic and molecular research, pharmacology and therapeutics, epidemiology and clinical trials, and population health and outcomes/economic investigations in renal disease and transplantation. Members of the Division assume leadership roles in the advancement of nephrology at provincial, national and international levels through their positions in the BC Provincial

Renal Agency, BC Transplant, the Vancouver Coastal Health Regional Renal Program, the Kidney Foundation of Canada, the Canadian and International Societies of Nephrology, the Canadian Society of Transplantation, The Transplantation Society (international) and US National Kidney Foundation.

## TEACHING

The UBC Division of Nephrology is a key component of the tertiary education program for medicine and related health sciences for the University of British Columbia. Through its active undergraduate, graduate, post-graduate and continuing medical education programs, the Division is responsible for the training of medical students, interns, residents, sub-specialty residents in nephrology (SSRNs), rotating trainees in general medicine, anaesthesia and other relevant disciplines, graduate and doctoral students, and clinical and research fellows. These programs attract trainees from across Canada, and from Australia, Europe, Asia and the Middle East. The primary sites for undergraduate and graduate training are at VGH and SPH/Providence Healthcare with elective opportunities available in Fraser Health. Funding for the educational programs of the Division is provided by UBC, through the BCPRA, and from partnership contributions through the Division of Nephrology. Education in pharmacy and allied health disciplines occurs in the same sites under the auspices of UBC and related professional bodies. In 2010, Divisional program directors included Dr. Suneet Singh (Undergraduate Programs), Dr. Peter Neufeld (Postgraduate Programs), Dr. Adeera Levin (Continuing Medical Education), and Dr. John Gill (Transplant Fellowship Program).

### *Undergraduate education*

The Division of Nephrology has contributed significantly to implementing the medical school's expanded and distributed curriculum in 2010 and is actively involved in all areas of education throughout the undergraduate program. Dr. Suneet Singh is the Director of Undergraduate Education for the Division of Nephrology, supported by Drs. Copland, Neufeld, Levin, Jamal and other members of the Division. Dr. Singh and Dr. Abeed Jamal coordinate medical student rotations through Nephrology at the VGH and SPH sites respectively, and Dr. Singh and Dr. Neufeld

each organize one week of the 3 weeks of nephrology teaching in the Foundations of Medicine (FMED) course for undergraduate medical students. Dr. Jamal and the administration staff at both sites serve as the student contact for electives and selectives. These rotations receive excellent evaluations and many students return as residents.

### ***Postgraduate education***

Dr. Peter Neufeld is the Director of the Postgraduate Education Program, which is widely recognized for the excellence of its clinical training. This highly-structured program encompasses the broad range of basic and clinical renal sciences with formal educational sessions and weekly resident and fellow's rounds. The Program had 3 second-year and 4 first-year trainees enrolled in the core nephrology training as of July 1, and has an outstanding record of successful Royal College examination results. Elective opportunities are provided for subspecialty residents to pursue training in particular aspects of renal medicine, including histopathology, glomerular diseases, community nephrology, dialysis or transplantation, and other components according to their needs and interests. Residents and fellows are encouraged to be active in clinical research throughout their core years, with submissions to and presentations at meetings of the Canadian and American Societies of Nephrology, the American Society of Transplantation, the Canadian Transplant Society, and The Transplantation Society (international).

### ***Fellowship Education***

The Division has an active fellowship education program. There is a one year Transplant Nephrology Clinical Fellowship which is accredited by the AST/ASN under the direction of Dr. John Gill. In addition there is a transplant research program also supervised by Dr. Gill. This training may be combined with formal graduate course work leading to Masters or Doctoral degrees in Experimental Medicine, Health Care and Epidemiology or related disciplines through the Faculty of Graduate Studies. In 2010 there was one clinical and two research transplant fellows. In 2010 there were two hemodialysis fellows and one peritoneal dialysis fellow.

### ***Continuing Medical Education***

Members of the Division participate actively in Continuing Medical Education activities at the local, provincial, national and international levels, and in so doing bring an important measure of prestige to the Department and University. UBC Division of Nephrology holds formal rounds alternate weeks, with distinguished speakers invited from throughout North America and Europe. Distinguished Visiting Professors also visit the Division on a frequent basis to present individual seminars or conferences and interact with the members, trainees and staff during their visit. Division members maintained active speaking schedules in national and international meetings, presenting both reviews of key topics and original research in Nephrology and Transplantation.

## **RESEARCH**

The Division has a strong and internationally-recognized translational research program in both renal disease and transplantation. Members of the Division received over \$2 million in research support in 2010, including grants from Genome Canada, Networks of Centres of Excellence, the CIHR, the MSFHR and other peer-review agencies, as well as unrestricted industry supported grants, and conventional industry supported trials. Members of the Division generated more than 32 scientific articles in 2010.

The UBC Division of Nephrology research program is working to: (a) optimize the ongoing academic activities of current members by fostering effective collaboration, (b) ensure effective mentoring for new recruits to maximize their opportunities for academic success and (c) provide formal graduate and post-graduate scientific training for residents and fellows in Medicine, Nephrology and other disciplines, and for students from the Experimental Medicine and Clinical Investigator programs.

The Renal Sciences Program integrates members from the VGH and SPH / Providence Health sites to ensure full participation and collaboration, and to ensure appropriate academic space and resources for the proposed research at both principal hospital sites. The program is funded from multiple sources including peer review agencies, private research contributions, corporate partnerships and the creation of a strong industrial-academic interface. The Division's clinical research activities also include collaborations with research staff at the BC Provincial Renal agency and the iCapture Centre at St. Paul's Hospital.

The Divisions research program is supported by industry and peer-reviewed agency support. Our Divisional research unit at St. Paul's Hospital is situated in the Comox building and is located in the Diamond Center at VGH. Staff includes a Research Manager, Ms. Katy Vela based at St. Paul's and Mr. Daniel Rogers at VGH. The Division is fortunate to have a number of highly-qualified Research Coordinators including Lina Sioson, Mila Tang, Nancy Ferguson, and Matt Paquette (all in CKD/Dialysis research), Ann Chala, Elizabeth Hendren and Patrick Altejos (transplantation research). Caren Rose who is a research biostatistician and part of the renal transplant research group enrolled in a PhD program at UBC and was awarded a KRESCENT scholarship in 2010. She was joined in 2010 by James Dong a second biostatistician who supports the transplant research group. Sandra Matzek continued to offer administrative support to the SPH research team in 2010.

Divisional members are actively involved in two major streams of research; Laboratory Sciences and Clinical Sciences:

### ***Clinical Sciences***

#### **General Nephrology / Chronic Kidney Disease (CKD)**

**Dr. Levin's** research encompasses the broad range of epidemiology, outcomes, and health policy in chronic kidney

disease. Particular interests include the impact of anemia on renal co-morbidity, analysis of cardiovascular disease risk in patients with impaired renal function, strategies for and benefits of co-ordinated care for chronic kidney disease, the role of vitamin D in cardiovascular health and clinical outcomes, measurement of kidney function, and societal implications of renal disease burden.

Dr. Levin leads an active clinical training program for researchers in clinical epidemiology, translational physiology and health outcomes, which numerous collaborations with international and national groups: currently she is co-supervising a Clinical Investigator Program (CIP) research fellow originally from UBC, currently at U of Toronto, in addition to supervising residents and fellows locally. In addition, she continues to be involved in active research projects, the largest of which is CANPREDDICT is a large (\$5 million) study which aims to improve our understanding of CKD progression and CVD progression in a Canadian cohort of 2500 patients, which has completed enrolment and 1 year of follow up.. The observational cohort study collects blood samples and clinical and demographic data on these patients over a 2 year period, and seeks to characterize the population with specific attention to biomarker profiles of vascular health, inflammation, ischemic heart disease and heart failure. This grant is investigator-initiated and supported by an unrestricted industry grant, and has spawned successfully peer review funded sub studies and 6 abstracts to date. A CIHR grant extension and enhancement has been submitted as well. She was the Canadian principle Investigator in the largest ever nephrology trial SHARP ( Study of Heart and Renal Protection), which concluded and was presented in numerous international venues over the last quarter of 2010. She has successfully obtained in 2010, a research grant examining the role of vitamin D in vascular health of patients with CKD.

She is author of over 200 publications in peer reviewed journals, and continues to actively pursue original research grants and subsequent publications. Multiple additional collaborations both nationally and internationally for education, research and administrative organization have been ongoing.

**Dr. Chiu** is principal investigator on a number of proteinuria studies.

**Dr. Beaulieu** has a keen interest in health outcomes and system redesign issues, especially as related to CKD care. She has pioneered the Integrated Care Clinic at SPH as is evaluating this innovative in terms of economics and health outcomes. She is the provincial lead for vascular access evaluation and is conducting outcome analysis in this area.

**Dr. Yeung** was a co-investigator with the continent-wide EVOLVE study, looking at acute kidney injury following cardiac bypass surgery.

### **Dialysis**

**Drs. Taylor and Singh** are involved in national and international studies in peritoneal dialysis - namely, the assessment of mineral metabolism abnormalities of in PD patients and evaluation of outcomes of bedside PD catheter insertion. Plans for integrating additional physiological and health outcomes studies are being developed. In 2009 they jointly supervised one international clinical PD fellow from India.

**Dr. Copland**, as director of the provincial Home Hemodialysis program, has developed a program of enquiry focusing on health outcomes in HHD as well as exploration of the utility of specific biomarkers in HHD patients. In collaboration with colleagues across the country, he has developed CANSLEEP, a multi-centre national consortium, looks at intensive hemodialysis modalities. In 2009, he continued involvement in a large NIH study looking at nocturnal dialysis populations.

**Drs. Kiaii, Zalunardo and Jastrzebski** have developed a series of studies related to outcomes in HD delivery and vascular access. They have initiated delivery of Hemodiafiltration at both St. Paul's and VGH and are assessing outcomes. They have also started an assisted incenter nocturnal hemodialysis program and will be evaluating patient outcomes. They are also supervising the Divisional Hemodialysis Fellow – Dr. Myriam Farah. Dr. Jastrzebski and Dr. Zalunardo continued to supervise one international clinical fellow from Northern Ireland, looking at fistula maturity rates in hemodialysis patients.

### **Renal Transplantation**

Dr. John Gill is an established clinical outcomes and health services researcher in the field of kidney transplantation. He is the PI on three active CIHR funded studies and co-investigator on six other CIHR funded studies. John is primary supervisor of one Ph.D candidate and two Masters Candidates at the UBC School of Population and Public Health. John has published 75 peer reviewed manuscripts. John was awarded the 2010 Clinical Research Award by the American Society of Transplantation (AST) at Associate Professor Level. John is the Co-Chair of the Canadian Renal Transplant Study Group, Associate Editor of the American Journal of Transplantation, Editorial Board Member of the Clinical Journal of the American Society of Nephrology, and Advances in Chronic Kidney Disease. John was the Chair of the CIHR-Kidney Foundation of Canada Krescent Peer Review Committee in 2009, 2010. He is a member of the CIHR Health Services Peer Review Panel and an ad hoc reviewer for NIH/NIDDK.

Along with these two co-investigators, Dr. Keown continued oversight of the transplant biomarkers program in a \$15 million Network of Centres of Excellence grant entitled PROOF. This collaboration, led by the Providence Heart + Lung Institute, VCH Research Institute, and University of British Columbia and other partners across BC, Alberta, and North America, focuses on the development of blood and

urine biomarkers to aid in the prevention and effective early detection of major diseases that cause heart, lung and kidney failure.

Dr. Shapiro is engaged in outcomes related research in clinical transplantation, including studies of post-transplant diabetes, predictors and management of malignancy post-transplant, and pharmacokinetic, pharmacodynamic, and pharmacogenetic studies of immunosuppressive agents in transplant recipients. In collaboration with the Department of Neuropsychology at Simon Fraser University, she supervises graduate and doctoral students in research related to neurocognition in chronic renal failure and transplantation.

Dr. Jagbir Gill conducts clinical health outcomes research in the field of organ donation and renal transplantation, with an emphasis on examining factors to expand organ donation, addressing disparities in access to transplantation, and the implications of transplant tourism. He has also conducted research to examine outcomes in elderly kidney transplant recipients transplanted with older aged living donors and has examined optimal immunosuppressive therapeutic approaches in the aging transplant population

Dr. Olwyn Johnston’s research interests are mainly focused on complications post kidney transplantation including transplant failure, post transplant infection and metabolic complications particularly post-transplant diabetic mellitus. She also has an interest in living kidney donation and is currently establishing a study to compare quality of life (QOL) and health status after direct living kidney donation with QOL and health status after paired exchange and non-directed living kidney donation.

The Division has a strong commitment to clinical and therapeutic trials, with many continuing single and multicentre Phase II - Phase IV studies. Further integration of the clinical research program will enable the introduction of advanced study methods and trial designs, and will permit all members of the division to become actively involved in the evaluation of new and innovative treatments.

## CLINICAL SERVICES

The renal services provided by the Division of Nephrology operate within a broad provincial and regional context with established clinical guidelines, provincial contracts, information systems, central administration and co-ordination for education and other projects. This affords the Division an opportunity to be both a key contributor to and a beneficiary of provincial policies, projects and experience. British Columbia is widely recognized to be at the forefront of renal care delivery, with active programs for the early detection of renal disease in the population, multidisciplinary coordination of care, delivery of dialysis therapy in the community or at home, and novel approaches to renal transplant donation.

The BC Provincial Renal Agency (BCPRA) coordinates the development and integration of renal services, funding, establishment of standards and guidelines, and works in collaboration with each of the health authorities to ensure equal access to care for all patients living with kidney disease. The BC Transplant Society coordinates the funding and oversight of renal and other solid organ transplant services and the retrieval of cadaveric organs and tissues.

Within this framework, renal care delivery is based on established principles of integrated chronic disease management through a combination of institutional, community and home-based programs. Three tertiary care teaching hospitals, the Vancouver General Hospital (VGH), St. Paul’s Hospital (SPH Providence Healthcare) and BC Children’s Hospital (BCCH), collaborate to provide ambulatory chronic renal disease care, in-patient management, plasma exchange (SPH), hospital dialysis and renal transplantation, and home hemo- and peritoneal dialysis for adult and pediatric patients with renal disease throughout the Vancouver Coastal Health and sections of the Fraser Valley region. The home hemodialysis program, headed by Dr. Michael Copland, is now one of the largest of its kind in North America. Drs. Singh and Taylor are developing new strategies along with multidisciplinary teams to promote home dialysis in our region. With their assistance, the peritoneal dialysis (PD) program worked to establish the first long term care facility to do PD as a pilot project with measured outcomes. Community hemodialysis is conducted as an integrated program in seven units, supported by three hospital-based units, and renal consultation is provided at Lion’s Gate Hospital and Richmond General Hospital. Almost 4500 patients with renal disease receive nephrologic follow-up through St. Paul’s Hospital and Vancouver General. This includes close to 2000 patients with progressive chronic kidney disease around 1500 patients with functioning transplants and 1000 on dialysis. Recent figures estimate that many more subjects within this region may have chronic renal dysfunction without knowledge of the fact so that further innovation, coordination and integration of services will be essential to meet the impending challenge over the next decade and to improve maintain the standards of care already established by the Division.

The Division has active nephrology consultative care throughout the province of British Columbia and into the Yukon Territory. We thank all of the nephrologists participating in this vital service to remote areas of the province and Yukon:

Location	Doctor(s) Name(s)	Frequency
Bella Coola	Dr. Paul Taylor	Every 6 months
Burnaby Hospital	Dr. Abeed Jamal / Dr. Michael Copland	Weekly
Coquitlam	Dr. Ron Werb	Monthly
Lions Gate Hospital (North Van)	Dr. Nadia Zalunardo / Dr. Paul Taylor	Weekly
Port Coquitlam	Dr. Ron Werb	Every 6 months
Port Moody	Dr. Ron Werb	Every 6 months
Powell River	Dr. Ron Werb	Every 3 months
Prince Rupert	Dr. Paul Taylor	Every 4 months
Richmond Hospital	Dr. Peter Neufeld / Dr. Anthony Chiu	Weekly
Sechelt	Dr. Ron Werb	Every 2 months
Squamish	Dr. Ron Werb	Every 2 months
Whitehorse, YT	Dr. Paul Taylor	Every 3 months

## SERVICE TO COMMUNITY

Members of the Division of Nephrology play a key role in many University, academic community and volunteer organizations in Canada and around the world.

**Dr. Levin** serves as Director of the BC Provincial Renal Agency, an organization which is accountable for the planning and delivery of renal services in the province of British Columbia. She is the Chair of the Curriculum Committee of the KRESCENT program, which is a collaboration between the Kidney Foundation, the Canadian Society of Nephrology and CIHR, established to enhance clinical research science training and career development. She received a special award of appreciation from the Kidney Foundation of Canada at the 2010 Annual meeting for her role in this unique programme. She has been advisor to the Ontario Renal Network, and completed a formal review of that new entity, modeled on the BC Renal Agency, in 2010.

She is on the Advisory committee of the Australian Kidney Trials Network, and chairs the Data Safety Monitoring Board (DSMB) for 3 major trials. She serves as subject editor for Nephrology, Dialysis, Transplantation (NDT), and is on the editorial board of NDT, American journal of Kidney Disease (AJKD) Clinical Journal of the American Society of Nephrology (CJASN), and Kidney International (KI) She reviews for major journals in internal medicine and nephrology, as well for national and international granting agencies (Kidney Foundation, CIHR, NIH, Kidney Research UK, Hong Kong Kidney Research, Physician Services, and Alberta Health and Wellness).

She co-chairs the Acute Kidney Injury Network (AKIN), which is a virtual organization aimed at facilitating and improving the quality of research in AKI internationally. As such she has organized an annual meeting of the AKIN group each year, with publications forthcoming from these meetings. She continues to be active in a collaboration between the International Society of Nephrology and The Transplantation Society (TTS), as co-chair of the Declaration of Istanbul Custodian Group (DICG). This group oversees the activities of the workgroups which attempt to ensure the implementation and tracking of issues related to organ trafficking and transplant tourism. In 2010, Dr. Levin continued in her role as Secretary General of the International Society of Nephrology, and is the Co-Chair of the Scientific Programme Committee and Chair of the Organizing Committee for the World Congress of Nephrology, to be held in Vancouver in 2011. We congratulate Dr. Levin on these incredible achievements

**Dr. Monica Beaulieu** is the physician lead of the Kidney Function Clinic at St. Paul's as well as the Integrated Care Clinic. She is currently involved in formal evaluation of an integrated care clinic. She is the medical lead for special projects of the PRA and her responsibilities include evaluating renal pharmacy services in the province, as well as provincial vascular access initiatives.

**Dr. John Gill** is the Co-Chair of the WHO and Transplantation Society Global Data Standardization Project. John is former Chair of the American Society of Transplantation (AST) Kidney Pancreas Committee and is the current Co-Chair of the AST Education Committee. John was a participant in the Declaration of Istanbul Group and is a current member of the Declaration of Istanbul Custodial Group. John was the co-Chair of the Transplantation Society 2010 Post Graduate Education Program, and is the co-Chair of the 2010 World Congress of Nephrology Transplant Program. Dr. Gill is Vice-President of the Canadian Society of Nephrology. He is the immediate Past President of the CORR Board of Directors. John is a member of the Steering Committee of the Canadian Blood Service/ Canadian Society of Transplantation Living Donor Paired Exchange Program. John is the outgoing Chair of the Canadian Society of Transplantation (CST) Communications Committee and CST representative on the Canadian Standards Association Committee on Cells, Tissues, and Organs for Transplantation and Assisted Reproduction. Locally John is Department of Medicine representative on UBC Research Council.

**Dr. Keown** is a member of Council of the Transplantation Society and was Chair of the National Organizing Committee for the XXIII International Congress was held in Vancouver in August 2010. This international meeting was an overwhelming success and brought kudos and prestige to UBC, Vancouver and the country. He is involved in numerous universities, granting body and scientific journal committees.

**Dr. Chan-Yan** continues as the Physician Lead of the Renal End of Life (EOL) Initiative at Providence Health. This is a multidisciplinary working group developing a unique comprehensive supportive care program for the renal patient, including Advance Care Planning, Pain and Symptom management and Bereavement support for families. This innovative and unique program is leading practice for the region and the province.

**Dr. Copland** brings significant contributions to the Kidney Foundation of Canada as: Past Chair of the National Medical Advisory Committee, and current Chair of the National Public Policy Council. He remains active as a member of the National Public Policy and National Patient Services Committees. Dr. Copland is the Director of Kidney Services of newly revised Vancouver Regional Renal Program, and serves as Co-Chair of its Regional Renal Council.

**Dr. Landsberg**, in addition to being the Acting Division Head is Physician Program Director and Head of the Division of Nephrology for Providence Health Care/St. Paul's Hospital. He serves as Member of the St. Paul's Hospital Medical Advisory Committee and the VCH Regional Renal Council. He is the Medical Lead for the Provincial Renal Transplant Program and the medical lead for the PHC renal transplant program.

**Dr. Singh** is the physician leader for the Peritoneal Dialysis Program at VGH. She is a speaker at the BC Provincial Renal Agency's Peritoneal Dialysis education day and on the Organizing Committee for their annual B.C. Nephrology Days. She is also a reviewer for the journals Peritoneal Dialysis

International (PDI) and Nephrology Dialysis Transplantation (NDT). She also been a member of the Royal College Nephrology Exam board for 5 years, and has been the Chair of the Exam Board the past two years.

**Dr. Shapiro** is Medical Director of the Solid Organ Transplantation Program at Vancouver General Hospital.

**Dr. Jastrzebski** serves as a member of the Regional Renal Council of the Vancouver Coastal Health Authority; he also co-chairs the Project Charter for the Regional Disaster and Emergency Preparedness Committee and co-leads the Pilot Project for TB Control (Provincial Guidelines for TB Control in the CKD Population). On November 1, 2009, Dr. Jastrzebski was appointed as Head of the Division of Nephrology at the Vancouver General Hospital site, by the office of Medical Affairs at VGH.

**Dr. Paul Taylor** is the physician lead for the Peritoneal Dialysis Program at SPH and the Chair of the PRA provincial PD working Group.

**Dr. Bev Jung** is the co-lead for Community Hemodialysis.

**Dr. Mercedeh Kiaii** is the physician lead for the In Center Hemodialysis Program at St. Paul's and the lead for the newly initiated dependent nocturnal program at St. Paul's.

**Dr. Jamal** is the 4th Year Clerkship Director for the Department of Medicine. He is the medical lead for the inpatient nephrology ward.

## ADMINISTRATION

The Division has continued to build an effective administrative and financial infrastructure to support growth and development. Administrative staff are on site to support the Division at both hospitals. Mr. Shawn Jorgensen left his position as Senior Administrator of the Division. Ms. Tammie Davis the Program Administrator for educational activities took on the additional responsibilities of Senior Administrator.

## FUTURE DIRECTIONS

The Division will continue to build on its strengths to ensure the highest quality of academic and clinical activity for the University, the health system, and the community. The Division continued in 2010 to develop and implement fundraising campaigns for support of our research and clinical interests, with the support of both the VGH & UBC Hospital Foundation and St. Paul's Hospital Foundation.

The Division, under the leadership of Dr. David Landsberg as Acting Head, is now actively pursuing collaborative and integrated research pursuits between investigators at its Vancouver General Hospital and St. Paul's Hospital sites, to ensure maximum economies of scale in human and capital resources. . The Division will continue to take a major role in the teaching of Renal Sciences within the University, continue its leadership position in nephrology postgraduate education, and introduce innovative initiatives in the delivery of integrated regional care for patients with renal disease.

## Division Members

### Professor

Dr. Andre Anzarut (*Emeritus*)  
 Dr. Jason Barton  
 Dr. Oscar Benavente  
 Dr. Paul Bratty (*Emeritus*)  
 Dr. Donald Calne (*Emeritus*)  
 Dr. Neil Cashman  
 Dr. Doris Doudet  
 Dr. Andrew Eisen (*Emeritus*)  
 Dr. Howard Feldman  
 Dr. Judy Illes  
 Dr. Seung Kim (*Emeritus*)  
 Dr. Martin McKeown  
 Dr. Joel Oger  
 Dr. Brian Pate (*Emeritus*)  
 Dr. Steven Pelech  
 Dr. Peter Rieckmann  
 Dr. Jon Stoessl  
 Dr. Vincent Sweeney (*Emeritus*)  
 Dr. Joseph Tsui  
 Dr. Yu Tian Wang

### Clinical Professor

Dr. Stanley Hashimoto (*Emeritus*)  
 Dr. Gordon Robinson  
 Dr. Philip Teal

### Associate Professor

Dr. Dr. Raul De la Fuente-Fernandez  
 Dr. Lorne Kastrukoff  
 Dr. Helen Tremlett

### Clinical Associate Professor

Dr. Jeff Beckman  
 Dr. John Hooge  
 Dr. Manouchehr Javidan  
 Dr. Michael Jones  
 Dr. Robert Keyes  
 Dr. Charles Krieger  
 Dr. Sian Spacey  
 Dr. Milton Wong (*Emeritus*)

### Assistant Professor

Dr. Silke Cresswell  
 Dr. Claudia Jacova  
 Dr. Ging-Yuek Robin Hsiung  
 Dr. Jacqueline Pettersen  
 Dr. Anthony Traboulsee

### Clinical Assistant Professor

Dr. Christopher Bozek  
 Dr. Hannah Briemberg  
 Dr. Kristine Chapman  
 Dr. Stephen Clarke  
 Dr. Anthony Costantino  
 Dr. Virginia Devonshire  
 Dr. Dean Foti  
 Dr. Gillian Gibson  
 Dr. Sherri Hayden  
 Dr. Dean Johnston  
 Dr. Jeffrey Martzke  
 Dr. Michelle Mezei  
 Dr. Colleen Murphy  
 Dr. Alister Prout  
 Dr. Ana-Luiza Sayao  
 Dr. Brian Thiessen  
 Dr. Andrew Woolfenden

### Clinical Instructor

Dr. Nicholas Bogod  
 Dr. Bradley Hallam  
 Dr. Noah Silverberg  
 Dr. Charles Tai  
 Dr. Tiffany Townsend  
 Dr. Michael Varelas  
 Dr. Samuel Yip

### Adjunct Professor

Dr. Thomas Ruth  
 Dr. Vesna Sossi



**Dr. Jon Stoessl**  
**Professor and Head**

## DIVISION OVERVIEW

The Division of Neurology has major teaching, research and clinical activities at Vancouver General Hospital, UBC Hospital, and St. Paul's Hospital. There are 55 Neurology faculty members whose primary appointment is in the Division, with another 22 appointed as associate members, 4 as adjunct professors and 9 as emeriti. The faculty members comprise basic and cognitive neuroscientists as well as clinicians.

The Division is nationally and internationally recognized for its clinical and research programs in multiple sclerosis, stroke and neurodegenerative disorders including the dementias, motor neuron disease and Parkinson's disease, as well as its program in neuroethics. It has been consistently extremely successful in obtaining peer reviewed grant funding from agencies in Canada and internationally, approximately \$14M in 2010. Divisional members make important contributions to both basic neuroscience and clinical neurological literature. This past year divisional members published more than 149 papers in peer-reviewed journals. Clinically, the Division provides province-wide tertiary and quaternary care for a variety of neurological disorders. The Division has clinical outreach to many communities around the province. Faculty members are actively involved in teaching and supervising all levels of students and trainees from undergraduate to post-doctoral fellows. The Residency training program in Neurology is one of the largest in the country.

In 2010, we unfortunately lost 2 members of the Division. Dr. Peter Rieckmann and Dr. Raul de la Fuente-Fernandez returned to Europe. Their loss is felt, but the MS group gained Dr. Ana-Luiza Sayao, while the Parkinson's program welcomed Dr. Silke Cresswell as new faculty members. Another major gain for the Division was the successful recruitment to UBC of Dr. Matt Farrer, as the Canada Excellence Research Chair in Neurogenetics and Translational Neuroscience. While Dr. Farrer's primary appointment is in the Department of Medical Genetics and at the Centre for Molecular Medicine and Therapeutics, he is a world leader in the genetics of Parkinson's disease and other neurological disorders and he has been actively engaged in programs at the Pacific Parkinson's Research Centre and the Brain Research Centre.

In 2010, the Division had its first Residents' Research Day. This was a resounding success and the 1st Annual Donald Paty lecture was delivered by Dr. Tom Feasby, Dean of Medicine at the University of Calgary. The Division also held the 1st Annual Naveen Deshpande lectureship, in honor of a much-loved senior resident who succumbed to leukemia in 2009. This lecture was delivered by Dr. Louis Caplan, renowned stroke neurologist and Professor of Neurology from Harvard.

During 2010, Neurology remained actively engaged in the planning for the Centre for Brain Health, in partnership with the Department of Psychiatry and the Brain Research Centre.

## TEACHING PROGRAMS

### *Undergraduate*

The Division is involved in providing instruction to UBC medical students (250) during the Brain and Behavior section of Phase Two. Division members lecture within the didactic calendar on topics such as headache, dementia, multiple sclerosis, Parkinson's disease and neuromuscular disorders.

The Neurosciences Clinical Skills course gives students 18 hours of small-group instruction (6 - 8 students) in learning to perform a neurological examination. This consists of 32 student groups scheduled between January and May using on average 24 neurologists from the Division (includes VGH, UBCH and SPH staff).

**Associate Member**

Dr. Duncan Anderson  
 Dr. Peter Boulton  
 Dr. Todd Collier  
 Dr. Lyle Daly  
 Dr. John Diggle  
 Dr. Susan Forwell  
 Dr. Douglas Graeb  
 Dr. Manraj Heran  
 Dr. Kennely Ho  
 Dr. Trevor Hurwitz  
 Dr. Blair Leavitt  
 Dr. David Li  
 Dr. Ian Mackenzie  
 Dr. George Medvedev  
 Dr. Wayne Moore  
 Dr. Jeffrey Oyler  
 Dr. Sherrill Purves  
 Dr. Lynn Raymond  
 Dr. Jacqueline Quandt  
 Dr. Adele Sadownick  
 Dr. Robert Stowe  
 Dr. Galina Vorobeychik  
 Dr. Rosemary Wilkinson

**Associate Member (External)**

Dr. David Katz

Support materials have been developed and these are disseminated to distant sites as printed and video material. These sessions have been enhanced by the recruitment of volunteer patients who are used to demonstrate common deficits found on neurological examination.

During third year, all Vancouver-based students participate in a small-group (2 - 4 students) bedside session. They evaluate a patient with neurological disease following which a Division member provides direct instruction.

Students enrolled in the Vancouver program are provided with a two hour seminar reviewing the neurological examination and other topics in neurology. This is scheduled at VGH during the first week of their medical CTU rotation and is simulcast to distant sites (SPH, Royal Columbian and Royal Jubilee Hospitals).

A 4-week elective/selective is offered in third or fourth year (guidelines attached) to any UBC medical student. On average, 15 - 20 students participate at either SPH or VGH sites in a primarily inpatient rotation. At VGH, students may be scheduled to Neurology as part of their medical CTU training. In addition, the Division accepts students from Canadian and accredited foreign medical schools for elective study.

Faculty associated with the Division provide clinical teaching in the Vancouver Island and Prince George programs.

**Postgraduate**

The Post Graduate Residency Training in Neurology is fully accredited with the Royal College of Physicians and Surgeons. It currently has 28 residents at various levels of training from PGY1 to PGY5. In the first two years of the program the residents rotate through various subspecialties such as Internal Medicine, ICU, and Emergency, in addition to participating in their first Neurology rotations. The years PGY3-5 are identified as core Neurology training years. Residents acquire their inpatient training at Vancouver General Hospital and St. Paul's Hospital. Many outpatient subspecialty clinics are provided at UBC Hospital. Over the course of their training the residents in Neurology are also actively involved in various research projects. In 2010 there were 4 resident poster presentations and 5 abstracts published at various international meetings and peer-reviewed journals and 5 peer-reviewed publications. Dr. Sharan Mann was awarded a Resident Scholarship Award for the American Academy of Neurology Annual Meeting in 2010. Drs. Thalia Field and Madeleine Sharp

shared the award of the Ludmila and Henry Zeldowicz Award in 2010. Dr. Chantelle Hrazdil won the Canadian League Against Epilepsy; MaryAnn Lee Research Award, August 2010 and the Canadian Society of Clinical Neurophysiologists' Herbert Jasper Prize, June 2010. Dr. Gerald Pfeffer was awarded a CIHR Fellowship to conduct post-residency basic science work in England and in fact received the top ranking in the Committee.

The Division held the first Neurology Resident Research Day on June 1, 2010 and Drs. Sharan Mann and Dawn Gano were awarded the Best Resident Research Presentation Award. The Division also held the 1st Annual Naveen Deshpande lectureship, in honor of a senior resident who succumbed to leukemia in 2009.

There are 5 CaRMS positions for academic year 2010-2011:

**Graduate, Doctoral, Postdoctoral Students and Fellows:** The Division has an active program supporting students at all levels of neuroscience and neurology training. In 2010 there were 37 post-graduate trainees mentored by Divisional faculty:

**Alzheimer's Disease and Related Disorders: Fellows:** Dr. Ummamon Puanthong (Thailand), Dr. Itthipol Tawankanjanachot (Thailand), Dr. Sunsern Limsoontarakul.(Thailand), Dr Shahul Hameed (Singapore), Dr Aiman Sanosi (Saudi).

**Parkinson's Disease and Movement Disorders (Pacific Parkinson's Research Center): Clinical fellows:** Dr. Silke Cresswell (UK), Dr. Biju Gopalakrishnan (India), Dr. Renju Kuriakose (India), Dr. Pankaj Agarwal (India), Dr. Mishal Abualmelh (Kuwait), Dr. Praween Lolekha (Thailand), Post-doctoral fellow: Dr. Scott Mackey, Joe Flores and Kaspar Russ (PhD).

**Multiple Sclerosis and MRI: Post-doctoral Clinical and Research fellow:** Dr. Suresh Menon, Visiting McDonald Fellow (India), Dr Reza Seyedsadjadi (UK), Dr Ibtisam Al-Thubait (Saudi), Dr Mona Alkhawajah (Saudi), Dr Elaine Kingwell, Dr Afsansh Shirani (Saudi), Dr. Charity Evans.

**Neuro-ophthalmology: Clinical fellow:** Dr. Alex Lange (Switzerland) Clinical research fellow: Dr. Jean Chuo (ophthalmology, UBC) and Olunfunmilola Ogun (Nigeria) Post-doctoral research fellows: Dr. Linda Lanyon (Computational neuroscience, University of Plymouth), Ipek Oruc (Neuropsychology, New York University), Dr. Samantha Johnston

(neuroscience, UBC), Dr. Jodie Davies-Thompson (psychology, York University) and Dr. Thomas Busigny (psychology, Université catholique Louvain) Graduate students: Kirsten Dalrymple, PhD program psychology, UBC. Jaya Viswanathan, MSc program neuroscience, UBC, Raika Pancaroglu, PhD program neuroscience, UBC, Susan Hand, PhD program neuroscience, UBC.

**Neuroethics: Post-doctoral Research fellow:** Daniel Buchman, BA, MSW, Alex Garnett (Masters Student)

**Stroke:** Dr. Abdulmuhsen Almulla (Kuwait).

### **Vancouver General Hospital Neurology Service (Clinical Teaching Unit)**

The in-patient service at VGH consists of a 14 beds unit located on T5 and 6 of the Pattison Pavilion. This unit is the only dedicated hospital neurology clinical teaching unit (CTU) in the province and has within its mandate the provision of tertiary care for complex neurological disorders. The inpatient service consists of two teams; Stroke and General Neurology each directed by a staff neurologist.

The inpatient program features a specialized seizure monitoring unit and Acute Stroke Unit. Life, Limb and Threatened Organ policies approved by the Vancouver Acute Medical Advisory Committee are in place for accepting acute stroke patients, as well as other neurological disorders requiring a higher level of care.

A large percentage of all stroke patients presented to the emergency room at VGH are now admitted to the Neurology service for acute management of the first 5-7 days of their post stroke care. From there the stroke pathway includes transfer to the Subacute Stroke Unit (now located on T6-A) or other appropriate rehabilitation facilities or home.

The VGH and UBCH neurologists provide important consultation services within Vancouver and the entire province. Neurological diagnostic services at VGH include electroencephalography (EEG), intraoperative monitoring (IOM) and electromyography (EMG).

Ambulatory services provided include subspecialty clinics for movement disorders, multiple sclerosis, headache, ALS, Alzheimer's disease and other dementias, stroke, neuromuscular disease, and neuro-oncology.

These clinics integrate with a strong research environment for each of these programs, which in turn form the core of the academic mission of the Division. The clinics provide important post-graduate educational activities for trainees within the Division.

### **St. Paul's Hospital: Division of Neurology**

The Division of Neurology at St. Paul's Hospital now comprises a faculty of 8 active clinicians and clinician scientists as well as 3 clinical Emeritus members. The Division of Neurology at

St. Paul's Hospital has continued its longstanding traditions of excellence in clinical teaching and patient care. In addition, active participation in clinical neurological research programs continues as well. The inpatient activities of the Division are based at St. Paul's Hospital. However, active and busy consultative services are maintained at St. Paul's Hospital, Mount St. Joseph's Hospital and B.C. Women's Hospital.

Active and busy ambulatory Neurology clinics devoted to general Neurology are located in the Neurology/Neurophysiological Department at St. Paul's Hospital. A specialized Neurology clinic related to the neurological complications of HIV/AIDS is located in the Infectious Disease Clinic at St. Paul's Hospital. Additionally, an active and busy ambulatory Neurology Clinic devoted to general Neurology is located in the outpatient department at Mount St. Joseph's Hospital. A wide range of clinical services related to general neurology, HIV/AIDS, cerebrovascular disease/stroke, neuromuscular diseases, epilepsy, multiple sclerosis and the neurological complications of pregnancy are provided through these many outpatient clinics. Recently, a Neurology Rapid Access Clinic has been established in the medical outpatient department at St. Paul's Hospital. The purpose of this clinic is to provide neurological assessments of patients presenting to the emergency rooms at St. Paul's Hospital and Mount St. Joseph Hospital on an urgent basis.

Large numbers of First Nations patients and patients of many different racial and ethnic origins are seen on the St. Paul's Hospital Neurology Consultation Service; on the St. Paul's Hospital inpatient service; and in all of the neurology and neurophysiology clinics provided by the Division of Neurology at St. Paul's Hospital in Vancouver as well as in hospitals and communities throughout British Columbia and the Yukon Territories.

The neurophysiology laboratories are located at St. Paul's Hospital and the activity levels have continued to increase over the past several years. EEG, EMG and Evoked Potentials Studies services are provided within these laboratories for all inpatients and outpatients associated with the entire Providence Health Care System and the associated referral base. Some intraoperative neurophysiological capabilities exist as part of the neurophysiology laboratory services. Approximately 4500 inpatient and outpatient neurophysiological studies are performed in the neurophysiology laboratories at St. Paul's Hospital. There are 5 physicians providing EMG services to St. Paul's Hospital and the total Providence Health Care community. There are two physicians providing EEG and Evoked Potential Services to St. Paul's Hospital and the Providence Health Care Community. These laboratories provide a significant resource to the entire Providence Health Care community and associated referral base.

The Division of Neurology at St. Paul's Hospital carries out active undergraduate and postgraduate clinical training. Clinical training includes a Royal College accredited specialty training program in neurology that is provided at the undergraduate level primarily to students in the Faculty

of Medicine at the University of British Columbia, but also to medical students from other universities throughout Canada from across Canada and abroad. Clinical training in Neurology is also provided at the postgraduate level to residents training in Royal College accredited specialty training programs in neurology; internal medicine; physical medicine and rehabilitation; pediatric neurology; psychiatry; and neuropsychiatry. The main research areas are related to clinical problems in neurology and include stroke prevention, acute stroke management, multiple sclerosis therapies and small fiber neuropathy therapies.

### **Teaching**

The Faculty within the Division of Neurology at St. Paul's Hospital maintains widespread and substantial contributions to education within the Faculty of Medicine and in the community.

### **Undergraduate**

The Undergraduate Training Program in the Division of Neurology at St. Paul's Hospital is under the direction of Dr. Alister Prout. The Division maintains a significant contribution to the undergraduate medical education program through rotations of medical students on the inpatient, outpatient and consultative services at St. Paul's Hospital. In addition, regular teaching at clerkship half days and on Professors Rounds remains part of the Faculty commitment to undergraduate medical education. Additionally, the Faculty regularly participates in formal bedside clinical neurological examination during several years of the undergraduate medical education program. Medical students are primarily from the University of British Columbia, but medical students from other universities in Canada rotate through the Neurology Service at St. Paul's Hospital. The Faculty within the Division of Neurology at St. Paul's Hospital is always rated very highly as to their teaching skills by the undergraduate medical students. Finally, the Faculty regularly provides didactic and practical teaching sessions to all undergraduate medical students as part of their daily activities on the neurology service at St. Paul's Hospital.

### **Postgraduate**

The Postgraduate Training Program in the Division of Neurology at St. Paul's Hospital is under the direction of Dr. Alister Prout. The Division maintains a leading role and a high profile in the teaching of resident trainees at multiple levels. Residents from neurology; internal medicine; physical medicine and rehabilitation; pediatric neurology; psychiatry and neuropsychiatry all rotate through the various services within the Division of Neurology at St. Paul's Hospital. The majority of the residents come from the University of British Columbia. However, residents from other universities in Canada also rotate through the Division of Neurology at St. Paul's Hospital. The Faculty within the Division of Neurology at St. Paul's Hospital is always rated very highly as to their clinical expertise and teaching skills by postgraduate trainees. The St. Paul's Hospital Neurology rotation is highly sought

after by residents in all training programs. Regular seminars as well as practical bedside teaching sessions are provided by each member of Faculty as part of their daily activities at St. Paul's Hospital.

### **Other Trainees**

The Division of Neurology at St. Paul's Hospital is also responsible for the training of neurophysiology technology students from BCIT and BC Children's Hospital. These students regularly rotate through the Clinical Neurophysiology Laboratories at St. Paul's Hospital. The St. Paul's Hospital Clinical Neurophysiology rotation is highly sought after by neurophysiology students.

### **Continuing Medical Education**

Faculty members within the Division of Neurology are regularly involved in continuing medical education activities both within the Department of Medicine and Division of Neurology as well as outside the Department of Medicine. Many Division members participate as Faculty members in seminars, conferences and other programs centered at St. Paul's Hospital, centered at other teaching hospitals within the University of British Columbia and in other community hospitals. The Faculty members from the St. Paul's Hospital Division of Neurology are regularly asked to speak on topics arising from all subspecialty areas within the discipline of clinical Neurology.

### **Outreach Programs**

The Faculty of the Division of Neurology at St. Paul's Hospital continues to maintain active and regular on-site general neurology and subspecialty neurology clinics through a series of outreach programs. The many outreach programs provided by the Faculty of the Division of Neurology at St. Paul's Hospital have been in operation for many years. These outreach programs include close liaisons with other Vancouver teaching hospitals within the Faculty of Medicine and University of British Columbia as well as other community hospitals throughout the Province of British Columbia and the Yukon Territories. Other teaching hospitals within the University of British Columbia to which various Faculty members from the Division of Neurology regularly attend include the following: Vancouver General Hospital; Mt. St. Joseph's Hospital; UBC Hospital; B.C. Women's Hospital; and B.C. Children's Hospital. At the Vancouver teaching hospitals, various St. Paul's Hospital Division of Neurology Faculty members participate regularly in subspecialty programs related to the following conditions: multiple sclerosis; peripheral neuropathy; myasthenia gravis; pediatric & adolescent neuromuscular diseases; and neurological complications of pregnancy. The aforementioned programs are all provincially based programs providing subspecialty tertiary neurology services to the province of British Columbia.

The many community-based neurology outreach programs provided by the Faculty members of the Division of Neurology of St. Paul's Hospital include general neurology clinics, neurophysiology clinics and some subspecialty neurology

clinics, particularly related to multiple sclerosis. The outreach programs result in the physical presence of many St. Paul's Hospital Division of Neurology Faculty members in other teaching and community hospitals throughout British Columbia and the Yukon Territories. Faculty members from the Division of Neurology at St. Paul's Hospital regularly provide on-site general neurology and neurophysiology clinics in the following communities and their surrounding areas: Sechelt, Gibsons, Squamish, Terrace, Kitimat, Prince Rupert and Whitehorse. In addition, tertiary subspecialty multiple sclerosis neurology clinics are also provided in the following communities: Prince George, Fort St. John and Kitimat. As a result of the longstanding on-site community neurology clinics, all Faculty members within the Division of Neurology at St. Paul's hospital receive regular requests for telephone consultations from family physicians and other specialists in the indicated hospitals and communities. These activities serve the local hospital and community needs and provide additional teaching and clinical experiences for the students, residents and fellows rotating through the Neurology Service at St. Paul's Hospital.

Dr. Andre Anzarut pioneered the concept of neurology outreach to peripheral communities many years ago. Dr. Anzarut continues to actively participate in regularly scheduled general neurology clinics in Sechelt and Gibsons. Dr. Anzarut has recently stopped going to Whitehorse, Yukon Territories. Dr. Anzarut is an emeritus member of the St. Paul's Hospital/Providence Health Care Division of Neurology.

Dr. Kristine Chapman participates on a weekly basis in the Myasthenia Gravis Clinic and Peripheral Neuropathy Clinic at Vancouver General Hospital. These clinics are provincially based programs providing subspecialty tertiary neurology services to the Province of British Columbia and Yukon Territories. In addition, Dr. Chapman has recently started participating in a regular general neurology clinic and neurophysiology clinic in Whitehorse, Yukon Territories. Dr. Chapman is an active member of the St. Paul's Hospital/Providence Health Care Division of Neurology.

Dr. Stephen Clarke participates on a regular basis in general neurology clinics and neurophysiology clinics in Terrace, British Columbia. Dr. Clarke participates in a longitudinal ambulatory neurology clinic with neurology resident trainees. Dr. Clarke is an active member of the St. Paul's Hospital/Providence Health Care Division of Neurology.

Dr. John Hooge has recently retired from the active staff of St. Paul's Hospital and Providence Health Care. Dr. Hooge continues to participate on a regular basis in the Multiple Sclerosis Clinic at UBC Hospital. Dr. Hooge is now an emeritus member of the St. Paul's Hospital/Providence Health Care Division of Neurology.

Dr. Robin Hsiung participates in the Alzheimer's Clinic at UBC Hospital. Dr. Hsiung is actively involved in research projects related to a variety of neurological illnesses resulting in memory and cognitive dysfunction with a particular interest in the genetics of said disorders. Dr. Hsiung is an active

member of the St. Paul's Hospital/Providence Health Care Division of Neurology.

Dr. Dean Johnston participates on a weekly basis in general neurology clinics and neurophysiology clinics in Squamish, British Columbia. Dr. Johnston is a member of the Vancouver Coastal Health Region Stroke Program. Dr. Johnston is a member of the Faculty of Medicine Ethics Committee. Dr. Johnston is an active member of the St. Paul's Hospital/Providence Health Care Division of Neurology.

Dr. Robert Keyes participates on a weekly basis in the Pediatric & Adolescent EMG & Neuromuscular Clinic at BC Children's Hospital. This is a tertiary referral clinic for the Province of British Columbia and Yukon Territories. This clinic results in a liaison between pediatric and adult patients with neuromuscular diseases as well as other neurological conditions including headache and epilepsy. Dr. Keyes also participates regularly at BC Women's Hospital in the assessment and treatment of patients with Neurological Diseases in Pregnancy. This association results in a liaison and close working relationship between the St. Paul's Hospital Division of Neurology and the Departments of Obstetrics and Gynecology at BC Women's Hospital and St. Paul's Hospital. This association provides tertiary neurology services to this subset of patients from the Province of British Columbia and the Yukon Territories. Dr. Keyes participates on a regular basis in longitudinal ambulatory neurology clinics for neurology residents, internal medicine residents and internal medicine fellows. Dr. Keyes is currently the Director of the St. Paul's Hospital/Providence Health Care Division of Neurology. Dr. Keyes is currently also the Head, Division of Neurology at St. Paul's Hospital/Providence Health Care. Dr. Keyes is an active member of the St. Paul's Hospital/Providence Health Care Division of Neurology.

Dr. Alister Prout regularly participates in general neurology clinics and neurophysiology clinics in Prince Rupert, British Columbia. Dr. Prout is the Director, Education for the St. Paul's Hospital/Providence Health Care Division of Neurology.

Dr. Ana Luiza Sayao is a new member of the St. Paul's Hospital/Providence Health Care Division of Neurology. Dr. Sayao has subspecialty training and expertise in Multiple Sclerosis. Dr. Sayao participates on a weekly basis in the Multiple Sclerosis Clinic at UBC Hospital and in other multiple sclerosis clinics throughout B.C. The multiple sclerosis clinics are provincially based programs providing subspecialty tertiary neurology services to the province of British Columbia and the Yukon Territories. Dr. Sayao participates on a weekly basis in the St. Paul's Hospital/Providence Health Care Rapid Access Neurology Clinic. This clinic provides urgent neurological assessments for patients presenting to the St. Paul's Hospital and Mount St. Joseph's Hospital emergency rooms. Dr. Sayao participates regularly in general neurology clinics in Kitimat, British Columbia. Dr. Sayao is an active member of the St. Paul's Hospital/Providence Health Care Division of Neurology.

Dr. Charles Tai participates on a weekly basis in the Rapid Access Neurology Clinic at Mount St. Joseph's Hospital. In addition, Dr. Tai has recently started participating in a regular general neurology clinic and neurophysiology clinic in Whitehorse, Yukon Territories. Dr. Tai also schedules and organizes all of the ambulatory neurology clinics at St. Paul's Hospital/Providence Health Care. These clinics provide patient services but also serve as an excellent teaching location for all trainees rotating through the Neurology service at St. Paul's Hospital/Providence Health Care. Dr. Tai is an active member of the St. Paul's Hospital/Providence Health Care Division of Neurology.

Dr. Milton Wong pioneered the involvement of the St. Paul's Hospital/Providence Health Care Division of Neurology Clinical Research Trials. Dr. Wong also pioneered and developed a significant liaison between the St. Paul's Hospital/Providence Health Care Division of Neurology and the Vancouver Asian Community. This work continues as the development of Mount St. Joseph's Hospital expands to meet the neurology needs of the community. Dr. Wong continues to run active neurology clinics in the Vancouver area close to St. Paul's Hospital. Dr. Milton Wong is an emeritus member of the St. Paul's Hospital/Providence Health Care Division of Neurology.

### **Clinical Research**

The clinical research in the Division of Neurology at St. Paul's Hospital emphasizes clinical trials and outcomes research. The Division is actively involved in industry sponsored and peer-reviewed research in a number of areas related to central nervous system disease and peripheral nervous system disease. Areas of particular interest are stroke outcomes trials, stroke neuroprotective agent trials, multiple sclerosis drug treatment trials, treatment of diabetic small fiber neuropathies, treatment of HIV/AIDS related peripheral neuropathies and the neurological complications of pregnancy.

### **Future Directions**

The Division of Neurology at St. Paul's Hospital will continue to build on its current strengths to ensure the highest quality of clinical, teaching and academic activity for the Division of Neurology, Department of Medicine, Faculty of Medicine and the University of British Columbia. This has become more important and more challenging to all Faculty members over the last several years coincident with the expansion of the University of British Columbia Medical School. The members of the Division of Neurology will work closely with the other hospitals within Providence Health Care and within the University of British Columbia Community to meet the needs of the patients, students and university. The St. Paul's Hospital Division of Neurology continues to actively support a return of full neurosurgical services to St. Paul's Hospital and Providence Health Care.

## **SPECIALTY PROGRAMS IN THE DIVISION OF NEUROLOGY**

### **Alzheimer Disease and Related Disorders Program**

#### **Faculty**

It has been another busy and productive year at the UBC Hospital Clinic for Alzheimer and Related Disorders (UBCH-CARD). Our team of clinicians (Drs. Dean Foti and Robin Hsiung: Neurologists, Drs. Lynn Beattie and Philip Lee: Geriatricians, and Dr. Margo Genge: Geriatric Psychiatrist) continues to evaluate over 1000 patients per year on a wide range of neurodegenerative and geriatric cognitive disorders. Our implementation of a multidisciplinary model of care, together with Neuropsychology (Dr. Sherri Hayden), Genetic Counseling (Emily Dwosh/Rachel Butler) and Social Work (Amy Freeman), has been highly successful and deeply appreciated by the community. Dr. Claudia Jacova, a cognitive research psychologist, is conducting a number of innovative research projects to improve patient care. We continue to provide excellence in clinical care today with on-going research to improve care for tomorrow.

#### **Research Activities**

Clinical Trials remain an active component in our clinic. Drs. Hsiung and Jacova, together with Dr. Kevin Kirkland, Music Therapist received a \$200,000 grant from the Alzheimer Society of Canada and CIHR to carry out a randomized controlled trial of music therapy in AD patients. Dr. Hsiung is also conducting clinical trials on novel treatment in AD with gamma secretase inhibitor and monoclonal antibodies targeted against the amyloid peptide. Drs. Hsiung, Jacova, Lee, and Beattie are working closely with the team of researchers (Drs. McClure & Chappell) in University of Victoria on the Alzheimer Drug Therapeutic Initiative (ADTI) program, which provides coverage of cholinesterase inhibitors to AD patients, to examine the effectiveness of the drugs in our population.

Biomarkers development in AD and Frontotemporal Lobar Degeneration (FTLD) is another active area of our research. Dr. Jacova have discovered a significant reduction in the anterior-to-posterior ratio of FDG uptake PET scans of PGRN mutation carriers, and the work was presented at the International Conference on AD and International Conference on FTD. Dr. Hsiung has found a genetic variant in GRN gene can modify the level of progranulin, which may be an independent risk factor for dementia itself. Other genetic risks for dementia are being investigated using the combined cohorts from the Canadian Study of Health and Aging and ACCORD. We are also developing new biochemical markers to differentiate between different types of FTLD using blood and cerebrospinal fluid samples. Dr. Ian Mackenzie, Neuropathologist, has made important advances in understanding the role of TDP-43 and FUS in the development of FTLD. The FTLD project is funded by the CIHR and Pacific Alzheimer Research Foundation. We are also a centre for the Alzheimer Disease Neuroimaging Initiative (ADNI), a multi-million project funded by the NIH to develop early biomarkers for AD.

Instrument development is another important research goal pursued by the group. The Clinical Meaningfulness in Alzheimer Disease Treatment (CLIMAT) scale has been developed to measure meaningful treatment response and is being validated by continuing studies. Dr. Jacova together with Drs. Hsiung and Dr. McGrenere (Computer Science) have developed an optimized human-computer interface for Cognitive Testing on Computer (C-TOC) supported by a catalyst fund from the CIHR.

New and continuing collaborations help us extend our spectrum of research. Drs Hsiung, Jacova, and Lee together with Drs. Liu-Ambrose and Lara Boyd from Department of Physical Therapy are studying the effect of aerobic exercise on vascular cognitive impairment in a project funded by the Heart and Stroke Foundation. In addition, Dr. Hsiung has also established a HIV-cognitive disorder clinic with the HIV team at St. Paul's Hospital to examine the clinical and biological characteristics of HIV patients who are medically stable on highly active antiretroviral treatment (HAART) but continue to develop progressive cognitive impairment. Dr. Weihong Song (Dept of Psychiatry) is collaborating on a study to examine RNA expression in mild cognitive impairment and AD, and Dr. Jeffries (Biomedical Research Centre) is collaborating on a study to examine the role of Amyloid Precursor Protein on platelet functions.

### **Teaching Activities**

Our group continues to be very active in providing teaching to trainees of multiple disciplines from undergraduate to post-doctoral levels. Drs. Itthipol Tawankanjanachot, neurologist from Thailand, Shahul Hameed, neurologist from Singapore, and Aiman Sanosi, neurologist from Saudi Arabia, have all completed their training with us this year and returned to their respective countries as consultant specialists in cognitive neurology and dementia. Dr. Sunsern Limsoontarakul, neurologist from Thailand has begun fellowship training with us this year, and Dr. Young Chul Youn is a Visiting Professor from Korea working with us on dementia imaging studies. Dr. Jacova is also supervising several graduate students in the Neuroscience program.

### **Community Services**

We held a highly successful public forum during the month of January (Alzheimer Awareness Month) to update our clinic patients and families on the current research on dementia. Our faculty has frequently provided advices and expert comments to the media (i.e. Globe and Mail, Vancouver Sun, Global News, and radio shows) regarding the newest discoveries in AD and dementia.

### **Neuroethics Program**

Dr. Judy Illes was appointed Canada Research Chair in Neuroethics and Professor of Neurology in the Department of Medicine in August 2007. With the generous support of the Chairs program, CIHR/INMHA, the Canadian Foundation

for Innovation, the British Columbia Knowledge Development Fund and other research sponsors, she established the National Core for Neuroethics at the University of British Columbia, the only national research resource in the world in the area of neuroethics. Dr. Illes and her team are devoted to accelerating the translation of research in diagnosis, prediction and treatment of neurological disease to the clinic and consumer marketplace through the lens of ethics, law, policy and society.

At this three-year anniversary, under the leadership of Dr. Illes and in collaboration with Core faculty including Professor Peter Reiner (Psychiatry) and Dr. B. Lynn Beattie (Geriatrics), and their collaborators across the UBC campus and Canada, the Core:

- continues to make significant research progress in identifying motivators for ethics in functional neuroimaging in both clinical and non-clinical applications, and seeking remedies to mitigate barriers
- has made discoveries about the perspectives of stakeholders – patients themselves, their families and their health care providers – on stem cell clinical trials for spinal cord injury
- has had breakthroughs in understanding the still tenuous landscape of knowledge translation for dementia research
- identified critical gaps in the dissemination of information about treatments for neurodevelopmental disorders on the Internet
- brought new funding and research programs to the fore, especially in the areas of cross-cultural neuroethics and gene therapy
- graduated young researchers to leading graduate programs and faculty positions in Canada and the United States, and,
- successfully attracted outstanding new graduate students and postdoctoral fellows from national and international programs to the Core.

Two of Dr. Illes' students also won prestigious awards this year: PhD student Daniel Buchman (Interdisciplinary Studies Graduate Program) received the CIHR Best and Banting Graduate Student Fellowship for three years, and Masters student Alex Garnett (School of Library, Archival, and Information Studies) was recognized with the New Leader Award from the American Society for Information Science and Technology (ASIS&T). In addition, the team published more than 20 new papers and book chapters, including articles in prestigious journals such as Nature Reviews Neurology, Nature Reviews Neuroscience, Social Science & Medicine, Frontiers in Human Neuroscience and The Lancet Neurology. Dr. Illes also has two new books forthcoming: The Oxford Handbook of Neuroethics (J. Illes and B.J. Sahakian, Eds., Oxford University Press, 2011, and A. Carter, W. Hall and J. Illes, Addiction Neuroethics, Elsevier Press, 2011).

Beyond scholarly accomplishments, Dr. Illes and her team participated in and hosted numerous outreach activities across British Columbia including events around the Olympic and Paralympic Games. They made visits to Northern BC to

advance their community-based work on aging and wellness there, and launched Café Neuroethique for the Vancouver, British Columbia community. Dr. Illes has continued to build new relationships and interest in neuroethics among the UBC neuroscience graduate students and the Faculty of Medicine's clinical residents. She travels extensively to promote neuroethics at invited lectures and professional meetings on a global level. By all measures, she and her young organization enjoy prominence on the world stage.

Dr. Illes' research and the current activities of the Core are made possible by generous support from the Institute of Neurosciences, Mental Health and Addiction (INMHA) of the Canadian Institutes of Health Research (CIHR), the Canada Foundation for Innovation (CFI), the British Columbia Knowledge Development Foundation (BCKDF), the National Institutes of Health (NIH/NIMH), the Vancouver Coastal Health Research Institute (VCHRI), the Stem Cell Network (SCN), the Foundation for Ethics and Technology, GenomeBC, the Canadian National Centres of Excellence, the North Growth Foundation, and the Dana Foundation.

## **Amyotrophic Lateral Sclerosis Program**

### ***Clinical Activities***

The ALS Centre at GF Strong is a trans-disciplinary entity providing clinical services to affected patients and their families from throughout BC. Staff in the centre are also involved in teaching residents and fellows, as well as doing clinical and basic research. The ALS Centre is staffed by three neurologist physician-scientists (Drs. Briemberg, Cashman and Krieger), a physiatrist (Dr. Travlos), and a specialized nurse coordinator, as well as the highly trained ALS Team at GF Strong, providing social work, physio- and occupational therapy, speech language assessment and therapy, and dietary guidance. The ALS Society of BC (ALSBC) and the ALS Centre have consolidated an innovative partnership to provide a successful outreach clinic program for areas of the province difficult to reach for disabled patients. Outreach clinics in 2010 included Victoria, Prince George, Kelowna and Nanaimo. In further recognition of the outstanding advocacy, ALSBC was awarded the Marcel Brett Yerex Advocacy Award in 2010, presented by ALS Canada.

### ***Teaching Activities***

Year 3 through year 5 neurology residents rotate through the ALS clinic as part of their ambulatory clinics rotation. As well, two palliative care residents each spent two weeks in the ALS Centre in 2010. One neuromuscular fellow, who was training in the Neuromuscular Disease Unit and the ALS Centre, completed her fellowship training in February 2010.

### ***Research Activities***

Three major scientific programs are being conducted at the ALS Centre. Dr. Briemberg leads clinical trials for the ALS Centre, in collaboration with other team members and with

the encouragement and financial assistance of ALSBC. In future, the scope of clinical trials may expand with assistance from ALSBC to include new medical devices and technologies for improving the quality of life with ALS. Dr. Krieger's CIHR-supported basic scientific program at Simon Fraser University is focused on the engraftment of stem cells in the affected CNS of mouse models of ALS, with collaboration from Fabio Rossi at the UBC Biomedical Research Centre. Dr. Cashman is a Canada Research Chair in Neurodegeneration and Protein Misfolding Diseases at the UBC Brain Research Centre. With support from CIHR, CFI, BCKDF, PrioNet Canada and private donations, Dr. Cashman is conducting basic research on immunotherapies and vaccines to protein misfolding diseases, especially ALS.

## **Neurogenetics**

### ***Personnel***

The initiatives in Neurogenetics have brought together a group of researchers including Dr. Sian Spacey, Dr. Blair Leavitt, Dr. Michelle Mezei, Dr. Robin Hsiung, Dr. Dessa Sadovnick, and a group of genetic counselors. This year the group welcomes Dr. Matt Farrer, previously from the Mayo clinic Jacksonville Florida as UBC's first Canadian Excellence Research Chair in Neurogenetics and Translational Neuroscience. Dr. Farrer's current research interests are age-related neurodegenerative disorders, with a focus on the molecular genetics and functional modelling of movement disorders, including Parkinson's disease and Lewy body dementia

### ***Clinical Service***

The Neurogenetics Clinic is a referral center for British Columbia providing over 250 outpatient visits in 2100. The patients seen have a wide range of inherited peripheral and central CNS disorders the most common include the ataxias, channelopathies, hereditary spastic paraparesis, the phakomatoses, myotonic dystrophy, CMT, ALS, and mitochondrial disease. Many of these patients are participants in genetic research run through the UBC Neurogenetics Unit and have donated DNA to the clinic DNA bank. As well there are Neurogenetic arms of the Alzheimer and MS Clinics which provide genetic counseling to patients and families with these disorders.

### ***Education and Research***

Neurology Residents, Medical Genetic Residents, Paediatric Residents and Medical students attend weekly Neurogenetic Clinics. This clinic provides a unique opportunity for students to see a wide range of inherited neurological diseases which they might not otherwise have the exposure to.

The Neurogenetics Clinic also provides research opportunities to neurology residents and medical students.

- Neurology Resident Dr. Kristin Jack conducted A Validation Study of the Diagnostic Accuracy of the Revised 2008 Consensus Criteria for the Diagnosis of MSA-C in British

Columbia which she presented as a platform presentation at the Canadian Congress of Neurological Sciences in Quebec City, as well as at BC Neuroscience Day.

- Medical Student, Alexandra Llyod-Smith, investigated Early Clinical Features which Differentiate Cerebellar Variant of Multiple System Atrophy and Sporadic Ataxia which she presented as a platform presentation at the American Academy of Neurology and the Canadian Congress of Neurological Sciences.

## **Neuro-Oncology Program**

### **Faculty**

The Neuro-Oncology program is a multidisciplinary program including members of the Divisions of Neurology and Neurosurgery and Departments of Radiation and Medical Oncology. Its goals are to provide comprehensive care for patients with CNS malignancies and establish both clinical and translational research programs in Neuro-Oncology

### **Clinical Activities**

The BCCA Neuro-Oncology Site group has developed a business model of brain tumour research and care, titled BrainCare BC. This model has been the driving force to develop a new multidisciplinary clinic involving neurosurgery, medical oncology, radiation oncology, nursing, and counseling and rehabilitation services.

### **Research Activities**

Using funding obtained from last year's BC Cancer Foundation Gala fund-raising event for brain tumour research, a Brain Tumour Clinical Trials Unit was established at the BCCA to support ongoing clinical trials. The clinical trials unit has just completed accrual to a successful phase III trial in Glioblastoma multiforme. Under the guidance of Dr. Stephen Yip, a new brain tumour tissue bank has been established to assist in future molecular and genomic research endeavors.

## **Neuro-Ophthalmology Program**

### **Faculty**

There are 5 staff neuro-ophthalmologists including Duncan P. Anderson, Maryam Aroichane, Jason J.S. Barton, Janette I. Lindley, Chris J. Lyons. There are 7 adjunct clinical staff: Ray Bell, Victoria; David Neima, New Westminster; David Nelson, Langley; Briar Sexton, Vancouver; Martin SuttonBrown, Victoria; N. Kevin Wade, Vancouver and David Wakelin, Duncan.

### **Clinical Activities**

The UBC Neuro-ophthalmology Division provides clinical teaching and research services at Providence Health Care (St. Paul's Hospital site) and VHHSC (Eye Care Centre) and UBC Hospital. Consulting services are also provided at GF Strong Rehab and BC Children's Hospital. St. Paul's site has 4-5 neuro-ophthalmology clinics per week staffed by D Anderson (3 clinics) and J Lindley (1-2 clinics). VGH Eye Care Centre has 6 clinics per week staffed by D Anderson (4 clinics) and J Barton (2 clinics). UBC has 2 clinics per week in the Multiple Sclerosis Clinic staffed by D Anderson, J Lindley, and K Wade. Neuro-ophthalmology patients are also seen in private offices of B Sexton and K Wade. BC Children's hospital has 2 pediatric neuro-ophthalmology clinics per week staffed by M Aroichane and C Lyons. Botulinum toxin injection clinics are provided by Janette Lindley and Kevin Wade. There are satellite MS/ neuro-ophthalmology clinics, one every 2 months at Burnaby staffed by D Anderson, and one in Comox. During the year there were about 5972 adult patient visits.

### **Research Activities**

There were 31 research presentations, 7 invited research lectures and 5 outreach talks, and published 40 works, with another 22 at the epub or in-press stage. We continued to receive press coverage for our face perception work from newspapers (Pittsburgh Post-Gazette), magazines (Scientific American Mind) and television (Global TV News).

### **Teaching Activities**

The division hosted Alan Gilchrist of Rutgers University as a guest speaker. Members also gave 35 local or international clinical/teaching lectures. The educational website operated by the division received 1,115,936 hits and 120,577 visits in 2010.

## **Epilepsy Program**

### **Faculty**

Dr. Mano Javidan and Dr. Tiffany Townsend have been the Co-Directors of the Epilepsy Program. Dr. Mano Javidan is also the Director of the Neurophysiology Lab at Vancouver General Hospital. Dr Javidan is the ex-president of the Canadian Society of Clinical Neurophysiology (CSCN) and the ex-member of the Executive Board, Canadian Neurological Society Federation (CNSF). He has served as examiner for the EEG Board examination of CSCN since 1999. Dr Javidan is the IFCN representative from the Canadian Society of Clinical Neurophysiology.

### **Clinical Activities**

Epilepsy Clinic: This has been a very active year. Patients with wide range of epileptic disorders, diagnosis of spells, first seizure, complex and refractory epilepsy, and candidates for epilepsy surgery or complex medical treatment were assessed.

Dr. Townsend and Dr. Javidan worked in the clinic 4-5 days a week.

Seizure Investigation Unit (SIU): This unit is located on T5B at VGH. It is the only adult epilepsy surgery program in British Columbia. In 2010, a total of 55 patients were monitored in the 2 bed SIU with 16 epilepsy surgeries performed and 4 with invasive monitoring. Another 10 patients had completed investigations in 2010 and waiting to have surgery. The technology within the SIU continues to advance with improved usage and accuracy of the seizure detection software. Extensive education is provided to the neurology nursing staff and patients/families by Janice Henrikson, a skilled nurse practitioner.

Dana Wittenberg neuropsychologist joined the program last year in the fall and has been working full time.

Dr. Redekop has been performing the epilepsy surgeries since Dr. Woodhurst retired.

### **Research Activities**

Dr. Javidan has been actively developing a program of clinical research spanning the rates of non-convulsive status epilepticus, the outcome of patients with the diagnosis of non-convulsive status epilepticus, the localization and prediction of seizures by computerized analyses, the characteristics of patients with temporal lobe epilepsy and surgery without interictal epileptic activity on EEG and the weighted value of interictal and ictal EEG activity in the surgical outcome of patients with temporal lobe epilepsy.

The article "The Rate of Occurrence of Non-convulsive Status Epilepticus in a General Hospital" was published in the European Journal of Epilepsy "Seizure" in January 2009. The project of the assessment of outcome of patients with non-convulsive status epilepticus in hospital was finalized. One of the neurology residents was involved in this study. This work was presented in the American Academy of Neurology Meeting in April 2010. This study is submitted for publication.

The study of seizure detection by wavelet analysis "Automated Real-Time Epileptic Seizure Detection in Scalp EEG Recordings Using an Algorithm Based on Wavelet Packet Transform" was published in one of the most prestigious Bio medical engineering Journals "IEEE Transactions on Biomedical Engineering".

### **Teaching Activities**

The Epilepsy Program plays a key role in the education of Neurology residents and fellows. Neurology residents spend at least 3 months of their residency on the EEG/ Epilepsy rotation where they interpret outpatient and inpatient EEGs, admit and are directly involved with the care of the patients in SIU and those seen in the Epilepsy Clinic, all under direct supervision. Drs. Javidan and Townsend are both active in CME and also have served as experts on provincial and national committees.

## **Movement Disorders**

### **Clinical Activities**

The Movement Disorders Clinic provided more than 3600 outpatient visits in 2010. The majority of these were for patients with Parkinson's disease or focal dystonia. The program is supported by nurse coordinators, who assist in the assessment of patients and who provide education and counseling to patients, families and other health care professionals, as well as a physiotherapist and social worker.

### **Research Activities**

During 2010, Centre investigators had more than \$4M of peer-reviewed research support (excluding faculty salary awards), including ongoing support through a CIHR Team grant in Parkinson's Disease (\$4.45M over 5 years, beginning 2006) and a Centre grant from the Pacific Alzheimer Research Foundation on Overlap Syndromes resulting in Dementia valued at more than \$7M over 5 years (PI: Stoessl) and completion of a Research Unit award from the Michael Smith Foundation for Health Research (\$800K over 4 years, starting 2006). Centre investigators continue to work on a number of other CIHR funded projects, including depression in PD and mechanisms of impulse control disorders in PD. New grants were obtained by Drs. Sossi and Stoessl from the Michael J. Fox Foundation to support both clinical and preclinical work on biomarkers for genetic forms of Parkinson's. Dr. Ruth and his collaborators continue to work on labeling of large molecules for positron emission tomography. Dr. McKeown holds a multidisciplinary MSFHR Team award on Monitoring and Control of Abnormal Brain Dynamics and is a co-investigator on a \$12.8M CFI grant for expansion of the ICICS facilities in biomedical technologies (PI: N. Rajapakse, ICICS, Mechanical Engineering). He has also obtained support from the Parkinson Society Canada (together with Dr. Cresswell) to study the role of the 'hyperdirect' pathway. Dr. Tsui has continued studies in collaboration with the School of Population Health on occupational risk factors for PD. Centre investigators had 35 PubMed listings during 2010, including papers in Annals of Neurology, Archives of General Psychiatry, Canadian Journal of Public Health, European Journal of Neuroscience, Neuropsychopharmacology and PNAS.

Two new investigators joined the Centre in 2010. Dr. Silke Cresswell is a neurologist trained in Germany and England, with special expertise in neuropsychiatric aspects of movement disorders. She completed a fellowship at the Centre in 2010 and has joined our faculty as the inaugural holder of the Pacific Parkinson's Research Institute Professorship in Parkinson's Research. In her short time on faculty, she has developed a new research oriented clinical database, collaborated with other Centre investigators in research studies on cognition, impulse control disorders and functional imaging, and coordinated the course for an MSc student in Experimental Medicine.

Dr. Matt Farrer was recruited to the Department of Medical Genetics, the Centre for Molecular Medicine & Therapeutics and the Brain Research Centre as a Canada Excellence Research Chair in Neurogenetics & Translational Neuroscience. Dr. Farrer is an internationally renowned expert in the genetics of Parkinson's Disease who has already collaborated for many years prior to his relocation to UBC with PPRC investigators. Since his arrival, he has already developed several new research collaborations with PPRC investigators, including Dr. Cresswell.

### **Teaching Activities**

The Movement Disorders Clinic provides ambulatory teaching to medical students and to residents in neurology, geriatrics, psychiatry and palliative care. During 2010, 3 fellows completed their training at the PPRC and another 3 joined. Faculty members of the Pacific Parkinson's Research Centre participate in the Brain & Behaviour course and provide training to multiple students at the MSc and PhD levels in the Graduate Neuroscience program, as well as students in Chemistry, Experimental Medicine, Physics & Astronomy and Electrical & Computer Engineering. PPRC faculty also provide a series of lectures to the Neurology residents on basic science applications to basal ganglia disease. Dr. Doudet directs the Motor Systems module of the Systems Neuroscience (Neuroscience 501) core course in the Graduate Neuroscience program. Faculty members within the Centre serve on numerous supervisory, comprehensive and examination committees. Additionally, Dr. Cresswell coordinates a regular series of video/journal clubs attended by residents as well as fellows and Centre staff.

### **External Activities**

In addition to participation in numerous editorial boards and scientific advisory panels, Centre investigators hold leadership roles in national and international organizations. Dr. Doudet is on the International Organizing Committee of NeuroReceptor Mapping, will Co-Chair the international BrainPET meeting in 2011 and was elected as a member of the American Board of Science in Nuclear Medicine. Dr. Stoessl chairs the Canada Research Chair Interdisciplinary Adjudication Committee and the Awards Committee of the Movement Disorders Society, co-chairs the Mentorship Committee of the Parkinson Study Group, sits on the International Executive Committee of the Movement Disorders Society, as councilor on the Association of Parkinsonism & Related Disorders and has been asked to co-chair the next World Parkinson Congress (Montreal, 2013).

## **Multiple Sclerosis Program**

### **Faculty**

The UBC Hospital MS clinic has currently 7 neurologists (Drs. V. Devonshire, S. Hashimoto, J. Hooge, L. Kastrukoff, J. Oger, Dr. A.L. Sayao, A. Traboulsee), 2 clinical research fellows (Drs. Mona AlKhawajah and Ibtisam Althubati) and 3 neuro-ophthalmologists (Drs D. Anderson, J. Lindley and K. Wade).

In 2010, three clinical research fellows successfully completed their training (Drs. A.L. Sayao, J. Saeedi, and R. Alroughani). Dr. Sayao had joined the MS program as faculty September 2010. Professor Peter Rieckmann, previous Chair of MS, has resigned and returned to Germany (following a year leave of absence). Since the beginning of Dr. Rieckmann's leave and now that he is not returning, Anthony Traboulsee has provided and continues to provide overall leadership to the MS program as the Acting Head of MS Research Programs and Director of the MS Clinic and the MS clinical trial group. Professor A. Dessa Sadovnick is the Director of the MS Society of Canada and MS Western Pacific Regional Research and Training Network (WPRRTC). Other key faculty within the MS programs include: Professor Alex Mackay (Director of the High Field MRI Centre), Professor David Li (Director of MS/MRI Research Group); Drs. W. Moore, K. Zis, J. Quandt, P. van den Elzen (neuropathology and immunology); and Dr. H. Tremlett (pharmaco-epidemiologist) and Dr. Susan Forwell (rehabilitation). Extensive research collaborations are established with faculty throughout the UBC Brain Research Center as well as other National and International collaborators.

### **Clinical Activities**

The MS clinic at UBC hospital ("the MS Clinic") celebrated 30 years of providing multi-disciplinary service to MS patients throughout BC. An official celebration was held in December 2010 and a plaque honouring its founder, Dr. Donald W. Paty, was unveiled. To date, the MS Clinic has seen over 8,000 patients. In 2010, there were 4,426 patient visits (a 45% increase compared to 2005). The MS Clinic is one of the largest such resources in Canada and provides a multi-disciplinary service (including psychiatric, rehabilitation, social work, and genetic/reproductive counseling) to all patients across the province via the British Columbia Multiple Sclerosis Clinic Network (BCMSEN), one of the largest collaborative efforts in the world providing excellent multi-disciplinary services to MS patients. Currently, the clinical database at UBC includes up to 30 years of natural history data on the disease courses of over 8000 patients. This network provides an excellent resource for research, training, and education, and attracts national and international visitors every year for clinical preceptorships and fellowships.

The MS clinic maintains important interdepartmental collaborations to optimize care to affected patients and their family members as appropriate. In particular the close collaborations include Dr. A. D. Sadovnick and her team (genetic & reproductive counseling), Dr. A. Jiwa/ J. Tham (psychiatric care), Dr. S. Elliot (sexual medicine care) and Dr. Fenster (neuro-urology). The MS clinic coordinates (RN J. Geddes) new escalating immune therapy options for aggressive MS. It also provides specialized care for patients with neuromyelitis optica (NMO), an aggressive form of optic nerve and spinal cord demyelination with special focus on the evolution of new phenotypes in the Asian immigrant population. The MS clinic also has important collaborations with the Cell Separator Unit at VGH site with Dr. Traboulsee and Dr. Oger serving on the Neuroplex Committee. Currently, guidelines and pathways for rapid access to escalating

therapies are being established. Unfortunately, our positions for the rehabilitation professionals (an occupational therapist and physical therapist) have been recently vacated. There is continued negotiation with the VCH to have these positions filled.

As part of the commitment to the BCMSCN, the UBC Hospital clinic provides outreach to 3 MS clinics in Victoria (1000 patients registered), Kelowna (700 patients), and Prince George (506 patients), as well as providing outreach care directly to patients in Comox. Collaborative projects have been established with the Fraser Health MS Clinic and another outreach clinic is planned for Kamloops. The next step to improve the care for our patients is to provide interdisciplinary services as a provincial program.

In collaboration with Pharmicare and educational funding from the pharmaceutical industry, we were able to continue the "MS Special Therapy" program, which provides education to patients in their choice for Disease Modifying Therapies (DMT) as well as management of potential side effects. There are over 2000 patients currently being treated in this program.

### **Research Activities**

2010 has been an active year for the UBC MS Research Teams. We have rapidly put together an investigational program to deal with a controversial theory on MS etiology and treatment referred to as chronic cerebral spinal venous insufficiency (CCSVI). We have received two competitive grants (MS Society of Canada and Lotte Hecht Foundation, PI Anthony Traboulsee) to investigate the validity of this theory. In addition, we have worked closely with hospital services and communications to establish clear messages for the media and patient groups. Dr. Traboulsee is on the CIHR MS Task Force that meets quarterly to address this evolving issue and has worked closely with the BCMA, College of Physicians and Surgeons of BC and the BC Ministry of Health to establish guidelines on the management of MS patients who are seeking out of country care.

Establishing new international links especially with China has been very successful through a China Canada CIHR joint grant (Canadian PI Anthony Traboulsee). This has allowed us to establish a research collaboration with the largest neurologic institute in southern China at Fudan University. This epidemiologic study will evaluate environmental and genetic differences in MS as it affects ethnic Chinese in both countries. We believe this could give us important clues to the vastly different rates of MS in our two regions. This collaboration will provide additional insight into NMO. Dr. Oger's special HTLV-1 myelopathy clinic bridges these studies with that of British Columbia's affected individuals and carriers.

Dr. Sadovnick's research on genetic susceptibility and genetic epidemiology to MS has now entered its 5th phase and is continuously the most productive and successful part of the MS program. Her research team also significantly contributes to the success of the prospective study on epidemiology, pathobiology, and clinical outcome of Canadian children with

clinically isolated demyelinating syndromes (CIS) and to the China-Canada initiative. Dr. Sadovnick has initiated a Multiple Sclerosis North American Pregnancy Program (MS-NAPP) in collaboration with the MS Society of Canada, National (US) MS Society and the Consortium of MS Clinics, which now includes cooperation partners in Argentina and Chile. Drs. Traboulsee and Sadovnick are involved in the planning stages of a new national registry on MS.

In Dr. J. Oger's laboratory, E. Gibbs has graduated with a PhD in experimental medicine. Using a new method of plasmon resonance (Biacore®), it was demonstrated that the immune response against recombinant interferon-beta injected by MS patients (neutralizing antibodies) switches from an IgG1-based response to an IgG4-based response as affinity increases. The neuro-immunology Laboratory has brought the measure of Neutralizing antibodies to Interferons on line. This is done using a Luciferase based reporter assay. The test has now been accepted by the Ministry of Health under reference BC 91858. Obtaining this number has permitted us to generate income for the lab and given access to patients living in other provinces through the Interprovincial agreements. In 2010, we have assayed samples 280 samples, 40% from BC and 60% from the rest of Canada.

Dr. H. Tremlett's Pharmacoepidemiology in MS (PiMS) Research group continue to expand. In 2010, her trainees included three post-doctoral fellows, 3 PhD students and 2 MSc students. New grants attracted by Dr Tremlett in 2010 included: a 3-year CIHR operating grant to examine pregnancy in MS (\$384,366; PI: Tremlett); a 5-year CIHR Team grant to investigate co-morbidities in MS across 4 provinces in Canada (\$1.5 million; PI: Marrie, co-PI: Tremlett); seed funding from the Martha Piper Research Fund to build on collaborations with Dr Alberto Ascherio's group at Harvard University, Boston to investigate the association between vitamin D and genetics in relation to the risk of developing MS (\$25,000; PI: Tremlett, collaborators: Dr Nadine Schuurman, SFU); seed funding from the BC Clinical Genomics Network (\$20,000; PI: Tremlett) to develop a pharmacogenomics in MS program in collaboration with Dr Michael Hayden's Centre for Molecular Medicine and Therapeutics). Dr Tremlett was also promoted to Associate Professor and awarded a Canada Research Chair in Neuroepidemiology and MS (\$500,000 over 5-years). This was in addition to ongoing grants – a joint CIHR-US National MS Society operating grant to investigate the effectiveness and adverse effects of beta-interferon treatment in clinical practice; a UK MS Trust grant to fund a collaboration with the UK's Department of Health through the 'UK RISK Sharing Scheme' to assess the effectiveness of the 'disease modifying therapies' for MS (\$112,000 awarded in 2010); ongoing salary funding (MS Society Don Paty award \$50,000 in 2010 and a Michael Smith Scholar award \$45,000 in 2010) Dr Tremlett's PiMS Research Group continue to develop and expand the BCMS database as a tool for research, including overseeing its first linkage with external databases. In 2010, the BCMS database was successfully linked to: BC'S MoH health administrative data (including hospitalization data, physician visits, mortality data and prescription data (PhamaNet)) and BC's Perinatal database.

Dr. S Forwell's research in issues important to rehabilitation has experienced a very successful year. With the collaboration of Drs. Oger and Tremlett, the National MS Society has provided \$220,000 to fund a post-doctoral fellow dedicated to MS rehabilitation research, specifically related to MS self-management. With 8 masters students Dr. Forwell is working on 3 other areas in rehabilitation including comprehensive assessment of fatigue in MS, rehabilitation assessment and non-invasive treatment of intention tremor, and investigating quality of life related to participation and activity. At the 2010 Consortium of MS Centers annual conference, Dr. Forwell along with 2 students won the prize for the best scientific poster.

The MRI Research Group has further improved the clinical applicability of myelin water imaging (MWI), the only in vivo method to specifically quantify myelin content in the central nervous system. This important work has received ongoing grant support from the MS society and international acclaim. A new serial study of MS subjects, monitoring the development and repair of new lesions over a 6-month period was recently completed. Based on these findings, this technique will be adapted for multicentre clinical trial use. A key component of this research has been the collaboration with Drs. Wayne Moore and Corre Laule who continue to work on pathologic validation of MRI techniques.

In addition to renewal of existing grants, MS/MRI Research Group received a new 2 year grant from the MS Society of Canada (PI: Tony Traboulsee) to investigate the effect of medications on brain hydration. Changes in brain size or atrophy (shrinkage) occur with most diseases of the central nervous system and they are often used to monitor for therapeutic benefit of new investigational drugs. Drs. Li and Traboulsee, in association with the Consortium of MS Centers, recently hosted an international panel of MS and MRI experts to revise a standardized MRI protocol and clinical guidelines for the use of MRI in MS care. This is an important translation of an evolving body of research and opinions into a clinically practical set of guidelines that will benefit patients and clinicians worldwide. Dr Oger and Dr Gibbs received a new grant to re-evaluate predictors of Interferon failure in treated MS patients. The study will start by re-evaluating the immunogenicity of Beta-1b in the BENEFIT trial.

The MS Clinical Trials Group participated in 2 studies for clinical isolated syndromes (phase II and phase III), 9 studies for relapsing remitting MS (2 phase II, 5 phase III, 2 extension studies), 3 studies for PPMS (phase III). This latter group is particularly important as there are no treatment options for progressive MS. Dr. Traboulsee serves on many steering committees and safety monitoring boards of international studies. We have a dedicated clinical trial staff including 4 nurse coordinators, 1 research technologists, and 2 research coordinators.

Dr. Quandt received a Donald Paty Career Development Award from the MS Society of Canada as well as a new 2 year grant to investigate the anti-inflammatory and neuroprotective effects of nitroxide radicals in animal models of MS. In Dr.

Quandt's laboratory, Samir Alkabile, a MSc. student in the Experimental Medicine program completed a thesis describing the role of secreted protein acidic and rich in cysteine (SPARC) in influencing blood brain barrier properties relative to inflammation and new blood vessel development.

Researchers of the MS program participate in several national and international collaborative research networks and hold grants from CIHR, NSERC, European Union, MS Society of Canada, MS Society of Canada Scientific Research Foundation, National MS Society of USA and MSFHR worth over CDN\$ 6M. They have published in 2010 over 50 peer-reviewed articles.

### **Teaching Activities**

Members of the MS Program actively recruit students for the neuroscience, pathology and experimental medicine graduate programs (there are currently 13 students in the program). They have lectured locally, in the region, nationally and at different international conferences on the important aspects of optimized MS treatment and care both for clinicians and also for MS patients. The MS Program offers research-training opportunities for students and residents, which has resulted in highly recognized publication. We recently organized a formal rotation of residents to all clinical neuroscience programs at UBC hospital. The UBC MS program offers clinical and research fellowships for neurologists who are interested in building a career as clinician scientists. In 2008, we hosted over 30 clinicians and researchers for short term or extended fellow- and preceptorships. Together with the University of Saskatoon, we successfully obtained WPRRTC funding which provides an optimal interdisciplinary environment to attract students, researchers and clinician scientist to MS research. The center is funded by the endMS campaign of the Canadian MS society and Dr. Sadovnick is Director. Weekly seminars, journal clubs and invited lectures form the foundation of this interactive multidisciplinary MS research program spanning basic and clinical areas of research.

### **Basic Neuroscience Research Program**

The Division's basic neuroscience research is primarily conducted within the Brain Research Centre at the UBC Campus. Areas of research include a focus on neuroimmunology, neurovirology, and neurochemistry.

The long-standing research interest in Dr. Yu Tian Wang's laboratory has been on understanding the fundamental mechanisms controlling synaptic transmission among neurons in the brain, and the dysfunction of these mechanisms in the pathogenesis of brain disorders such as epilepsy, stroke, and learning deficits. In particular, over the last year, Dr. Wang and colleagues have made significant progresses on elucidating molecular mechanisms underlying the formation of learning and memory (PNAS 2010; Nature Neurosci. 2010; Nature Rev. Neurosci. 2010) and the pathophysiology of brain injuries following stroke (Nature Medicine, 2009; Nature Medicine 2010; Cell 2010). These studies have led to the identification of a number of novel targets upon which new therapeutics

may be developed for reducing brain injuries following stroke and preventing or slowing down the process of memory loss in brain disorders such as dementia and AD.

The labs of Drs. Steven Pelech, Joel Oger, Lorne Kastrukoff, and Neil Cashman contribute to divisional research in basic neuroscience research.

## APPOINTMENTS AND PROMOTIONS

**Dr. Silke Cresswell** was appointed to the rank of Assistant Professor with effect from July 1, 2010.

**Dr. Ana-Luiza Sayao** was appointed to the rank of Clinical Assistant Professor with effect from July 1, 2010.

**Dr. Helen Tremlett** was promoted to the rank of Associate Professor with effect from July 1, 2010.

## SPECIAL HONOURS AND AWARDS

**Dr. Jason Barton** received the Best Research Mentorship Award, UBC Division of Neurology

**Dr. Jeff Beckman** awarded the Clinical Faculty Award for Excellence in Clinical Teaching, UBC 2010

**Dr. Dean Johnston** awarded the Donald Whitelaw award for Outstanding Grand Rounds, 2010

**Dr. Robert Keyes** has been elected a Fellow of American College of Physicians.

**Dr. Lynn Raymond** won the Huntington Society of Canada/ INMHA Prize for Research Excellence in 2010.

**Dr. Tony Traboulee** has been named the President of the MS Clinics Consortium of Canada

**Dr. Helen Tremlett** was awarded the Canada Research Chair in Neuroepidemiology and Multiple Sclerosis (Tier II) in November 2010.

**Dr. Daniel Buckman**, Postdoctoral Research Fellow in Neuroethics has received a Banting and Best Graduate Award from CIHR.

**Dr. Gerald Pfeffer** was awarded a CIHR Fellowship to conduct post-residency basic science work in England, and in fact received the top ranking in the Committee.

## PUBLICATIONS BY FELLOWS/STUDENTS/RESIDENTS

- Wing-Lok Au, Ni Lei, Meeko M K Oishi, Martin J McKeown (2010) L-Dopa induces under-damped visually guided motor responses in Parkinson's disease. *Exp Brain Res* 202: 3. 553-559 May
- Xiaohui Chen, Z Jane Wang, Martin J McKeown (2010) Asymptotic Analysis of Robust LASSOs in the Presence of Noise with Large Variance *IEEE Transactions on Information Theory* 56:10. 5131 - 5149 Oct
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- Hrazdil C, Alroughani R, Javidan M. A Descriptive Analysis of Prognostic Indicators in Patients with Non-Convulsive Status Epilepticus in a Tertiary Hospital Population.
- Lidstone SC, Schulzer M, Dinelle K, Mak E, Sossi V, Ruth TJ, de la Fuente-Fernandez R, Phillips AG, Stoessl AJ (2010). Great expectations: placebos mimic the effect of active medication in Parkinson's disease. *Arch Gen Psychiatry* 67: 857-865.
- Nandhagopal R, Troiano AR, Mak E, Schulzer M, Bushnell MC, Stoessl AJ (2010). Response to heat pain stimulation in idiopathic Parkinson's disease. *Pain Medicine* 11: 834-840.
- Bernard Ng, Samantha Palmer, Rafeef Abugharbieh, Martin J McKeown (2010) Focusing effects of L-dopa in Parkinson's disease. *Hum Brain Mapp* 31: 1. 88-97 Jan
- Samantha J Palmer, Pamela Wen-Hsin Lee, Z Jane Wang, Wing-Lok Au, Martin J McKeown (2010) Theta, Beta But Not Alpha-Band EEG Connectivity Has Implications For Dual Task Performance In Parkinson's Disease *Parkinsonism and Related Disorders* 16: 393-397
- S J Palmer, J Li, Z J Wang, M J McKeown (2010) Joint amplitude and Connectivity compensatory mechanisms in Parkinson's disease. *Neuroscience* 166: 4.1110-1118 Apr
- Sharp ME, Pettersen JA. Prolonged restricted diffusion white matter changes in carbon monoxide delayed encephalopathy: A case report. *Canadian Journal of Neurological Sciences* 2010 37(3) (Suppl 1): S54
- Troiano AR, Schulzer M, de la Fuente-Fernandez R, Mak E, McKenzie J, Sossi V, McCormick S, Ruth TJ, Stoessl AJ (2010). Dopamine Transporter PET in normal aging: dopamine transporter decline and possible preservation of motor function. *Synapse* 64: 146-151.

## Division Members

### Professor

Dr. Andrei Krassioukov

### Clinical Professor

Dr. Hubert Anton

### Clinical Associate Professor

Dr. Daniel De Forge

Dr. Jaime Guzman

Dr. George Hahn (*Emeritus*)

Dr. Alexander C. Pinkerton

(*Emeritus*)

Dr. Wolfgang Schamberger

Dr. Andrea Townson

Dr. Andrew Travlos

Dr. Theo Van Rijn

### Clinical Assistant Professor

Dr. Mark Adrian

Dr. James Filbey

Dr. Heather Finlayson

Dr. Gabriel Hirsch

Dr. David Koo

Dr. Lynne MacKean

Dr. Shawn McCann

Dr. Viem Nguyen

Dr. Russell O'Connor

Dr. Heather Underwood

Dr. Michael Vondette

Dr. Jennifer Yao

### Clinical Instructor

Dr. Anibal Bohorquez

Dr. Lisa Caillier

Dr. Mark Crossman

Dr. Andrew Dawson

Dr. Anita Fan

Dr. Corrie Grabowski

Dr. Steven Helper

Dr. Herman Lau

Dr. Catherine Paramonoff

Dr. Nittin Reebye

Dr. Rajiv Reebye

Dr. Elliott Weiss

Dr. Rhonda Willms

Dr. Paul Winston

Dr. Jaime Yu

### Adjunct Professor

Dr. Lyle Gross

### Associate Member

Dr. Janice Eng

Dr. Bill Miller

Dr. Jacqueline Purtzki

### Honorary Member

Dr. Claire Weeks



**Dr. Andrea Townson**  
**Clinical Associate Professor & Head**

## DIVISION OVERVIEW

The UBC Division of Physical Medicine & Rehabilitation (PM&R) faculty members are involved with patient care, teaching and research. Our members consult and provide rehabilitation services to persons ranging from the very young to the very old. We manage inpatient and outpatient programs for persons who have suffered spinal cord injury, acquired brain injury, neuromuscular abnormalities and cardio/pulmonary dysfunction. Inpatient services are provided at several sites, including Vancouver Acute/GF Strong Rehab Centre, St. Paul's Hospital, Holy Family Hospital, Eagle Ridge Hospital, Sunny Hill Health Centre, as well as consultation services to the Vancouver teaching hospitals, BC Children's Hospital, Royal Columbian Hospital and Burnaby General Hospital.

Outside the Lower Mainland, our Division has members in Victoria and Kelowna who are involved in both patient care and the distributed sites of the medical school. Our staff is actively involved in teaching residents and medical undergraduate students, as well as undergraduate and graduate students in related disciplines. Research activities deal with disease specific issues related to our patient population, as well as disability issues for the population at large.

## TEACHING

### **Undergraduate**

Dr. David Koo is the Undergraduate Coordinator for the Division.

We continue to provide a strong presence with MSK skills preceptorship during the 2nd year MSK skills series, in conjunction with the Orthopedic Surgery and Rheumatology at VGH site. Five Division members and a senior PMR resident participated in the teaching in 2010.

GF Strong has continued to participate in 2nd year bedside clinical skills teaching, with the capacity of taking 2 students per block, for 3 of the 4 potential blocks.

UBC elective/selective requests have come from 27 medical students with 17 UBC students, 5 out-of-province students and 5 international students.

The Vancouver PM&R elective rotations have been streamlined into three primary block rotations to minimize scheduling conflicts with concurrent students (Acquired Brain Injury/ Adolescent Young Adult, Spinal Cord Injury and Neuromuscular blocks). Student elective capacity at Vancouver site remains 3 students per rotation. Year 4 PM&R electives are also being offered at Victoria site, with 1 student capacity per rotation.

Undergraduate involvement of PM&R in the 3rd year Internal Medicine half-day lecture continues to reflect the new 1 hour format of these lectures and works within the teleconferencing structure of the satellite sites. The objectives for this lecture include the WHO-sanctioned definitions of impairment, activity and participation, as per the International Classification of Function. The Powerpoint presentation and associated videoclips are now uploaded on a central server, to facilitate distribution of course notes to remote videoconferencing sites.

### **Postgraduate**

Dr. Heather Finlayson is the Residency Program Director. There were thirteen active residents in the program at the end of 2010. The Division also provides regular teaching to residents in Neurology, Geriatrics, and Rheumatology, as well as for resident electives from other UBC and external programs.

Residents are selected for the program using a multiple mini interview format addressing the CanMEDS competencies. The feasibility and reliability of this method has been presented and is in press.

Resident teaching is done at the bedside and in ambulatory clinics. Formalized seminars occur during weekly Academic Half Days and as part of clinical rotations. The resident academic half-day schedule follows a systems/disability-based approach and includes weekly teaching of musculoskeletal and neurological physical examination techniques, as well as gross anatomy every two years. Additional teaching sessions for senior residents take place one or two times per week. A new Health Advocacy curriculum including resident-driven Health Advocacy projects was initiated this year.

All residents participate in research. Residents from PGY2 onwards have a weekly formal half-day of research experience throughout their academic years. Two residents completed MHSc degrees from the UBC School of Population and Public Health in 2010.

## CONTINUING PROFESSIONAL DEVELOPMENT

Dr. Russell O'Connor stepped down as our Continuing Professional Development Coordinator in 2010 and Dr. Mark Adrian now heads our CPD activities. The Division provides needs-based weekly CPD meetings attended by Division and non-Division members who have an interest in topics presented. The CPD Committee meets at least bi-annually to review upcoming CPD activities and to formulate ways to enrich ongoing education of our membership. The CPD committee continues to encourage members to develop innovative teaching methods, as well as utilizing panel discussions and experts from other sub-specialties for broader educational experience.

Dr. Jaime Guzman supports the residents in the selection and analysis of articles for the scheduled monthly Division Journal Club.

Invited lecturers in 2010 included Dr. Gary Franklin from the University of Washington and Dr. Thomas Findley from New Jersey.

## RESEARCH

Dr. Andrei Krassioukov is the Division Research Director and Chair of the Division Research Advisory Committee. Dr. Hugh Anton is the GF Strong Research Coordinator. Division members actively participate in regular research education sessions focused on the relevance of research to the professional development needs of the Division. Since 2009, these regular sessions have been interdisciplinary with members from the Departments of Physical Therapy and Occupational Science and Therapy attending on a regular basis. The Division Research Advisory Committee continues to meet and develop a strategic planning process for research.

In 2010, the Division hosted the First Annual GF Strong Rehab Centre Research Day. Dr. Carolyn Emery was the keynote speaker for the day which was extremely well attended. There were research presentations from residents in Physical Medicine and Rehabilitation and trainees in other rehabilitation related disciplines.

## CLINICAL SERVICES

Members of our Division continue to provide consultation services to Vancouver Acute, Providence Hospitals, as well as hospitals in the Fraser Health Authority, Vancouver Island Health Authority and Interior Health Authority. Dr. Elliott Weiss is the leader for rehabilitation in Providence Health Care. Dr. Jacqueline Purtzki provides consultation services for the BC Children's Hospital, Vancouver Acute, and Sunnyhill Health Centre. Dr. Drew Dawson is the Medical Director for Rehabilitation and Allied Health for the Fraser Health Authority. Drs. James Filbey, Corrie Graboski, Lynne MacKean and Paul Winston provide UBC Undergraduate teaching assistance in Victoria. This year, we welcomed Drs. Shawn McCann and Jaime Yu from Kelowna to the Division.

The Division continues to provide leadership for athletes with disabilities and played a key role in the 2010 Olympic and Paralympic Games. Dr. Russell O'Connor was the Team Physician for the Canadian Paralympic Alpine Ski Team. Dr. Heather Underwood was the venue medical officer for Nordic Skiing and Dr. Rajiv Reebye was the venue medical officer for Wheelchair Curling for the 2010 Paralympic Games. Dr. Andrei Krassioukov performed autonomic testing on Paralympic athletes in one of the few approved research projects during the Games.

## ADMINISTRATION

Dr. Andrea Townson is the UBC Division Head as well as Division Head for Vancouver Acute and the Medical Site Lead for G.F. Strong Rehab Centre. Drs. Andrew Travlos, Rhonda Willms and Jennifer Yao are the medical managers assisting in program related issues at G.F. Strong Rehabilitation Centre.

Dr. Elliott Weiss is the Division Head for Providence Health.

Dr. Jennifer Yao is the Co-chair of Stroke Rehabilitation and community reintegration workgroup for the Provincial Stroke Strategy, the Vice chair for the Education Committee for the CAPMR and a Member at Large for the CAPMR executive.

Dr. Heather Underwood is the national leader for the amputee special interest group for the CAPMR. Dr. Andrea Townson is the national leader for the spinal cord injury special interest group for the CAPMR.

Dr. David Koo is an examiner for the Specialty of PM&R at the Royal College.

Dr. Elliott Weiss is the Chair of the BCMA Section of PM&R.

## FUTURE DIRECTIONS

Our clinical and academic activities continue to grow throughout the province as we welcome Division members from the distributed sites for UBC medical school. The Division's "city-wide" rounds are becoming province-wide rounds and are now available by live video-conferencing to other sites.

New opportunities for interdisciplinary clinical and research collaborations are being fostered through ICORD (International Collaboration on Repair Discovery) and the plans for the new Centre for Brain Health at UBC.

Ongoing partnerships include joint clinics with neurology in multiple sclerosis and with paediatrics in spina bifida.

Teaching and medical education remain key strengths for the Division. Our tradition of teaching excellence continues to be maintained.

## SPECIAL HONOURS AND AWARDS

**Dr. Heather Finlayson** was the 2010 recipient of the Theo van Rijn Award for contribution to the UBC Physical Medicine and Rehabilitation residency program.

**Dr. Jaime Guzman** received the 2010 Department of Medicine Martin M. Hoffman Research Award for his work on musculoskeletal diseases and injuries and the 2010 Duncan Murray Award for Excellence in Teaching.

**Dr. Andrei Krassioukov** was the recipient of the 2010 Vancouver Acute Scientific Achievement Award for his research in the area of autonomic function and spinal cord injury.

**Dr. Patricia Mills** was awarded the 2010 Best Annual Physical Medicine and Rehabilitation City Wide Rounds Presentation for her co-presentation with Dr. Kam Shojania on "Ankylosing Spondylitis: A Physiatric Update". She received the best resident research award at the First Annual GF Strong Rehab Research Day for her paper "Paralympic Athletes and Orthostatic Intolerance: The Need for Changes in Paralympic Classification". Dr. Mills was also awarded the Kiran van Rijn award for her outstanding overall performance in the residency training program.

**Dr. Gillian Simonett** received the S. Stewart Murray Prize from UBC for her work during her Masters in Health Care and Epidemiology and the Gordon Hiebert Prize for the best poster presentation by an ICORD trainee during the ICORD annual meeting.

**Dr. Andrea Townson** was co-author of the 1st place poster in the education category at the National SCI conference in Niagara Falls for the paper "A Systematic Literature Review to Direct Spinal Cord Injury Patient Education Programming". *Drs. David Koo and Andrea Townson* were co-authors on the 2nd place poster at the Canadian Association of Physical Medicine and Rehabilitation entitled "Spinal Column and Spinal Cord Injuries in Mountain Bikers: A Thirteen Year Review".

## Division Members

### Professor

Dr. Raja Abboud (*Emeritus*)  
 Dr. Tony Bai  
 Dr. Vincent Duronio  
 Dr. J. Mark Fitzgerald  
 Dr. John Fleetham  
 Dr. Stephen Lam  
 Dr. Robert Levy  
 Dr. S. F. Man  
 Dr. David Ostrow  
 Dr. Peter Pare  
 Dr. Jeremy Road  
 Dr. Francis (Frank) Ryan  
 Dr. Donald Sin  
 Dr. Stephanus Van Eeden  
 Dr. Moira Yeung (*Emeritus*)

### Honorary Professor

Dr. Morley Lertzman  
 Dr. Wan Tan-Hogg

### Clinical Professor

Dr. Edward Allen (*Emeritus*)  
 Dr. Paul Champion (*Emeritus*)  
 Dr. Kevin Elwood  
 Dr. Nasreen Khalil  
 Dr. Lindsay Lawson (*Emeritus*)  
 Dr. Edina Nakielna (Barbara) (*Emeritus*)  
 Dr. Juan Ronco

### Associate Professors

Dr. Najib Ayas  
 Dr. Andrew Sandford  
 Dr. Helen Ward  
 Dr. Pearce Wilcox

### Clinical Associate Professor

Dr. Tharwat Fera

### Assistant Professors

Dr. Christopher Carlsten  
 Dr. Victoria Cook  
 Dr. Denise Daley  
 Dr. Mahyar Etminan  
 Dr. John Swiston  
 Dr. Scott Tebbutt

### Clinical Assistant Professor

Dr. Richard Cohen  
 Dr. Anne McNamara  
 Dr. Annette McWilliams  
 Dr. Samir Malhotra  
 Dr. Chris Miller  
 Dr. Tawimas Shaipanich  
 Dr. Mark Turner  
 Dr. Jennifer Wilson

### Associate Member

Dr. Michael Brauer  
 Dr. Delbert Dorscheid  
 Dr. Ann Gordon  
 Dr. Mehdi Keshmiri  
 Dr. Susan Kwan  
 Dr. Alan Lowe  
 Dr. John MacCarthy  
 Dr. Graeme McCauley  
 Dr. Nestor Muller  
 Dr. Clive Roberts  
 Dr. J. Douglass Rolf  
 Dr. Bruce Sanders  
 Dr. John Tsang  
 Dr. Sheila Webster  
 Dr. Shannon Walker



**Dr. J. Mark Fitzgerald**  
 Professor & Head

## DIVISION OVERVIEW

The UBC Respiratory Division is primarily located at the major teaching hospitals affiliated with the UBC Faculty of Medicine. The major activities are focused at Vancouver General Hospital, St. Paul's Hospital and UBC Hospital. In addition, reflecting the distributed medical school there are now a significant number of community respirologists affiliated formally as either full or associate members of the Division. Dr. FitzGerald is the Head of the UBC Respiratory Division as well as the VGH Respiratory Division. Dr. Jeremy Road continues as the Associate Director of the UBC and VGH Respiratory Divisions. Dr. Tony Bai, for health reasons, stepped down as Head of Respiratory Medicine at SPH in 2010. Dr. Don Sin assumed the headship of the SPH Respiratory Division. Dr. Lindsay Lawson stepped down from the Division in 2010. Lindsay is a superb physician. She continues to help the SPH as it faces a challenging time, in anticipation of Drs. Chris Ryerson and Brad Quon returning there in the next couple of years. In 2010 there was continued development of The Centre for Lung Health and its evolution with the establishment of the Institute for Heart and Lung Health. The UBC Respiratory Division led multi-site lung health framework focusing on education, clinical care and research has now merged with cardiac activities across multiple sites - a leadership role being played by the Providence Heart and Lung Institute at St. Paul's Hospital. A major celebration of this convergence will be the Institute for Heart and Lung Health FEST in March 2011.

## TEACHING

### Undergraduate

Dr. Jeremy Road (VGH) and Dr. Don Sin (SPH) coordinate undergraduate elective programs for medical students. In this regard, the increased size of the medical school has presented new opportunities and challenges. Dr. Richard Cohen has responsibility for the PBL pulmonary block and brings specialty expertise in education to this role as well as his specialty training in Respiratory Medicine.

### Postgraduate

Dr. Frank Ryan assumed the position as Director of the Post Graduate Fellowship program in 2009 and in 2010 led a successful internal review of the fellowship program. He was ably assisted in this regard by Ms. Margie Bell, who in addition to her Fellowship activities also provides administrative support for the UBC Respiratory Division. The Program has expanded significantly with currently 7 clinical fellows in the program. The increased number of fellows has created new opportunities for a greater range of specialty elective rotations both with the traditional teaching hospital locations and also in many community hospitals. Dr. Keith Wally continued his leadership of the IMPACT training program which is a CIHR funded training program designed to develop a critical mass of scientists researching in the respiratory and critical care domains. The program continues to be very successful and continues to build on the excellence during the leadership of the inaugural Director, Dr. Peter Pare. Many divisional members are primary or co-supervisors of Masters, PhD and post doctorate students in a wide range of trainee programs across many different disciplines.

### Experimental Medicine

Dr. Vince Duronio is the director of the Experimental Program, as well as a divisional member. In total there are 17 fellows, 16 PhD students and 9 Masters students affiliated with the Respiratory Division.

### Continuing Professional Development

Divisional members contribute extensively on a provincial, national and international level to professional development. The scope of these contributions are too abundant to list in this brief report but reflect the major productivity

of the division in terms of research activity as outlined below. It also reflects the major contributions members have continued to make in terms of national and international guideline development in many therapeutic areas. The major divisional activity is the UBC Respiratory Medicine Update, which again was a very successful meeting co-sponsored with the BC Lung Association and held in Vancouver in March 2010. This meeting has expanded significantly in parallel with the ongoing development of the Centre for Lung Health. It now includes the Lung Health and Air Quality meeting, The UBC Lung Health Research and Policy Day. In conjunction with these meetings Dr. Jim Hogg gave the third annual David Bates Memorial Lecture focusing on mentorship. In addition, in 2010 in partnership with the BC Lung Association members of the division participated in a patient lung health forum which was held in parallel with the other meetings. In 2011 as noted above the activities will be further consolidated into the Institute for Heart and Lung Health FEST.

## RESEARCH

The UBC Division has an international reputation for excellence in research which spans the CIHR Pillars from state of the art basic research through to health outcomes. A conservative estimate of dollars generated for lung related research within the division for 2010 is \$9,150,270. Major peer reviewed publications totaled over 100 papers for 2010 either published or in press. This high level of productivity builds upon the recognition of UBC being recognized as being number three globally in COPD related research over the last ten years. Only Imperial College in London and Harvard University in Boston were ahead of UBC. The iCAPTURE Centre for Cardiovascular and Pulmonary Research at SPH continues to provide strong leadership in basic and translational research with a particular focus on airways disease and COPD in particular. There is also excellent clinical research in cystic fibrosis a rapidly developing basic and clinical research program in interstitial lung disease. Divisional members based in iCAPTURE include Scott Tebutt, Andy Sandford and Denise Daley focused on genetic mechanisms of lung disease; Don Sin, Wan Tan and Stephan Van Eeden, focused on COPD and air pollution; and Paul Man and Peter Pare both share multiple pulmonary research interests. Basic research also occurs at The Lung Centre at VGH with strong leadership from Drs. Vince Duronio and Nasreen Khalil but its major emphasis continues to be clinical and epidemiologic research focusing on sleep disordered breathing (Drs. Ayas, Fleetham, Ryan), interstitial lung disease (both clinical and basic - Dr. Nasreen Khalil), airways diseases (Drs. Jeremy Road, and FitzGerald), occupational lung diseases (Dr. Chris Carlsten) and tuberculosis (Drs. FitzGerald, Elwood and Cook). There is a major collaborative link between VGH based investigators (Drs. Yee, Mayo, Lam, and McWilliams) and the BC Cancer Agency focusing on better understanding of the pathogenesis, prevention and management of lung cancer. Health outcomes research continues to develop across both SPH and VGH with Dr. FitzGerald collaborating with a number of health outcomes researchers most notably Drs. Carlo Marra and Larry Lynd. In addition Dr. Mahyar Etmian continues to his pharmaco-epidemiology research as well as publication of high impact systematic reviews.

## CLINICAL SERVICES

The UBC Division provides tertiary and quaternary services in a distributed model with regional and provincial services in Lung Transplant (Medical Director Dr. Levy), Pulmonary Hypertension (Director, Dr. John Swiston), chronic home ventilation program (Director Dr. Jeremy Road), occupational lung diseases (Director Dr. Chris Carlsten) and Tuberculosis Ward (Director Dr. Mark FitzGerald) based at VGH. Other specialty clinics at VGH include COPD (Dr. Road et al), Asthma (Dr. FitzGerald), Interstitial Lung Disease) Dr. Khalil, lung cancer (Drs. McWilliams and Lam) and pleural diseases (Dr. Ryan et al). The Provincial cystic fibrosis program is based at St. Paul's Hospital. With the stepping down of Dr. Barbara Nakielna as Director of the CF Program Dr. Pearce Wilcox assumed this position. There is great excitement at the current training of Dr. Brad Quon in cystic fibrosis in Seattle with his anticipated return to SPH in July 2012. There is also specialty expertise in pulmonary complications of HIV with links to the BC Centre for Excellence in HIV. SPH has specialty clinics for difficult asthma, pulmonary complications of scleroderma, interstitial lung diseases and COPD. UBC Hospital is the site, for the regional program in sleep disordered breathing. Dr. Fleetham is the medical director of this program. Both sites provide comprehensive state of the art management across the continuum of care from ambulatory to acute, managing a broad range of respiratory diseases. In addition there is a respiratory consultation service provided to UBC Hospital, Mount St. Joseph's Hospital, GF Strong and Pearson Hospitals. Both sites continue to develop ambulatory care related resources and expanded pulmonary rehabilitation capacity at both major hospitals as well as innovative extension of care into the community best exemplified by an excellent program based at SPH with links to community rehabilitation. There are continued efforts to create better models of chronic disease management with COPD and asthma clinics continuing to evolve based on multi disciplinary models of care. Under the leadership of Dr. Mark FitzGerald members of the Division in partnership with many, community based respirologists continues to build upon the successful \$2.1 million dollar Lower Mainland Innovation Fund awarded in 2009. This award has allowed for expanded access to spirometry services as well as the development of common clinical pathways and standardization of COPD related services across both Vancouver Coastal and Fraser Health Authorities. Both sites have re constituted there Morbidity and Mortality Rounds and have been proactive in including fellows and trainees in this process. The latter involvement has facilitated quality assurance projects.

## ADMINISTRATION

Ms. Margie Bell continues to provide excellent administrative support for the division in 2010. In addition to the day-to-day activities of the division, Ms. Bell was also responsible for coordinating the external review of the division and the internal review of the postgraduate training program. There have also been significant additional administrative duties related to the evolving Institute for Heart and Lung Health. Given the expanded level of activity within the division and ongoing delegation of administrative duties from the Department of

Medicine to the Divisional level, further administrative support will be required.

## **FUTURE DIRECTIONS**

The division faces a number of major challenges but also great opportunities. A major focus will be to develop a strategic recruitment plan especially focusing on the imminent needs for a clinician scientist, with an interest in cystic fibrosis, to be recruited to SPH as well as the need for additional clinical respiratory physicians at that site. There will be continued strategic recruitment and training across both main sites to ensure optimal sub specialty coverage especially in areas such as pulmonary hypertension, lung transplantation and interstitial lung disease. The division also needs to look more generally at manpower needs especially the impact of the abolition of mandatory retirement at UBC on anticipated practice patterns in the future. Physical space and infrastructure, most notably for research space at SPH, will be a major focus on divisional related activities. Although The Lung Centre at VGH provides excellent clinical and research space, with recent recruitments and a major increase in general clinical research additional, space will be required on this site also.

The development of a virtual Centre for Lung Health ([www.centrefoprlunghealth.ca](http://www.centrefoprlunghealth.ca)) and its further evolution into the Institute for Heart and Lung Health has provided an opportunity for broader strategic planning looking at new opportunities for education, research and clinical care. The ability to leverage off this province-wide initiative presents a unique opportunity to maximize funding sources especially of a philanthropic nature, from hospital-based foundations as well as seeking priority within UBC's broader fund-raising campaigns.

## **SPECIAL HONORS AND AWARDS**

### **Dr. Stephan van Eden**

- MSFHR Senior Scholarship until June 2010 and GSK/CIHR Professorship in COPD from July 2010.

### **Dr. Bob Levy**

- Co-chair, Scientific Program, Chest 2010 (annual meeting, American College of Chest Physicians).
- Canadian National Delegate, European Respiratory Society.

## Division Members

### Professor

Dr. Andrew Chalmers  
 Dr. John Esdaile  
 Dr. Denys Ford (*Emeritus*)  
 Dr. Harold S. Robinson (*Emeritus*)  
 Dr. Ian K-Y Tsang (*Emeritus*)

### Clinical Professor

Dr. Kenneth Blocka  
 Dr. Barry Koehler (*Emeritus*)  
 Dr. Caroline Patterson (*Emeritus*)  
 Dr. Graham Reid

### Associate Professor

Dr. Hyon Choi  
 Dr. Diane Lacaille

### Clinical Associate Professor

Dr. Kam Shojania  
 Dr. Simon Huang  
 Dr. John Kelsall  
 Dr. Alice Klinkhoff  
 Dr. Robert Offer  
 Dr. Rhonda Shuckett  
 Dr. John Wade

### Assistant Professor

Dr. Juan Avina-Zubieta  
 Dr. Jolanda Cibere

### Clinical Assistant Professor

Dr. Maziar Badii  
 Dr. David Collins  
 Dr. Stephanie Ensworth  
 Dr. Cathy Flanagan Simkus  
 Dr. Shahin Jamal  
 Dr. Stuart Seigel  
 Dr. John Watterson

### Adjunct Professor

Dr. Jerry Tenenbaum

### Clinical Instructor

Dr. Jean Gillies  
 Dr. Raheem Kherani  
 Dr. Jason Kur  
 Dr. Jennifer Reynolds



**Dr. Kam Shojania**  
**Clinical Associate Professor and Head**

## DIVISION OVERVIEW

The UBC Division of Rheumatology currently consists of 26 active faculty members, as well as four associate members, one adjunct member, and five emeritus members. Rheumatology consultation services are offered at Vancouver Hospital & Health Sciences Centre, St. Paul's Hospital, and G.F. Strong Rehabilitation Centre. Ambulatory care services are available at the Mary Pack Arthritis Centre, the Gordon and Leslie Diamond Centre, St. Paul's Hospital, and in private practices throughout Metro Vancouver, the Okanagan Valley, and Victoria. The Arthritis Society (BC & Yukon Division) provides excellent patient education and resources available through the Learning Centre based at the Mary Pack Arthritis Centre.

Many divisional faculty are members of the Arthritis Research Centre of Canada, a multidisciplinary clinical research and clinical trials facility affiliated with both the University of British Columbia and the Vancouver Coastal Health Research Institute. The Arthritis Research Centre focuses on "Practical Research for Everyday Living" for people with arthritis.

The UBC Division of Rheumatology maintains a strong working relationship with The Arthritis Society BC & Yukon Division through the ever-expanding educational services offered by the Society. The Arthritis Society BC & Yukon Division provides excellent patient education and resources available through the Learning Centre based at the Mary Park Arthritis Centres in Vancouver and Victoria.

Each year, UBC rheumatologists are featured

in The Arthritis Society events speaking on the changes in patient care, resources and research. In 2010, The Arthritis Society BC & Yukon Division (TAS-BC), in partnership with UBC rheumatologists and health professional colleagues, was able to deliver public education forums in more than 65 different communities throughout the province. Over 40,000 British Columbians in over 100 communities were able to access arthritis education programs during the year. Dr. John Esdaile was again featured at The Society's annual Bluebird Gala where Dr. Ross Petty highlighted the on-going campaign for the Dr. Ross Petty Research Chair in Pediatric Rheumatology. 2010 also saw the launch of the BC Medical Association's General Practice Services Committee/Musculoskeletal Initiative sponsored by The Arthritis Society. Many division members are involved in this important initiative that is charged with recommending changes to the health system that will result in improved access to musculoskeletal care.

Vancouver was a-buzz with world-class activities in 2010. With the Winter Olympics in February and the International Lupus Congress in June, there has been no shortage of premier events on the calendar.

Vancouver also hosted the annual meeting of the Northwest Rheumatism Society (NWRS) in April. This three-day event had registrants from across the Pacific Northwest, including British Columbia, Alberta, Montana, Washington, Oregon and Colorado and was organized under the leadership of Drs. John Wade, John Watterson, and Jason Kur.

The scientific program consisted of a number of esteemed local speakers as well as several invited guests from abroad. Dr. Iain McInnes (University of Glasgow) enlightened the crowd with his masterful knowledge of the immune system and pertinent implications for rheumatic diseases. Dr. Simon Carette (University of Toronto) shared his experience with vasculitis and Dr. Rick Adachi (McMaster University) covered the latest developments in osteoporosis. Among the Division of Rheumatology, highlights included presentations from Dr. Andy Chalmers, Dr. Jan Dutz, Dr. Hyon Choi, Dr. Jason Kur, Dr. John Watterson and Dr. Graham Reid.

In June 2010, the ninth International Lupus Congress was hosted in Vancouver. This is a triennial meeting in which physicians, researchers and patients come together to share

the latest developments in systemic lupus erythematosus. The Lupus 2010 meeting was organized by Drs. John Esdaile (Chair), Matt Liang, Paul Fortin, Peter Lipsky and Joan Merrill, and Cameron Paterson.

Lupus 2010 brought together more than 1,100 scientists, clinicians, trainees and consumers, and it attracted more than 600 abstracts and most of the leading scientists interested in lupus research from around the world. The meeting was based on the well known Pacific Northwest concept of the potlatch. Everyone attending brought special skills and all were asked to see the Congress as an opportunity to make gifts to others who were present.

The feedback for the meeting was uniformly great, and the meeting was considered to be the best and most innovative Lupus meeting to date.

The fifth annual BC Rheumatology Invitational Education Series (BRIESE), an educational conference for British Columbian rheumatologists, was once again organized by Drs. John Wade, John Watterson, Maziar Badii and Jason Kur in October 2010. This two-day academic program brought rheumatologists together from across the province for a focused program with local and international faculty. This year's invited speakers included Dr. Pearce Wilcox (UBC), Professor Robert Moots (University of Liverpool), and Professor Josef Smolen (Medical University of Vienna). The sessions have routinely been highly rated for their case format and high degree of faculty participation.

In December, 2010, Drs. Graham Reid and Simon Huang held a family practice forum on the treatment of osteoarthritis and gout, for over 30 general practitioners in Whitehorse, Yukon.

We are pleased to welcome Dr. Shahin Jamal to the Division as Clinical Assistant Professor. Dr. Jamal trained at UBC and did her postgraduate training in Toronto. She has been working at St. Michael's in Toronto for the last few years. We are fortunate that she has moved back to Vancouver. Her research interests include access to care, early inflammatory arthritis, and emerging therapies in rheumatoid arthritis. She is well-known as an excellent teacher. She is on staff at Vancouver General Hospital.

Dr. Caroline Patterson, who retired in December 2009, was appointed to the rank of Clinical Professor Emeritus in 2010. Dr. Patterson, who was the first female rheumatologist in British Columbia, clearly merits this position, with her long service to the arthritis community, both in the lower mainland and in Northern BC, as well as her service to the Mary Pack Arthritis Program, GF Strong, UBC and The Arthritis Society. She has been a wonderful teacher for all levels of trainees and practising physicians, and has been a great role model and mentor over the years.

Dr. Antonio Avina-Zubieta was in the clinical track in 2009 and moved to an Assistant Professor in 2010. Dr. Avina is a rheumatologist who trained in Mexico, has done his Masters degree in Alberta and has completed his PhD with Dr. Esdaile in

the Department of Experimental Medicine. He already has 24 refereed publications. His research focus will be on systemic autoimmune diseases, with a special interest in systemic lupus erythematosus. He is the BC Lupus Society research scholar.

We are pleased to announce that Dr. Jan Dutz, a Professor in the Department of Dermatology and Skin Science, was made an associate member of the Division of Rheumatology in 2010. Dr. Dutz is a Dermatologist and Rheumatologist whose timely expertise has assisted us greatly with our complex patients over the years. Many of us have had successful research projects with him and we appreciate his teaching of our fellows and other trainees.

Dr. John Esdaile has stepped down as Professor in the Department of Medicine and on December 1, 2010, he took up the Arthur J. E. Child Chair in Rheumatology Research at the University of Calgary. Fortunately, Dr. Esdaile will remain at the Arthritis Research Centre of Canada as Scientific Director and will spend two days per week here in Vancouver.

Dr. Esdaile was Head of Rheumatology at UBC and VGH from 1996 to 2007. Dedicated to expanding Canada's role in arthritis research, Dr. Esdaile was largely responsible for developing and establishing the Arthritis Research Centre of Canada in 2000, of which he was named Scientific Director and continues in this role today. Dr. Esdaile has authored more than 200 refereed articles, as well as more than two dozen books and book chapters. He is the mentor of many of our current division members and has mentored physicians and researchers nationally and internationally. Dr. Esdaile received the Distinguished Investigator Award at the 2005 Canadian Rheumatology Association meetings in Quebec. In 2006, he was named a Kirkland Scholar by the Kirkland Foundation in New York, NY and in 2007 he was elected a Fellow of the Canadian Academy of Health Sciences.

Dr. Hyon Choi was the Mary Pack Arthritis Society Chair in Rheumatology at UBC until 2009, when he moved to a position at Boston University. Dr. Choi is an Associate Member, External at UBC and currently a Scientist at the Arthritis Research Centre of Canada where his expertise ranges from inflammatory arthritis and gout to rare conditions such as vasculitis. Dr. Choi's gout research has attracted widespread recognition and he continues to partner with the Division of Rheumatology in ongoing research projects.

Dr. Lucie Wilk has moved to London, England with her family, where she is working as a clinical rheumatologist. Dr. Wilk trained at UBC and had a rheumatology practice at the Diamond Centre at VGH where she was involved in inpatient and outpatient rheumatology as well as the undergraduate and postgraduate teaching programs. We wish her the best for the future.

## TEACHING

### *Undergraduate*

Dr. Rhonda Shuckett is in charge of the Rheumatology Undergraduate Committee. Undergraduate Rheumatology teaching includes the Musculoskeletal block (which we share with orthopedics) and Bedside Clinical Teaching. She also designed the week-long Rheumatology Problem-Based Learning for UBC's second year Medical and Dental program, and gives about eight lectures to the full class of students. Her week is one of the highest rated weeks in Medicine Year 2.

A number of our faculty provide clinic and teaching time for medical student rotations. In 2010, approximately 20 fourth-year medical students from UBC and other universities spent two to four-week electives with St. Paul's Hospital and Vancouver General Hospital Rheumatology. In addition, several rheumatologists at both hospitals are now working with third-year medical students in their clinics.

### *Postgraduate*

Dr. Kam Shojania has been the Program Director for the Postgraduate Training Program for three years. The faculty provides 4-week elective rotations in Rheumatology to residents in Internal Medicine and other specialties from UBC and from other universities. In 2010, approximately 68 residents from Internal Medicine, Family Practice, Neurology, Dermatology, Ophthalmology, and Physical Medicine and Rehabilitation spent elective rotations in one of our two teaching sites, St. Paul's or Vancouver General, as well as private practices in Metro Vancouver.

The two-year Postgraduate Training Program in Rheumatology continues to be the second-largest clinical rheumatology training centre in Canada. The program typically receives funding from the Ministry of Health for two or three trainees every year. Also, one or two internationally-funded trainees are considered. Active in-patient, ambulatory care and research training is done at Vancouver Hospital & Health Sciences Centre, St. Paul's Hospital, G.F. Strong Rehabilitation Centre, the Arthritis Research Centre, and in private practices throughout the Lower Mainland and elsewhere in the province.

The postgraduate program is currently comprised of three first-year trainees, three second-year trainees, and two postdoctoral fellows. The trainees participate in mandatory rotations at Vancouver Acute, St. Paul's Hospital, G.F. Strong, BC Children's Hospital, Physical Rehabilitation, and in numerous drug/disease monitoring clinics and community rheumatology practices throughout their training.

For the tenth consecutive year, the Division offered the "Basic Skills Course for Rheumatology Fellows" in the first week of July, 2010. This course is organized by Dr. Kam Shojania and involves the majority of the divisional faculty. It continues to be the only course of its kind in Canada, and provides new rheumatology fellows with a comprehensive background in the basic skills required in the academic and clinical practice of rheumatology. It also provides a useful and timely review for senior fellows.

In addition to our UBC trainees, twelve rheumatology trainees from other programs across Canada attended the course.

Our trainees have benefited from several guest speakers at their weekly Academic Half-Day. Both the Division and the Postgraduate Training Program have enjoyed Noon Rounds presentations from each of our local Division members, as well as a number of visiting professors, including Dr. Atul Deodhar (Oregon Health and Science University, Portland, Oregon), Dr. Louis Bessette (Université Laval, Quebec), Dr. Dafna Gladman (University of Toronto), Dr. Proton Rahman (Memorial University), Dr. Salvatore Albani (Sanford-Burnham Medical Research Institute in La Jolla, California), Dr. Diane Mosher (University of Calgary), and Dr. Anthony Russell (University of Alberta).

## RESEARCH

Members of the Division continue to be active in the Arthritis Research Centre (ARC), located in Vancouver. The Arthritis Research Centre includes faculty from the Division of Rheumatology, the Department of Orthopedics, the Department of Health Care & Epidemiology, the Department of Pharmaceutical Sciences and the School of Rehabilitation Sciences, as well as faculty from the Centre for Health Evaluation and Outcome Studies at St. Paul's Hospital, and the Centre for Hip Health and Mobility and the Centre for Clinical Epidemiology and Evaluation at Vancouver Acute.

On July 26, 2010, the Arthritis Research Centre was visited by the Honourable Leona Aglukkaq, Minister of Health. Minister Aglukkaq came to announce funding of four substantial team grants distributed across Canada, one of which is held at UBC, and is a team grant on hip osteoarthritis. Overall, it was a very exciting day.

The Minister awarded a Canadian Institutes of Health Research grant titled "CIHR team in investigations of mobility, physical activity, and knowledge translation in hip pain (IMPAKTHIP)". UBC faculty involved in the team included Drs. Jolanda Cibere, John Esdaile, Donald Garbuz, Jacek Kopec, and Linda Li. A grant of this size has many investigators and collaborators whose input and membership on the research team is essential to being able to perform the research and whose participation reassures the reviewers that the proposed projects are feasible.

The application assesses one of the most exciting discoveries in recent years - that subtle deformities of the hip combined with excessive physical activity particularly with major hip flexion (hockey, soccer, jogging, tennis, etc) may be a major cause of hip osteoarthritis. If correct, individuals at risk could be identified and the disease prevented.

Current research is funded by the Canadian Arthritis Network (of the Networks of Centres of Excellence), The Arthritis Society of Canada, National Institutes of Health (U.S.) and the Canadian Institutes of Health Research. Faculty members hold scholarships from the Arthritis Society of Canada, the Canadian Institutes of Health Research, and Canadian Arthritis Network.

Drs. Allen Lehman and Diane Lacaille (principal investigators), along with co-principal investigators Linda Li, Catherine Backman, Antonio Aviña-Zubieta, John Esdaile, Matthew Liang, and others, were funded by the Canadian Arthritis Network National Aboriginal Arthritis Research Initiative for a grant titled "Development and pilot testing of a culturally sensitive and family-based self-management program for Aboriginal Peoples with arthritis". The project aims to develop a culturally sensitive and family-based program for Aboriginal people and family members to improve self-management of arthritis, as well as to evaluate how well the program works in Aboriginal communities and discover if it improves social support from family and coping skills at managing arthritis symptoms after six months. The project also aims to improve the capacity for care and research by Aboriginal people for Aboriginal people. If successful, the program could be made available to Aboriginal people throughout Canada. This will offer an approach to improve arthritis care by focusing on arthritis education and self-management, which is an important aspect of care in addition to standard medical treatment.

In 2010, Dr. Antonio Avina-Zubieta received funding from the BC Lupus Society and other funding partners, to establish a systemic autoimmune rheumatic diseases (SARDs) registry. SARDs include systemic lupus erythematosus, systemic sclerosis, Sjögren's disease, poly/dermatomyositis and systemic vasculitis. This registry will allow researchers to investigate the medical costs of systemic autoimmune rheumatic diseases, determine whether they increase heart attack or stroke risk or increase risk of osteoporosis fracture. Dr. Avina-Zubieta will work with a large team, which includes Drs. Lacaille, Kopec, Marra, Li, Shojania, and Esdaile.

Dr. John Esdaile received a Canadian Institute of Health Research grant to create a special symposium at the 9th International Lupus Congress, held in Vancouver (details above). The symposium, titled 'Narrowing the Gap in the Treatment and Study of SLE Worldwide', was the opening session of the Congress, and was followed by a series of related workshops and then the results were summarized in the closing session. This symposium and subsequent workshops were intended to help develop a network of clinicians and scientists to disseminate knowledge, and to support and build research networks for many autoimmune diseases throughout the world where such networks do not exist.

Drs. Ken Blocka, Andrew Chalmers, Jan Dutz, Alice Klinkhoff, Jennifer Reynolds and Kam Shojania have been actively performing clinical trials at the Arthritis Research Centre. The research focus is primarily on the study of new, very powerful biological agents in the treatment of rheumatoid arthritis, systemic lupus erythematosus, ankylosing spondylitis, psoriatic arthritis and myositis.

In 2010, two medical students, under the supervision of Dr. Diane Lacaille, received summer studentships. Lina Wang received the Canadian Rheumatology Association Roche Summer Studentship, and Kateryna Vostretsova was awarded the Canadian Arthritis Network Summer Scholarship.

Sarvee Moosavi, a medical student supervised by Dr. James Dunne, received the 2010 Dhanda Scleroderma Award for her work on scleroderma.

Rita Lung, a medical student supervised by Dr. John Esdaile, won the Phil S. Rosen award for the best clinical paper at the Canadian Rheumatology Association meetings in 2010.

## CLINICAL SERVICES

The Mary Pack Arthritis Program is a provincial program administered through the Vancouver Coastal Health Authority. Services and programs include drug and disease monitoring clinics, multidisciplinary rehabilitation in the inpatient and outpatient setting, a young adult transition program, a rapid access clinic for diagnosis and initial treatment of rheumatoid arthritis, infusion services for biologic medications, and a 14 bed inpatient service in the G.F. Strong Rehabilitation centre.

The physicians involved include Dr. Alice Klinkhoff, medical Director and consultant in the gold clinic and intensive outpatient rehabilitation program, Dr. John Kelsall, medical consultant in the Remicade / Tocilizumab Clinic, Dr. Ken Blocka, medical consultant in Rituximab Clinic, Dr. Andrew Chalmers, medical consultant for Cyclosporine Clinic, Dr. David Collins, rheumatologist for RA Diagnosis Clinic, and Drs. Angela How, David Cabral and Lori Tucker, the rheumatologists for the Young Adult Rheumatic Disease (YARD) Clinic, for patients in transition from paediatric to adult care. There are several teaching-focused combined clinics, including two Combined Orthopedic / Rheumatology Clinics, with rheumatology consultant Dr. Graham Reid and orthopedic surgeons, Drs. Alistair Younger (specializing in foot reconstruction) and Dr. Erin Brown (specializing in the hand). There is also the Oral Pathology in Rheumatology Clinic under Dental surgeon Dr. Bruce Blasberg, and the Combined Clinic in Dermatology with Dr. Jan Dutz, who is both a rheumatologist and a dermatologist.

The Mary Pack program coordinates the travel of twelve Division faculty to 25 remote locations in British Columbia, for the Rheumatology Travelling Consultation Service. This program's goal is to provide education, consultation and treatment services to communities with populations of 5,000 which do not have a rheumatologist accessible within two hours driving time, as well as to numerous isolated First Nations communities. Since 2008, Telehealth has been added to the travelling consultation service in Trail with Dr. Chalmers and most recently in Smithers with Dr. How. The Mary Pack program also provides the full spectrum of educational workshops for patients, as well as physiotherapy, occupational therapy, and access to social workers and vocational counselors. Funding of all the physician services for the Mary Pack Program is through the Ministry of Health APP program.

The Early Rheumatoid Arthritis clinic in the Mary Pack Arthritis Program has a focus on triaging patients to determine early inflammatory arthritis, so that treatment can be started within the "window period". This clinic is staffed by Drs. David Collins, Alice Klinkhoff, Diane Lacaille and Andrew Chalmers. This clinic

is part of a Canadian network of early rheumatoid arthritis clinics and will share data for research purposes.

Ambulatory care clinics offered at St. Paul's Hospital include a rapid access program with Dr. John Kelsall, and the Limited Scleroderma Clinic with Dr. James Dunne. Dr. Dunne also works with Dr. Wilcox, of the Division of Respiratory Medicine, in a Combined Lung Scleroderma Clinic, which helps in our goal to interact with other Divisions in order to promote excellence in the treatment and study of systemic rheumatic diseases. The Lupus Clinic, directed by Dr. Jennifer Reynolds, has been operating for over a year, and is also staffed by Dr. Ken Blocka. The Lupus Clinic continues to grow, seeing new patients referred by general practitioners as well as complicated consults from fellow rheumatologists.

There are three rheumatology rapid access clinics (RAC) designed for urgent general rheumatology referrals (vasculitis, acute inflammatory arthritis, and connective tissue diseases). They are also a great opportunity for teaching. Dr. Kelsall runs the RAC at St. Paul's Hospital, Drs. John Wade, John Watterson, and Maz Badii run the RAC at VGH and Dr. Shojania runs the RAC out of Richmond Hospital.

The G.F. Strong Rehabilitation Centre's Arthritis Unit, directed by Dr. John Watterson, offers post-operative and rehabilitative services to rheumatology patients along with specialized physiotherapy, occupational therapy and vocational counseling. Inpatient services are offered at Vancouver Acute and St. Paul's Hospital. Dr. Simon Huang retired from GF Strong and Dr. Raheem Kherani has joined the group. In 2010, Dr. Raheem Kherani developed an outpatient program at GFS in order to facilitate early discharge and to optimize rehabilitation potential.

Dr. Robert Offer in Penticton has extensive involvement in teaching including rheumatology fellows, residents and medical students. He is involved in many continuing-education events for physicians. Penticton is the major rheumatology resource for the interior with a well-staffed Mary Pack Treatment Centre at Penticton Regional Hospital and a drug monitoring clinic covering more than 500 active rheumatoid arthritis patients. Dr. Offer does outreach traveling consultation clinics and now telemedicine to Creston, as well as research and clinical trials.

The pilot project in Telehealth to the Kootenays was implemented in December 2009, to enable rapid access of urgent new and previously seen patients. The program continued successfully through 2010, and has resulted in significantly reduced wait times. A second program to Smithers has recently been started. Currently, the effectiveness of the Telehealth program is being compared to that of regular face to face clinics, for treatment of rheumatoid arthritis.

In conjunction with Yukon Health, Dr. Graham Reid travelled to Whitehorse four times in 2010, to provide travelling rheumatology services there for his 18th consecutive year.

## ADMINISTRATION

Dr. Kam Shojania continues as Head and Postgraduate Program Director for UBC Rheumatology.

Dr. Kam Shojania is Head of both the St Paul's Division and of the Vancouver General Hospital Division. Dr. John Watterson continues to oversee the hospital training program at G.F. Strong Hospital. Dr. Alice Klinkhoff is Director of the Mary Pack Arthritis Centre. Dr. John Esdaile continues as the Scientific Director of the Arthritis Research Centre. Miss Tracey Ernst continues as Division and Postgraduate Program Administrator, as well as Administrator for St. Paul's and VGH Rheumatology.

Dr. John Esdaile is on the Executive Committee of the Western Alliance of Rheumatology, along with faculty members from the Universities of Alberta, Calgary, Saskatchewan, and Manitoba, and in May 2010, they held the eighth annual Western Alliance of Rheumatology Meeting, which is a collegial gathering of rheumatologist from the Western provinces and focuses on practical clinical and research topics.

Dr. Barry Koehler is Chair of the Canadian Rheumatology Association (CRA) Human Resources Committee. Dr. Shojania sits on the Royal College Specialty Committee. Dr. Diane Lacaille serves on the Canadian Arthritis Network (CAN) Research Management Committee. Dr. John Esdaile and Dr. Alice Klinkhoff are Board members of The Arthritis Society of B.C. and Yukon. Dr. Robert Offer is on the CRA Board of Directors and the CRA Access to Care Committee. He is also CRA liaison to the AHPA, and is Chair of the BC PharmaCare Arthritis Biologics Committee.

## INTERNATIONAL ACTIVITIES

### China

In July, three faculty from the Division of Rheumatology (Ian Tsang, Simon Huang, and Barry Koehler) and one of our second year Fellows (Ada Man) provided a two-week summer elective in rheumatology for third year students (in the five- and eight-year medical programs) for the Zhongshan School of Medicine, Sun Yat-sen University, Guangzhou, China. The course ran for 12 days, and was conducted entirely in English, as required by SYSU. (However, although three of the four members of our team are fluent in Mandarin, in the interests of facilitating bedside teaching, the medical school provided a member of its English department, Claire Cao, Associate Professor, to assist our unilingual member in this section of the program.)



*L to R: Drs. Simon Huang, Ian Tsang and Barry Koehler in China)*

The lecture section was attended by the students with some ability in English; these totaled 150. The afternoon bedside teaching groups each consisted of eight students with good English skills, although these groups were often augmented by two or three resident trainees – and occasional by a faculty member. These afternoon sessions were conducted at the affiliate hospitals.

This was an excellent experience for the faculty and, according to the evaluations from the students, for the attendees. The course was an evolution of a relationship with the Zhongshan Medical School which began with a series of courses in lecture technique a few years ago by Drs. Huang and Tsang. It could not have occurred without the facilitation and support of Professor Zhongdao Wu (Associate Dean, Undergraduate Study, Zhongshan School of Medicine). Beyond the educational experience, the wonderful hospitality offered by the Zhongshan Medical School faculty cannot be overstated.

While in Guangzhou, Dr. Tsang, along with his colleagues, was able to further develop plans for a clinical study project, which is being finalized using standard western outcome instruments to study the efficacy and safety treatment patients with ankylosing spondylitis using purely TCM (Traditional Chinese Medicine), in association with the Guangzhou University for Traditional Medicine, Guangdong Provincial Hospital for Traditional Chinese Medicine.

### ***Africa***

Dr. Diane Lacaille is the Chair of the Board of Directors of Canadian Physicians for Aid and Relief (CPAR), which works in partnership with vulnerable communities and diverse organizations to overcome poverty and improve the health of communities in Africa (Uganda, Tanzania, Malawi and Ethiopia).

Dr. Lacaille is also part of OMERACT (Outcome Measures in Rheumatology), which is an informal international special interest group, consisting of researchers from around the world, looking at instruments and methods to measure work productivity in arthritis research. In May 2010, they met in Malaysia for the OMERACT 10 meeting,

## **FUTURE DIRECTIONS**

In 2011, the Division will continue to pursue excellence in teaching, research, and clinical care. We face challenges in human resources and an increased demand for outpatient clinics, which we hope to resolve by increasing Rheumatology clinics in the two main teaching hospitals, which will benefit both the community and our education program. We continue to enhance the collegiality and cooperation between the two teaching hospitals, and anticipate further incorporating the community rheumatologists. We will also benefit from continuing close cooperation with The Arthritis Society and the Mary Pack Arthritis Program, as well as other UBC Divisions.

## **DISTINCTIONS AND AWARDS**

**Dr. John Esdaile** was awarded Le Prix Roger Demers by the Laurentian Rheumatology Society (Quebec, Canada) for his contributions to the international rheumatology community.

## Faculty Members

Dr. Sandra Baker	Clinical Assistant Professor
Dr. Daryce Cuff	Clinical Assistant Professor
Dr. Frank Halperin	Clinical Assistant Professor
Dr. Gaylene Hargrove	Clinical Assistant Professor
Dr. Fariba Kaboli	Clinical Instructor
Dr. Yvonne Lefebvre	Clinical Professor
Dr. Peter Polasek	Clinical Assistant Professor
Dr. Dennis Rupka	Clinical Assistant Professor
Dr. Naser Sayeh	Clinical Assistant Professor
Dr. Viera Saly	Clinical Assistant Professor
Dr. Gerald Simkus	Clinical Associate Professor
Dr. Patricia Sparks	Clinical Associate Professor
Dr. Peter Tan	Clinical Assistant Professor
Dr. Angela Towle	Associate Professor
Dr. Winston Tsui	Clinical Instructor
Dr. Michael Yamanaka	Clinical Assistant Professor



**Dr. Anita Palepu**  
**Professor & Director**

## PROGRAM OVERVIEW

The Clinical Investigator Program (CIP) program is an integral component of the Department of Medicine. Its main goals are to integrate promising medical students, residents and fellows into an academic environment that sustains and nurtures academic interests. Dr. Palepu, in her role as director of this program, has been advocating for young investigator participation and interest in research activities. The CIP program is a resource, which permits divisions within the Department of Medicine to leverage funding opportunities in order to support the academic endeavors of those divisions.

The Faculty Clinical Investigator Program is a 2-year program, which has the potential to fund at least 6 individuals each year. Currently, we have 9 young investigators enrolled in the Faculty CIP program from the Department of Medicine in 2010 include: Daniel Renouf (Medical Oncology –Y2), Christopher Ryerson (Respirology –Y2) and Aman Nijjar (General Internal Medicine –Y2), Sean Barbour (Nephrology –Y1) Bradley Quon (Respirology –Y1), Jose Monzon (Oncology –Y1), Bobby Heydari (Cardiology –Y1), Alina Gerrie (Hematology/Oncology –Y1), Gerald Pfeffer (Neurology –Y1).

Given the importance of the CIP program to the growth and sustainability of research programs, the director has been more formally integrated into key activities of the Department of Medicine. This has included presentations to the Department of Medicine business meetings at both PHC and VGH sites, and ongoing interaction with Division Heads at the UBC Department of Medicine Division Heads meeting held monthly and at the quarterly Subspecialty Program Directors meetings. She has also presented to the core internal medicine residents early in their academic year to increase awareness of opportunities to pursue a research career through the CIP.

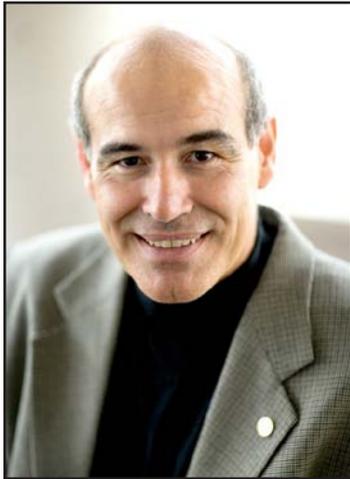
The CIP director also provides advice and support to CIP trainees as they negotiate their first faculty position and provide referee letters for external funding.

One new initiative that is supported by the Department of Medicine and the core Internal Medicine training program is the opportunity for up to two core Internal Medicine residents to pursue research training during their residency. This initiative is also supported by the Faculty of Medicine CIP and the director participates in the Faculty CIP committee.

CIP goals for 2010-11:

- Prioritizing residents for selection into the core Internal Medicine program who aspire to have research careers and can be accommodated through the Core Internal Medicine and Faculty CIP program.
- Continued formal and early contact with the core Internal Medicine residents regarding career planning and research via their Academic Half Day has occurred regularly and in particular at the beginning of the academic year.
- Ad hoc meetings with residents and fellows interested in a research career.
- Reviewing the applications from trainees in the Department of Medicine to the Faculty of Medicine-wide CIP competition to provide them with early feedback and support.

# EXPERIMENTAL MEDICINE GRADUATE PROGRAM



**Dr. Vincent Duronio**  
Professor & Director

## PROGRAM OVERVIEW

Experimental Medicine is the UBC graduate studies program, within the Department of Medicine, which was developed to train individuals seeking a career in biomedical research. Students are enrolled in both MSc and PhD degree programs. Subspecialties within the Experimental Medicine Program include Cancer Biology, Cardiology, Gastroenterology, Haematology/Oncology, Immunology, Infectious Diseases, Molecular Biology, Nephrology, Neurology, Pediatrics, Physiotherapy and Respiratory Medicine. A substantial number of students in the program are under the supervision of faculty members outside of the department. In 2010, 52 new students were admitted to the program. At the end of 2010, there were 184 students registered in the program, 65 for MSc degrees and 119 for PhD degrees.

During 2010, a total of 25 students graduated; 11 at the May 2010 Convocation and 14 at the November 2010 Convocation. Student names and thesis titles are listed below (research supervisor in parenthesis):

### *PhD Graduates*

1. Joseph Anthony, A quantitative proteomics analysis of human cells undergoing apoptosis, (Dr. Vincent Duronio)
2. Juan-Antonio Aviña-Zubieta, Cardiovascular disease associated with the use of glucocorticoids in patients with rheumatoid arthritis. A population-based study, (Dr. John Esdaile)
3. Clarrisa Lisa Bradley, Mechanisms underlying the epileptic phenotype associated with the alpha-1 A322D mutation in the GABA-A receptor, (Dr. Yu Tian Wang)
4. Ya-Ting Linda Chang, The role of Notch signaling in vascular development and homeostasis, (Dr. Aly Karsan)
5. Shauna Marie Dauphinee, Lipopolysaccharide signaling in endothelial cells, (Dr. Aly Karsan)
6. Jennifer Collen Davis, Health economic studies: a focus on health related quality of life, health resource utilization and falls prevention in vulnerable community dwelling seniors, (Dr. Pierre Guy and Dr. Karim Khan)
7. Klaus Paul Gossens, Regulation of thymic T cell progenitor importation, (Dr. Hermann Ziltener)
8. Jianqing He, Candidate gene association studies of chronic obstructive pulmonary disease and asthma, (Dr. Andrew Sandford and Dr. Peter Paré)
9. Mohammed Aatif Khan, Characterization of innate immune responses to enteric bacterial pathogens in intestinal epithelial cells, (Dr. Bruce Vallance)
10. Florian Christoph Kuchenbauer, MiRNAs in Hematopoiesis and Leukemogenesis, (Dr. Keith Humphries)
11. Maziar Riazy, Oxidized low density lipoprotein regulates apoptosis and growth factor production in macrophages, (Dr. Urs Steinbrecher)
12. Michelle Jocelyn Tang, SPARC enhances chemosensitivity by activating the extrinsic pathway of apoptosis, (Dr. Isabella Tai)
13. Dongchuan Wu, Modulation of Ligand-Gated Receptors in the Central Nervous System, (Dr. Yu Tian Wang)

### *MSc Graduates*

1. Grace Boutilier, On Spasticity in Spinal Cord Injury: The Challenge of Measurement and the Role of Novel Intervention (Segway), (Dr. Richard Beauchamp and Dr. Bonita Sawatzky)
2. Jaspreet Kaur Dhillon, Y-box binding protein-1 is essential for the growth and survival of HER2 over-expressing breast cancers and mediates trastuzumab resistance by inducing CD44, (Dr. Sandra Dunn)
3. Vikram Singh Gill, Populational studies of HIV-1 drug resistance in British Columbia, (Dr. Richard Harrigan)
4. Gary Brandhorst Golds, Interleukin-10 inhibition of tumor necrosis factor alpha production in activated macrophages requires SHIP1 and Btk, (Dr. Alice Mui)

5. Pol Gomez, Probing the Interaction of *Aspergillus Fumigatus* Conidia and Human Airway Epithelial Cells by Transcriptional Profiling in Both Species, (Dr. Scott Tebbutt)
6. Sin Man Regina Lam, Neutralizing antibodies and the biological response to interferon-beta therapy, (Dr. Joel Oger)
7. Choi Chun Fiona Lau, Intramuscular stimulation for chronic myofascial pain, (Dr. Jean-Paul Collet)
8. Hanyang Leon Lin, Role of SWI/SNF chromatin remodeling complex in melanoma development, (Dr. Gang Li)
9. Emilie Ceschi Mackie, Pseudoatrophyt of the brain in multiple sclerosis: the effect of therapy on T1 measures of brain water content, (Dr. Anthony Traboulsee and Dr. David Li)
10. Kinga Krystyna Smolen, Neonatal immunization with *Listeria monocytogenes* induces T cells with an adult-like avidity, sensitivity, and TCR-Vbeta repertoire, and does not adversely impact the response to boosting, (Dr. Tobias Kollmann)
11. Christopher David Taplin, Epigenetic profiling of bronchial epithelial cells: DNA methylation, (Dr. Peter Paré and Dr. Michael Kobor)
12. Peter Trnka, Congenital urinary tract obstruction: linking form and function, (Dr. Douglas Matsell)

In 2010, 123 Experimental Medicine students surveyed reported a total of \$3,232,948 in funding, an average of \$26,284 (up from \$24,147 in 2009) per student. Research Supervisors provided \$1,135,229 in Graduate Research Assistantships. Other funding sources included CIHR, (\$870,708 up from \$706,000 in 2009), the Michael Smith Foundation (\$121,500, down from \$223,750 in 2009), NSERC (\$127,500 down from \$179,766 in 2009), the Four Year Fellowship (\$100,153), and the Vanier Awards (\$290,000).

There are 119 faculty members currently registered as Research Supervisors in the program. Faculty members from other departments also participate as course lecturers, thesis committee members, in research seminars and as examiners for internal examinations and theses defenses.

In the academic year 2009-2010, the Experimental Medicine Program offered nine graduate courses. These included: MEDI 501 (Molecular & Cellular Biology), MEDI 502 (Methodology), MEDI 530 (Gastroenterology), MEDI 535 (Journal Club), MEDI 548 (Directed Studies in Experimental Medicine), MEDI 560 (Pulmonary Pathophysiology), MEDI 570 (Cardiology), MEDI 580 (Infectious Diseases) and MEDI 590 (Molecular Medicine).

The overall administration of the program is under the guidance of the Experimental Medicine Committee. The committee is composed of representatives from each subspecialty and one student representative. This committee meets at least once per year to discuss policy and procedures. Current members of the committee are: Dr. Yossef Av-Gay (Infectious Diseases), Dr. Vincent Duronio (Respiratory Medicine and Director), Dr. R. Keith Humphries (Haematology/Oncology), Dr. Steve Pelech (Molecular Medicine), Dr. Bill Salh (Gastroenterology), Dr. Andrew Sandford (Respiratory Medicine, iCapture Centre), Dr. Yu Tian Wang (Neurology, Brain Research Centre), Dr. Alice Mui (Surgery), Dr. Kevin McElwee (Dermatology), Dr. Michael Cox (Prostate Centre) and Dr. Graydon Meneilly (ex-officio). The Experimental Medicine Program's daily administration is through the director and one secretary.

The Experimental Medicine Program continues to sponsor Student Research Day events, two of which were held in 2010.

The first Student Research Day of 2010 was held on June 29 at the Medical Student and Alumni Centre, VGH. 36 students participated in poster presentations:

Mohammad Ashraful Anwar (Dr. Jane Roskams)  
Secreted Protein Acidic and Rich in Cysteine Promotes Central Nervous System Recovery during Experimental Autoimmune Encephalomyelitis

Elham Hosseini-Beheshti (Dr. Emma Guns)  
Exosomes: New Cancer Biomarkers or Therapeutic targets?

Kristin Bowden (Dr. Gordon Francis)  
Impaired ABCA1 expression and cholesterol efflux in Cholesteryl Ester Storage Disease

Chanson Brumme (Dr. Richard Harrigan)  
Expanding Access to antiretrovirals is not accompanied by increased transmission of HIV drug resistance in British Columbia, Canada

Yabin Cheng (Dr. Gang Li)  
Clinical significance of FBW7 loss in human melanoma

Nathan Corbett (Dr. Tobias Kollmann)  
Age-Specific Changes in Early Life TLR-Mediated Innate Immune Responses

Alex Goldman (Dr. Catherine J Pallen)  
Targeting PTP $\alpha$  to Control c-Kit and Antigen/Fc $\epsilon$ RI-Mediated Mast Cell Hyperactivation

Abdi Ghaffari (Dr. Aziz Ghahary)  
14-3-3 $\sigma$  associates with cell surface CD13 in the regulation of matrix metalloproteinase-1

Ryan Hartwell (Dr. Aziz Ghahary)  
Evaluation of a multifunctional liquid matrix system for cell transplantation

Michael Hiatt (Dr. Douglas G Matsell)  
The Role of Mechanosensation in the Epithelial Response to Urinary Tract Obstruction

Megan Himmel (Dr. Megan Levings & Dr. Theodore Steiner)  
Human CD4+FOXP3+ T regulatory cells produce CXCL8 and recruit innate immune cells

Gabriella A. Horvath (Dr. Marion Coulter-Mackie & Dr. Sylvia Stockler-Ipsiroglu)  
A novel human serotonin deficiency syndrome. A defect in the developmental pathway of the serotonin system?

Sarah Kam (Dr. Scott Tebbutt)  
Functional genomics of the peripheral blood response to allergen inhalation challenge

Ranvikram S. Khanna (Dr. Catherine J. Pallen)  
Role of IGF-1- stimulated PTP $\alpha$  tyrosine phosphorylation in cell migration

Jee Lee (Dr. Don D. Sin)  
Accelerated Aging in Chronic Obstructive Pulmonary Disease

Melanie Lehman (Dr. Colleen Nelson)  
Improving the Detection of Complex Transcription in Prostate Cancer

Jun Li (Dr. Gang Li)  
Prognostic significance of BRMS1 expression in human melanoma and its role in tumor angiogenesis

Blanche Lo (Dr. Kevin J. McElwee)  
Basal cell carcinomas expression functional indoleamine 2,3-dioxygenase (IDO) which may confer immunoprotection

Tenneille Loo (Dr. Bruce Carleton)  
Pharmacogenomics of Vincristine-Induced Severe Peripheral Neuropathy in Paediatric Cancer Patients

Rachel McGovern (Dr. Richard Harrigan)  
HIV Protease, Reverse Transcriptase and Envelope Variation in Individuals during Primary Infection Using Deep Sequencing

Nadya Ogloff (Dr. Christopher Ong)  
Borrelidin: a novel potent broad spectrum immunosuppressive agent for treatment of immunologic diseases

Parveer Pannu (Dr. Gordon Francis)  
Impaired Sterol-27-hydroxylase Expression in Atherosclerotic Lesions

Ben Paylor (Dr. Fabio Rossi)  
Cellular Origins of Cardiac Fibrosis

Karen Petersen (Dr. Tonia Nicholls)  
A Comparison of the Level of Care in a Civil Psychiatric Population and Short-Term Assessment of Risk and Treatability (START) Scores

Elham Rahmani-Neishaboor (Dr. Aziz Ghahary)  
Topical Application of Stratifin Nano Emulgel Reduces Hypertrophic Scarring in Fibrotic Rabbit Ear Model

Dorota Stefanowicz (Dr. Darryl Knight)  
Alterations in Histone Acetylation in Asthmatic Airway Epithelial Cells

Guobin Sun (Dr. Catherine J. Pallen)  
Tyrosine Phosphorylation of Protein Tyrosine Phosphatase Alpha Regulates Integrin-induced Cell Migration through a Cas- Rac/Cdc42-PAK Signaling Axis

Luke Swenson (Dr. Richard Harrigan)  
Large-Scale Application of "Deep" Sequencing Using 454 Technology to HIV Tropism Screening

Anthony Tam (Dr. Don Sin)  
Female hormone-mediated mucus and pro-inflammatory cytokine productions in bronchial epithelial cells

Katherine Thain (Dr. Keith Walley)  
Protein C Genotype Influences Survival in Sepsis

Simone Thair (Dr. Keith Walley)  
The CC genotype of NIK (MAP3K14) rs7222094 Polymorphism is Associated with Increased Mortality in Septic Shock

Emily Thi (Dr. Neil E. Reiner)  
PI3K p110 $\alpha$  Regulates Late Endosomal Trafficking and Phagosome Maturation

Eddy Hsi Chun Wang (Dr. Kevin McElwee)  
The association of Alopecia areata development with cardiac dysfunction

Stephanie Warner (Dr. Darryl Knight)  
Transcription Factor p63 Regulates Adhesion and Differentiation Genes in Primary Human Bronchial Epithelial Cells: Implications for Airway Remodeling in Asthma

Julia Wei Dr. Angela Devlin & Dr. Tim Oberlander)  
Prenatal Exposure to Maternal Depression, Methyl Metabolism, and Developmental Programming

(Shun-Yu) Jasemine Yang (Dr. Delbert R. Dorscheid)  
IL-13R $\alpha$ 2 / AP-1 Complex Signalling Mediates Airway Epithelial Repair without Effects on Remodeling Pathways

Ben Paylor won Best Overall Presentation. Simone Thair, Abdi Ghaffari, and Elham Beheshti won Best Presentations. The total amount of prize money won was \$600.

The second Student Research Day of 2010 was held on November 17 at the Holiday Inn Vancouver Centre. 20 students gave oral presentations and 22 students participated in poster presentations.

The oral presentations were given by:

Ellen Lu (Dr. Helen Tremlett)

Incidence of disease-modifying drug exposure during pregnancy and its effect on obstetrical and neonatal outcomes in women with multiple sclerosis in British Columbia, Canada

Peter Axerio-Cilies (Dr. Artem Cherkasov)

Using Methods of Chemical Genomics for Developing Potent Androgen Receptor Inhibitors

Lindsay Nettlefold (Drs. Darren Warburton & Heather McKay)

Does a novel whole school physical activity model promote cardiorespiratory fitness in children?

Kevin Johns (Dr. Greg Bondy)

Effect of Rosiglitazone on Prevention of Cardiovascular Disease Progression in Patients with HIV Metabolic Syndrome: A Randomized Clinical Trial

Mischa Harris (Dr. Darren Warburton & Jack Taunton & James Wakeling)

The effects of verbal instruction on muscle activation patterns during a Step Up task.

Guinevere Lee (Dr. Richard Harrigan)

Limited Evolution of Inferred HIV-1 Tropism From R5 to Non-R5 While Viremia Is Undetectable During Standard HAART Therapy

Bevin McMullin (Dr. Jeremy Road)

A Phase I Open Label Safety Study Of Inhaled Gaseous Nitric Oxide (gNO) For Administration To Healthy Adults For Potential Use As A Frontline Treatment Of Respiratory Infections

The poster presentations were given by:

Amir Akbari (Dr. Aziz Ghahary)

Role of Red Blood Cells in Wound Healing

Trisia Breitkopf (Dr. Kevin McElwee)

Hair Follicle Immune Privilege and the role of Somatostatin

Alex Chang (Dr. Aly Karsan)

Notch initiates endothelial mesenchymal transformation in the developing atrioventricular canal through autocrine activation of soluble guanylyl cyclase

Nathan Corbett (Dr. Tobias Kollmann)

Age-Specific Changes in Early Life TLR-Mediated Innate Immune Responses

Alastair Davies (Dr. Sandra Dunn)

YB-1 is a cancer susceptibility gene that promotes genomic plasticity through mitotic dysfunction

Matthew Gold (Dr. Kelly McNagny)

CD34 Function in Intracellular Signaling and Mucosal Inflammatory Disease Development

Elham Hosseini-Beheshti (Dr. Emma Guns)

Characterization and comprehensive proteomic Analysis of exosomes derived from Prostate Cancer cell lines

Seyed Mehdi Jafarnejad (Dr. Gang Li)

Prognostic Significance of Nuclear Sox4 Expression in Cutaneous Melanoma and Its Role in Cell Migration

Roger Jen (Dr. Pascal Lavoie)

Inflammatory responses in preterm neonates: are they really that deficient?

Shenshen Lai (Dr. Steven Pelech)

Eukaryotic protein kinases and choline/ethanolamine kinases share a common ancestor related to ancient glutaminyl-tRNA synthetase

Ulrike Lambertz (Dr. Neil Reiner)

The role of exosomal RNA in leishmania pathogenesis

Ting Yu (Angela) Liao (Dr. Zakaria Hmama)

Interaction of the Mycobacterial Lipoamide Dehydrogenase with components of the Macrophage Endosomal System

Tenneille Loo (Dr. Bruce Carleton)

Pharmacogenomics of Vincristine-Induced Severe Peripheral Neuropathy in Paediatric Cancer Patients

Sumeet Mathur (Dr. Keith Walley)

CpG C Preserves Ejection Fraction in an Ischemic Model

John McDonough (Dr. James Hogg)

Regional variation of alveolar number in normal human lung

Kristen Reipas (Dr. Sandra Dunn)

Targeting breast tumor-initiating cells with off patent compounds directed against Ribosomal S6 Kinase (RSK)

Babak Shadgan (Dr. Darlene Reid)

Tourniquet-induced ischemia during orthopaedic trauma surgery causes muscle protein oxidation related to changes in muscle oxygenation and patient gender

Ashish Sharma (Dr. Pascal Lavoie)

Constitutive expression of CD25 on the surface of neonatal (invariant) Natural Killer T cells primes them to proliferate with lower antigenic stimulation

Xiaojie Wang (Dr. Garth Warnock)

Inhibition of autoimmune Diabetes by B7-H4.Ig

Richard Yu (Dr. Youwen Zhou)

Schwann Cell Degeneration in Vitiligo Possibly Mediated by Heightened Activation of the Innate Immune System

Chengcheng Zhang (Dr. Jürgen Kast)  
In silico Protein Interaction Analysis: a Novel Way to Study  
Protein Interaction Networks Using the Global Proteome  
Machine Database

Peng Zhang (Drs. Vincent Duronio & Urs Steinbrecher)  
Signaling Pathways of Ceramide-1 Phosphate Induced VEGF  
Release

Mischa Harris won the award for top overall presentation. Marc Sze, Melisa Hamilton-Valensky, Claudia Chavez-Muñoz, and Bevin McMullin won Best Oral Awards, Kirsten Reipas, Ashish Sharma, and Alastair Davies won Best Poster Awards, and Matthew Gold won Runner Up-Best Poster. The total amount of prize money won was \$1,050.

The program solicits financial support from the community for the event. In the past two years, members of the Dept. of Medicine have successfully solicited substantial donations from Glaxo Smith Kline (\$ 5,000) and Schering-Plough (\$2,000). On a yearly basis the Vancouver Coastal Health Research Institute contributed \$1,000 to the event and the Canadian Society of Biochemistry, Molecular and Cellular Biology contributed \$500.

The Experimental Medicine Program continued to offer travel grants to students who had already used the travel grant provided by the Faculty of Graduate Studies.

The Experimental Medicine Office is located at the UBC Department of Medicine, 10th Floor, Room 10226, Gordon and Leslie Diamond Health Care Centre, 2775 Laurel Street, Vancouver General Hospital. The office telephone number is 604-875-4111-ext.63140, the fax number is 604-875-4886 and e-mail address is [exptlmed@interchange.ubc.ca](mailto:exptlmed@interchange.ubc.ca)



**Dr. (James) Mark Roberts**  
Clinical Associate Professor and Director



**Hazel Wilcox**  
Program Administrator

## NEW INITIATIVES/DEVELOPMENTS

### Rotation Schedule

In 2010, rotation templates were designed to aid in the scheduling of 2,600 resident rotations. The templates were implemented for the 2010/2011 year and were an excellent scheduling tool alleviating a lot of manual planning by the administrative staff as well as informing residents of their upcoming year much earlier than in past years. These templates are going to provide the first phase of a computerized rotation scheduling program through One45. The scheduling program is anticipated to be run in 6 phases over a 3 month period. UBC is the first postgraduate training site in Canada to test this product.

### Mini Clinical Examination (Mini-Cex)

In past years we had attempted to implement a mandatory Mini-Cex component for each resident on virtually every rotation. This, however, proved extremely difficult to manage and the process has been inactive for the past two years. This year, however, under the leadership of Dr. Rose Hatala, a decision was made to re-implement two Mini-Cex blocks only (Blocks 4 & 10). While not all rotations will participate in this process, the majority will. Arrangements have also been made to reimburse faculty who participate.

### Advocacy

The Action in Advocacy curriculum continued to be busy in 2010. Our residents were engaged in a number of advocacy activities, mostly spearheaded by residents and in collaboration with local communities in the Lower Mainland. A community network was developed to inform the residents of the health advocacy needs. A couple of

peer reviewed scholarly articles were published on the topic of health advocacy in residency education. Overall 2010 was a successful year and we were grateful to the efforts of Davedeep Sohi, Caroline Mariano and Mark Fok who worked under the leadership of Dr. Roger Wong.

### Internal Review

In December the program underwent an internal review with Dr. Paul Dagg as the reviewer. The final report was extremely favorable. Weaknesses were, once again, timeliness of evaluations and more use of the formal objectives. A new weakness noted was the workload on CTUs both at VGH and SPH. The formal Royal College Accreditation Review is scheduled for 2013.

### Victoria CaRMS Positions

We are working with Victoria to establish two CaRMS positions to be established in Victoria for 2012/2013. Dr. Oscar Casiro and Dr. Jim Spence are working on some of the challenges associated with this process

### Resident Research Day

The 26th Annual Resident Research Day was held on May 19, 2010 with 22 podium presentations and 16 poster presentations. The event was moderated by Dr. Nadia Khan. Podium adjudicators were Dr. John Cairns, Dr. Allan Jones & Dr. Jeffrey Schaefer. Poster adjudicators consisted of Dr. Sharlene Gill and Dr. Gary Victor.

### Quality Improvement Day

The 5th Annual Quality Improvement Day was held on December 1, 2010 where 10 PGY2 teams presented

QI projects. The guest speaker was Dr. Alan Forster, a general internist and Scientific Director, Clinical Quality & Performance Management at the Ottawa Hospital. Dr. Forster as well as Dr. Stephen Nantel and Dr. Lawrence Cheng adjudicated this afternoon session.

### **Winter Retreat**

The Annual Winter Retreat was held in Whistler on March 10 – 12, 2010 where the theme was “Internists as Teachers”.  
Postgraduate Team: With the significant increase in the Core Residency Program over the past several years we were pleased to increase the size of our administrative team with the addition of Amy Meyer in March 2010. Amy has been an extremely pleasant addition to the team.

### **South Africa**

During the 2010 year four teams travelled to the Donald Fraser Hospital in South Africa as part of our International Health Project. Plans are underway for the first six months of 2011 with another 4 teams attending. Effective June 30, 2011 a total of 13 teams, which include 14 faculty and 31 residents, will have participated in this International Project.

# UBC INTERNAL MEDICINE ADVOCACY

## UBC medical residents advocate for dementia awareness in Vancouver Chinatown

*Submitted by Dr. Roger Wong, Clinical Professor*

The UBC Department of Medicine is proud to be a national leader of innovative curriculum development on educational initiatives such as teaching quality improvement (QI) and health advocacy. Under the leadership of Dr. Roger Wong, Clinical Professor of Medicine and Assistant Dean for Faculty Development, an innovative curriculum called “Advocacy in Action” (AIA) has been developed and implemented to teach postgraduate residents the key competencies under the CanMEDS role of Health Advocate. This curriculum emphasizes experiential learning whereby residents carry out actual advocacy activities.

“Health advocacy can best be learned and practiced through actual lived experience.” Dr. Wong said. “Our residents are free to join a variety of established advocacy projects. Alternatively, residents who have a special interest can develop or participate in self-directed projects. Advocacy projects can be completed in Vancouver, outlying communities, or on international electives. Because residents have limited free time and multiple additional commitments on top of their clinical responsibilities, the amount of involvement needed to fulfill the AIA curriculum requirement is flexible.”

On Saturday, January 9, 2010, thirteen UBC internal medicine residents joined Dr. Wong to promote awareness of Alzheimer Disease and dementia at the Choi Hall inside the S.U.C.C.E.S.S. Social Services Centre, located at 28 West Pender Street in the Vancouver Chinatown area. This health advocacy event was the result of active engagement and collaboration between the UBC Department of Medicine, the Alzheimer Society of BC, and S.U.C.C.E.S.S. The event was very well attended by over 300 community dwelling seniors who filled the venue.

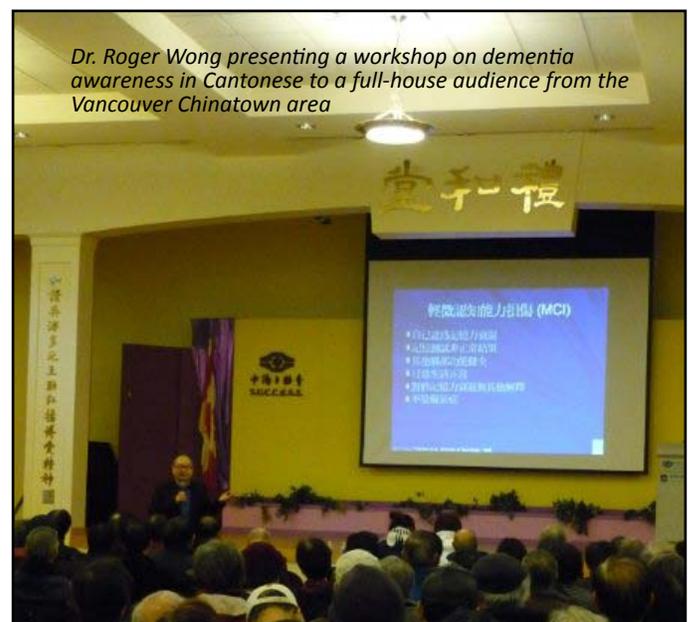
After official opening remarks by Ms. Jean Blake, CEO of Alzheimer Society of BC, Dr. Wong delivered a health promotion workshop on “What is New with Cognitive Impairment and Dementia” in the audience native language. A study released last week from the Alzheimer Society reveals alarming new statistics about the projected economic and social costs of dementia in Canada. Here in British Columbia, findings from the national study indicate that if nothing changes over the next 30 years, the prevalence of dementia in the province will more than double from 2008 figures (almost 70,000) to an estimated 177,684 British Columbians living with the disease. The associated economic burden is projected over the next 30 years to reach a cumulative total of over \$130.2 billion. The new report also outlines a series of potential intervention scenarios that could help minimize the impact of the disease, such as prevention programs to delay the onset of dementia. An example is early detection of high blood pressure to reduce the risk of stroke and therefore dementia.

This was then followed by complimentary blood pressure measurement and related health counselling provided by the UBC residents for the audience. The seniors were interested and excited to have one on one contact with our residents. Youth volunteers interpreted information where necessary and assisted the seniors to get matched up quickly with our residents.

The event was a great success with all UBC residents able to test the blood pressure for a good number of people, many of whom might not have regular access to doctors. Dr. Mark Fok, a second year resident with the UBC Department of Medicine remarked that this was “an enlightening and good opportunity to interact with people at a grassroots level” and “glad to play a part in assisting people in taking a proactive interest in their health”.

Dr. Jocelyn Chase, a third year resident remarked, “I was really impressed by the range of ages who wanted their blood pressures checked. I checked the blood pressure of an 85 year old woman and her 45 year old daughter who both seemed really interested about preserving their good health. When families work in teams to exercise health prevention strategies, I think they will be more encouraged to succeed”.

Dr. Wong added, “A fulfilling advocacy experience requires reflection on the process and sharing of successes and lessons learned with others. For this reason, residents are asked to make a submission to our secured UBC Internal Medicine Health Advocacy website once they have completed a project.” Some of the photographs taken from this advocacy event are included.





13 UBC internal medicine residents provided complimentary blood pressure measurement service to over 300 people who attended the health advocacy event



Dr. Jonathan Chan (front) and Dr. Nathan Chan (back)



Dr. Benny Lau



Dr. Manal Bokhary



Dr. Mindy Lam (left), Dr. Anson Li (centre), and Dr. Michael Tsang (right)



Dr. John Wong (centre) and Dr. Chad Evaschsen (background right)



From left to right: Dr. Caroline Mariano, Dr. Diane Villanyi, Dr. Roger Wong, Dr. Benny Lau



Dr. Jocelyn Chase



Dr. Caroline Mariano (left) and Dr. Vicky Chau (right)

# THE UBC DEPARTMENT OF MEDICINE INTERNATIONAL HEALTH PROJECT

## *A partnership between the Internal Medicine Residency Training Program & the Donald Fraser Hospital, Limpopo Province, South Africa*



**Dr. Amanda Hill**  
Clinical Associate Professor

*"My experience in South Africa made real all of what I knew abstractly about poverty and inequality in the world."*

*"We had to rethink our approach to diagnosis and empiric treatment of many of the patients we saw. This was a valuable experience, particularly as I near the end of my training and look to practice in smaller communities of B.C., who are faced with similar limitations."*

*"I think it is a huge strength of the residency program that we have this elective opportunity available to the residents."*

*"Was a great clinical experience and a really interesting trip. Hard work in general but I really enjoyed working with the people there. Also, difficult to see many young people die early deaths or suffer morbidity that may have been preventable in a resource-rich health care system. Dealing with these issues both individually and as a team with my colleagues here and at DFH, made the experience particularly rewarding."*

*"Overall, an extremely valuable experience, one of the most enriching of my medical career to date."*

*"This experience allowed me to grow personally and as a physician, and will be of tremendous value in both future experiences in resource poor settings and in Canada."*

*"Greater understandings of system issues relating to health care delivery and access."*

*"Can be emotionally challenging, as certain situations are tragic. We are exposed to a significant mortality rate. Debriefing as a team was very helpful."*

These comments confirm what the literature tells us about the impact of international work on trainees, personally and medically. It has been shown to increase interest in working within marginal groups when they chose career paths and to enhance awareness of systems approach to medical problems.

### PROGRAM OVERVIEW

We are now in our third year and members of the internal medicine residency program and UBC faculty are still travelling the 36 hour journey to Johannesburg and then the long road north for another 7 hours to the Donald Fraser Hospital in the Limpopo Province. By the end of July 2011, forty-five residents and faculty will have visited and worked at the hospital.

By July 2011, we will have provided clinical care to the medical wards for 12 months in a 36 month period relieving work load, and allowing local physicians a much needed break or time to plan and organise. We are still working on the diabetic project and are implementing a chronic disease management program of a patient-held diabetic record. Change is hard and slow and we rely on our partners to take things forward. Meanwhile, they are working long hours with a large clinical load so progress is slow but certain.

We hosted the medical director of the Donald Fraser Hospital, Dr. Kwindu, in Vancouver this year - a successful visit where he gave Grand Rounds and attended local HIV and diabetic clinics. He was inspired by the models of chronic disease management and self-management that he witnessed here.

Four of the last five teams have been led by returning faculty or residents. This vouches for the impact the program has had on people but also allows for much more continuity. In this year's report I thought I would let you read some of the feedback we have received from residents who have spent a month working in this project:



**Drs. Bill Bowie and Kirily Park (resident) with hospital staff**



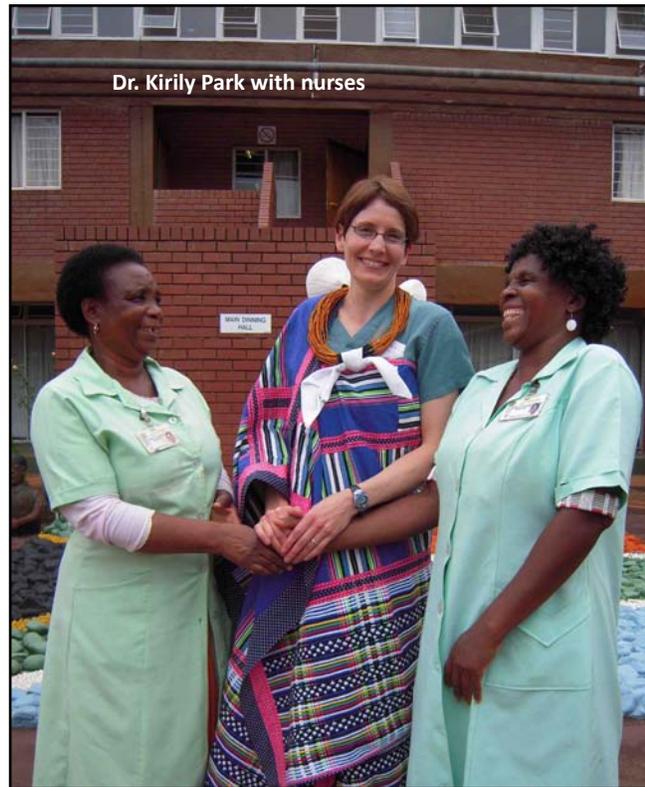
In all aspects this has been a success although we have had to modify our goals. Unfortunately, we have lost our current funding and will be looking for other ways to fund the resident/faculty travel – our annual budget is approximately \$50,000.00 per year for flights and travel costs.

Going forward we have a commitment of two more years at the Donald Fraser Hospital at which time we will have a good core of experienced faculty who will have utilised their academic skills in a resource poor setting. We hope to utilise this skilled group to expand the scope of this project out of a predominantly clinical role to more educational and capacity building projects.

There is no doubt to those of us involved that the learning we have had at the Donald Fraser Hospital will be invaluable as we pursue a more expanded scope. We are so grateful to our partners there for their hospitality and welcome.

We are also grateful to Dr. Graydon Meneilly for his continued support. None of this could have happened without the amazing dedication of Hazel Wilcox, Program Administrator. She has worked in the postgraduate residency program for many years and believes in the importance of training residents to a bigger and more generous world view.

Dr. Kirily Park with nurses



UBC residents



UBC resident Dr. Ross Davidson and hospital staff with cuddly toys that were donated to the hospital



**Dr. Janet Kushner-Kow**  
Clinical Assistant Professor and Director



**Kathy Standeven**  
Program Manager

The Department of Medicine Undergraduate Education Program Office is located in the Gordon and Leslie Diamond Health Care Centre. The Department currently consists of 17 divisions: AIDS, Allergy and Immunology, Cardiology, Community General Internal Medicine, Critical Care, Endocrinology, Gastroenterology, Geriatric Medicine, General Internal Medicine, Haematology, Infectious Diseases, Medical Oncology, Nephrology, Neurology, Physical Medicine & Rehabilitation, Respiratory Medicine and Rheumatology. All divisions are engaged in undergraduate teaching.

The Department of Medicine Undergraduate Medical Education Program is a distributed program with satellite offices in Chilliwack (Chilliwack Integrated Clerkship), Prince George (Northern Medical Program (NMP)), and Victoria (Island Medical Program (IMP)). The IMP and NMP have 31 and 24 medical students respectively in the Undergraduate Education Program.

The Department of Medicine Vancouver Fraser Medical Program (VFMP) encompasses second, third and fourth year medical students.

From January through May, second year UBC medical students participate in a four-week bedside teaching course. These sessions are part of the Clinical Skills Course where students are assigned a patient and perform a complete and focused history and physical examination, reviewed at the bedside by a clinician instructor who also critiques the student's write-up of the case. In January 2010, there were approximately 197 medical students in the second year class. Students were deployed between the two major teaching hospitals VGH and St. Paul's Hospital plus 9 additional sites throughout the Lower Mainland, including Burnaby General Hospital, GF Strong, the Fraser

Valley Cancer Centre, Royal Columbian Hospital, Lions Gate Hospital and Surrey Memorial Hospital.

From September through August, the third year clinical clerkship rotation consists of an eight-week rotation offering inpatient and outpatient care services complemented with teaching sessions such as Academic half-days, Chief Medical Resident teaching sessions, Harvey simulation training and Neurology Bedside Teaching sessions. The third year clinical clerkship differs considerably from the second year in that the objectives are not only to further the medical knowledge and skill of the student in clinical diagnosis, but also to have the student learn to manage patients' problems and provide daily overall care to the ill patient. As of September 2010, there were 195 medical students in the third year class.

In the fourth year of the MD Undergraduate Program, UBC medical students undertake a series of elective rotations. UBC fourth year medical students have elective time during the months of September through November, and January through April. Our Program continues to offer a wide range of sub-specialty rotations, including elective opportunities within the Island Medical Program, the Northern Medical Program and the emerging Southern Medical Program. Across the province, the Department of Medicine offers a total of 64 electives including 38 electives within the VFMP. Elective opportunities are also offered to visiting medical students from other medical schools in Canada, the U.S. and overseas. In 2010 our Program delivered electives to a total of approximately 140 visiting students.

## **NEW INITIATIVES AND ACHIEVEMENTS IN 2010**

- The Program expanded the ambulatory clinic component into the third year clinical clerkship rotation at Royal Columbia Hospital in January, 2010. The ambulatory component consists of a two-week sub-rotation during the eight-week CTU rotation, and focuses on the evaluation and management of patients in an outpatient setting, and communication with referring physicians.
- Design and delivery of the Ambulatory sub-rotation continued to evolve during Year 2 of the pilot program at Vancouver General Hospital and St. Paul's Hospital, the two original sites.
- Preparation began for the 3rd Year Clerkship pilot at the Southern Medical Program site in Kelowna including a site visit and the recruitment of two students to begin an 8 week clerkship pilot on February 28th, 2011.

## Royal Columbian Hospital



**Dr. Gerald Da Roza**  
**Head of Medicine**  
**Director of CTU, Postgraduate**



**Dr. David Shu**  
**Director of CTU, Undergraduate**  
**Medical Director, RCH Care Clinic**

## DEPARTMENT OVERVIEW

Royal Columbian Hospital serves as the tertiary/quaternary care centre and a primary teaching site within the Fraser Health Authority. The Department of Medicine at Royal Columbian Hospital comprises of 10 divisions: General Medicine, Endocrinology, Respirology, Gastroenterology, Nephrology, Infectious Diseases, Neurology, Rehabilitation Medicine, Hematology, Oncology and Geriatrics. In addition, the Division of Rheumatology provides consultative services to the Department.

The Department currently has 43 active members the majority of whom have appointments in the UBC Faculty of Medicine. Many members are directly within or are associated with their respective UBC subspecialty divisions. The Department has seen significant growth in the past year with the additions of Dr. Darin Krygier and Dr. Justin Cheung in Gastroenterology and Dr. Matt Bernard in General Medicine. Dr. Bernard is a PGY-5 graduate with extra training in peri-operative medicine in the St. Paul's Hospital program. He is completing a Master of Health Administration through the UBC School of Population and Public Health, jointly offered by the Faculty of Medicine and the Sauder School of Business. We are pleased to welcome the addition of Dr. Emily Lai in the New Year who will be joining as a General Internist.

This year saw Dr. Ken Atkinson stepping down as Head of Medicine after six years of service. We wish to thank Dr. Atkinson for his outstanding leadership and personal sacrifice over the years. Through his guidance we have seen the doubling of our department and our transition to an academic centre for Internal Medicine training with a full five team CTU. Dr. Gerald Da Roza took over the position of Head of Medicine as of July 1, 2010 and hopes to continue with this impressive legacy.

## CLINICAL SERVICES

The Department of Medicine serves as the primary teaching site and tertiary care centre for the Fraser Health Authority. There is a five team CTU staffed by Internists and sub-specialists that provide 24 hour in-patient coverage and consultative services. Given that we are a tertiary care centre, we accept BC Bedline referrals from across the health authority for complex medical cases. In addition, Gastroenterology, Nephrology, Respirology and Endocrinology provide 24 hour consultative service to the hospital and the region. Neurology, Infectious Disease, Hematology, Rheumatology and Geriatrics provide limited call coverage and week-day consultative service.

## MEMBERS

### Clinical Professor

Dr. Victor Chan

### Clinical Associate Professor

Dr. Gerald Da Roza  
 Dr. Sean Keenan

### Clinical Assistant Professor

Dr. Yasemin Arikan  
 Dr. Ken Atkinson  
 Dr. Gerardo Carpenito  
 Dr. Aaron Cass  
 Dr. Charles Constantine  
 Dr. Justin Cheung  
 Dr. Ann Gordon  
 Dr. Kennely Ho  
 Dr. Mohamud Karim  
 Dr. Cassie Lin  
 Dr. John MacCarthy  
 Dr. Samir Malhotra  
 Dr. Sangita Malhotra  
 Dr. Sebouh Matossian  
 Dr. Michael Noble  
 Dr. Peter O'Connor  
 Dr. Anne Priestman  
 Dr. Daniel Schwartz  
 Dr. David Shu  
 Dr. Robert Starko  
 Dr. Clarissa Wallace  
 Dr. Sheila Webster

### Clinical Instructor

Dr. Agnieszka Barts  
 Dr. Elliott Chum  
 Dr. Henry Chung  
 Dr. Jen Klinke  
 Dr. Emily Lai  
 Dr. Julie Lee  
 Dr. George Medvedev

### In Progress

Dr. Matt Bernard  
 Dr. Steve Blackie  
 Dr. Jim Glezos  
 Dr. Darin Krygier  
 Dr. George Lam  
 Dr. Kwok Yik  
 Dr. Shirley Torng  
 Dr. Susan Cooper  
 Dr. Henry Wong  
 Dr. Anibal Bohorquez  
 Dr. Maggie Constantine  
 Dr. Nittin Reebye

### Associate Members

Dr. Michael Ramsden  
 Dr. Marguerite Stolar  
 Dr. Cathy Flanagan  
 Dr. Robert Rothwell

In the past year we have seen the development of a Rapid Access Internal Medicine Clinic under the guidance of Dr. David Shu. This operates as both a teaching clinic and a venue to obtain more timely access to General Internal Medicine and sub-specialty consultation. We work closely with the Nurse Practitioners in the CARE clinic to provide ongoing care post discharge from the hospital. Dr. Matt Bernard has started a peri-operative Internal Medicine clinic to work in conjunction with Surgery and Anesthesia. In addition, Dr. Kennely Ho and Dr. George Medvedev have established the RCH Stroke Prevention Rapid Access Clinic and have helped organize the Fraser Health distributed stroke prevention clinic model. We are the only department in the region that offers EUS endoscopic ultrasound and pancreatic ERCP under the guidance of Dr. Justin Cheung.

## TEACHING

The past few years has seen an exponential increase in teaching activities in Internal Medicine teaching opportunities at Royal Columbian. Prior to 2007, the majority of trainees were rotating PGY-1's in sub-specialty electives with the occasional IM resident or medical student. In 2007, a two team CTU was created with the support of the UBC Medicine program under the direction of Dr. Gerald Da Roza and Dr. David Shu. The CTU has now grown to five full teams with a senior and junior Internal Medicine resident, 1-2 medical students and intermittently a rotating PGY-1 intern. Formal teaching activities include: morning report, weekly Respiriology rounds and Department of Medicine rounds, staff-led physical exam sessions and special lectures on acid-base, ABG interpretation and chest x-rays.

The CTU has had the fortune of having outstanding Chief Residents who all have made lasting and vital contributions for the past year starting with Dr. Jocelyn Chase and Dr. Evan Wood in the previous academic year. Dr. Lindsay Van Tongeren and Dr. Perminder Bains have taken the reins this year and are carrying on the outstanding work.

The Department provides a variety of sub-specialty electives not only to Internal Medicine residents, but also to Fellows, external residents (such as Anesthesia and Family practice) and medical students. Despite only having two current active members, the Neurology service has provided significant postgraduate and undergraduate training including clinical skills teaching. Rotations are consistently ranked highly by the Internal Medicine residents for their teaching value. The department would like to express their appreciation for the support of Dr. Dale Stogryn and the hard work of Kathleen McIntosh and Sherry Hubick in the Medical Education office.

## RESEARCH

**Dr. Julie Lee** is an investigator for an NIH sponsored trial of diabetes in pregnancy.

**Dr. Kennely Ho** is involved in a number of clinical trials in stroke prevention.

**Dr. Anne Priestman** is leading the Endocrinology group in 4 phase III industry sponsored trials related to the treatment of diabetes mellitus, the most recent of which involves insulin infusion pumps in type II diabetes.

**Dr. Sean Keenan** and the critical care group are involved in numerous clinical trials under his guidance and leadership.

**Dr. Mike Noble** is a participant in a number of clinical trials involving cancer care and chemotherapy.

**Dr. Gerald Da Roza** is head of research for Fraser Health Nephrology and is currently the principal investigator for the Fraser site in the province-wide Access to Transplant study as well as two industry sponsored International multi-centered randomized clinical trials.

**Dr. Daniel Schwartz** has had two publications in the past year in Academic Medicine and Nephrology, Dialysis and Transplantation.

**Dr. Agnieszka Barts** had a publication in the Canadian Journal of Diabetes regarding patient perception of islet cell transplantation.

## ADMINISTRATION

**Dr. Sean Keenan** – Program Medical Director Critical Care, Fraser Health Authority

**Dr. Peter O'Connor** – Program Medical Director Geriatrics, Fraser Health Authority

**Dr. Mohamud Karim** – Program Medical Director Nephrology, Fraser Health Authority

**Dr. Gerald Da Roza** – Head of Medicine, Royal Columbian Hospital (current), CTU Director, Postgraduate

**Dr. David Shu** – CTU Director, Undergraduate, Medical Director, RCH Care Clinic

**Dr. Ken Atkinson** – Head of Medicine, Royal Columbian Hospital (until June 2010)

## FUTURE DIRECTIONS

The Department plans ongoing expansion to improve access to clinical services. The goal is to recruit into a variety of subspecialties such as Hematology, Geriatrics, Infectious Diseases, Neurology and General Medicine in order to provide the full spectrum of consultative services and expertise to the region.

There will be ongoing expansion of the teaching activities in the CTU and the sub-specialties. The department is looking forward to the addition of the family practice residents to the CTU starting in the new academic year. We are hoping to work closely with Cardiology to enhance educational opportunities. We will

continue to work to optimize the blend of general internists and sub-specialists that cover CTU with a goal to enhance the trainee's experience and learning. We will continually strive to strengthen the already excellent collegial relationship we have with the other Departments such as Emergency Medicine and Surgery.

The Rapid Access clinic will continue to expand its capacity for students and residents as well as the services that can be offered to patients. Dr. Matt Bernard will continue to develop the peri-operative medicine service both in the clinic and as an in-patient consultative service to support all FHA. The goal would be to provide perioperative optimization and risk stratification, especially in the areas of CV and pulmonary risk and bridging anticoagulation. We are also hoping to recruit General Internists with other training and expertise such as Medical Education, Administration and clinical strengths such as hypertension and the use of new ultrasound technology.

## SPECIAL HONOURS & AWARDS

**Dr. Matt Bernard** received the award for outstanding teaching in Internal Medicine by the RCH Interns.

The **CTU** received the teaching award for the Best Clinical Teaching Rotation from the RCH Interns.

## Island Medical Program

No Photo Available

**Dr. Jim Spence, DSSL Internal Medicine, CTU Director, Assistant Program Director**

The Island Medical Program is a distributed site for undergraduate medical education located in Victoria on the campus of the University of Victoria. After the first two pre-clinical years in the IMP, students begin rotating through clinical experiences in all the disciplines they study. The third year clinical experiences are provided by the two hospitals in Victoria, the Royal Jubilee Hospital and Victoria General Hospital. Fourth year clinical

electives broaden the experience to other teaching hospitals on Vancouver Island, in Vancouver and beyond.

Third year clerks receive their experience in Internal Medicine in an eight week rotation that consists of 4 weeks on the Medical CTU at RJH, 2 weeks on the Cardiology CTU at RJH and 2 weeks of Medicine Ambulatory Clinics at VGH, private offices and the BCCA building at RJH. Ambulatory Clinics include experiences in General Internal Medicine, Endocrinology, Neurology and Oncology. DSSL for the Cardiology CTU is Dr. Eric Fretz. DSSL for the Medical CTU and Ambulatory Clinics is Dr. Jim Spence.

The Medical and Cardiology CTUs both provide clinical experience, not only to third year clerks, but also to PGY-1 residents from the Family Practice Program and a variety of Royal College sub-specialty Programs (Anesthesia, Radiology, Dermatology, OB/GYN, Radiation Oncology, Psychiatry, Military). Each CTU team is lead by a senior resident (R2 or R3 Internal Medicine) visiting each block from the core Internal Medicine program in Vancouver. A few Junior Attendings (R4 Internal Medicine) make their way here for blocks to oversee the Medical CTU team. Cardiology training for Internal Medicine residents also includes blocks in the CCU and the Ambulatory Cardiology clinic at RJH. Other sub-specialties in Victoria are beginning to offer opportunities for postgraduate training, notably Rheumatology, Infectious Disease and Hematology/Oncology. Late in 2010 plans were being made to extend these opportunities for the next academic year to blocks in Nephrology, Respiriology and Neurology.

One notable change in Victoria in 2010 was the division the one team Medical CTU into two teams, each with their own Senior Resident and Attending. This was done in response to a gradual increase in the number of residents and medical students over the last three years which had lead to a team that was a little too large to manage efficiently. The first six months have gone well in general with more time available for learning and supervision by the seniors and Attending Internists. With twice as many weeks to cover, however, we have had to spread our Internist staff thinner than in previous years. Consequently, we are interested in attracting more Internists to teach on the Medical CTU.

### **Current teaching staff include:**

- **Medical CTU**
  - o Drs. Jim Spence, Steve Sullivan, Laura Farrell, Pat Marshall, Prija Manjoo, Brian Weinerman and Sue Taylor
- **General Internal Medicine at Victoria General Hospital**
  - o Drs. David McDonald, Doug Skinnider and Jesse Pewarchuk
- **Cardiology CTU/CCU/Ambulatory Clinic**
  - o Drs. Lyall Higginson, Eric Fretz, Richard Mildenberger, Malcolm Williams, David Kinloch, Anthony Della Siega, Elizabeth Swiggum, Tycho Vuurmans, Simon Robinson, Richard Leather, Larry Sterns, Anthony Tang, Paul Novak, Dennis Morgan, Randall Sochowski, Manjeet Mann and Kenneth Yvorchuk

- **Endocrinology**
  - o Drs. David Miller, Richard Phillips, Andrei Moldoveanu
- **Neurology**
  - o Drs. Andrew Penn, Wayne Shtybel, Kristen Attwell-Pope, Martin Sutton-Brown, Olinka Hrebicek, others
- **Oncology**
  - o Drs. Adrian Yee, Jason Hart, Helen Anderson, Sheila Souliere, Vanessa Bernstein, Andrew Attwell, Grant MacLean, Nicol Macpherson, Kenneth Wilson, Sharon Allen, others
- **Rheumatology**
  - o Dr. Milton Baker
- **Infectious Disease**
  - o Drs. Wayne Ghesquiere and Eric Partlow

## Northern Medical Program



**Dr. Paul Winwood DSSL for the Department of Internal Medicine Teaching Program, Northern Medical Program**

### OVERVIEW OF PROGRAM

The Teaching Program in Internal Medicine started in 2005 when the first Northern Medical Program students reached the third year. It is now well established but continues to develop. Much of the teaching is focused around the Clinical Teaching Unit which at any time has four students, two Family Practice Residents (R1), one Senior Internal Medicine Resident (R2 or R3) and an Attending Internist who rotates at two weekly intervals. The CTU is supported by a Pharmacist who has 25% of her time designated to teaching and supporting medical students and Residents. It admits unselected acute Internal Medicine patients daily from 08:00 am to 4:00 pm. Students and Residents are on call most nights and admit patients for the CTU under the supervision of other Attendings. They are then transferred to CTU the next day. The CTU Attending Internist works closely with the students and Residents and commits 80% of their

time to the CTU whilst on service. The CTU manages a broad range of Internal Medicine conditions across all age groups and social classes and runs with approximately 20 patients. Generally, medical students and Residents follow approximately four patients each under close supervision. A normal day starts at 07:00 am with a post call / handover round reviewing new patients with the Attending Internist. At 09:00 am there is formal morning report with teaching which is led by the Senior Resident, Junior Residents and the Attending. Other members of the faculty are invited to attend. Throughout the rest of the day, students and Residents are given time to follow their patients, learn procedures and there are formal teaching sessions throughout the week. During 2010, we also developed the role of a Clinical Associate. For much of the year we had a full-time Clinical Associate working on the CTU and currently have a part-time Clinical Associate (a Family Practitioner with an interest in Internal Medicine) who provides clinical support and teaching to the students and junior residents.

### PROGRAM FOR THIRD YEAR MEDICAL STUDENTS

During their CTU rotation students spend 2 weeks doing Ambulatory Care. This includes Clinics in Internal Medicine, Respiriology, Gastroenterology, and Rheumatology. In addition to AMBC experience this gives the opportunity for one-to-one teaching and mentoring. Ambulatory clinics are also available for students in the Multiple Sclerosis Clinic, Diabetes Clinic, EMG/EEG and Cardiac Lab (Stress Tests).

*The formal weekly teaching program for medical students is as follows:*

1. Chief Medical Resident Teaching Video Conferenced From Vancouver Mondays and Fridays at 1:15 pm.
2. Weekly Internal Medicine Rounds at UHNBC
3. Daily Morning Report
4. Senior Internal Medicine Resident Rounds Alternate Weeks
5. Pharmacotherapy Seminars Weekly
6. Bedside Teaching From Internists Scheduled For 2 Hours Per Week (In addition to Ad Hoc teaching from the CTU Attending Internist)
7. Academic Half Day for Third Year Medical Students (Video conferenced from Vancouver)
8. Weekly Hospital Rounds (UHNBC)
9. Thursday morning rounds from VGH when video conferenced

At the end of each 8 week rotation, students are examined in clinical skills at UHNBC. This includes integrated clerkship program students in Northern BC.

### RESIDENT PROGRAMS

Family Practice Residents participate in the care of patients and all the above teaching except for the CMR rounds and Medical Student Academic Half Days. They attend their own Academic Half Day and spend half a day in Family Practice each week. They are also given access to Ambulatory Care Clinics. The Internal

Medicine Resident on CTU has a pivotal role coordinating care and teaching on the unit. They are expected to attend Journal Club, Internal Medicine Rounds, Hospital Rounds and give at least one Internal Medicine round to the faculty. The Residents are exposed to a wide range of acute Internal Medicine and are given the opportunity to take responsibility for their care. There are good opportunities for training and gaining experience in practical procedures.

During 2010 we developed an Internal Medicine Ambulatory Care rotation for Internal Medicine Residents from the UBC program. This is predominantly undertaken on the 5th floor of the UHNBC building where there is a dedicated clinic space for teaching. During the four week rotation, Residents undertake clinics in Internal Medicine, Gastroenterology, Infectious Diseases, Cardiology, Neurology, Rheumatology, EMG/EEG, Respiriology and Nephrology. During 2011 with the recruitment of a Hematologist and an Endocrinologist, we expect to add these specialties to the rotation. This rotation provides a broad experience in Ambulatory Care and clinics are arranged to give opportunities for one-to-one teaching during and at the end of the clinics. Residents on this rotation do one night on call each week after they finish their Ambulatory Care Clinic and have the following day off. They are expected to attend Journal Club, hospital rounds, Internal Medicine rounds and give at least one Internal Medicine round whilst in Prince George. When the Internal Medicine Residents (R2 / R3) are on call for Internal Medicine, they are expected to act as a junior attending. As would be the case for Attendings at UHNBC, sometimes this involves transferring and caring for patients in the ICU but with close supervision from the staff attending.

## DEVELOPMENTS IN 2010

During 2010 the Department of Internal Medicine at UHNBC was fortunate in **recruiting 3 additional Internists** with subspecialty accreditation in Nephrology, Respiriology and Cardiology. During 2011 a clinical Oncologist / Hematologist and an Internist / Endocrinologist will be joining the faculty. All new Internists are expected to have an interest and participate in clinical teaching.

Development of the **Clinical Associate** as outlined above.

The Department of Internal Medicine jointly with UBC Division of Community Internal Medicine hosted a **conference in Acute Internal Medicine** which was attended by Internists, Residents and Family Practitioners locally and from across the province. It is planned that the Department of Internal Medicine at UHNBC will host an Internal Medicine Conference on an annual or biannual basis in the future.

The Department of Internal Medicine was also delighted to see that five members of the Graduating Class of 2010 entered Internal Medicine Resident Programs.

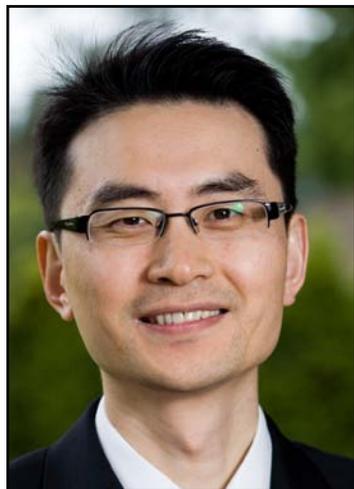
The department also offers electives to fourth year medical students in Internal Medicine, Gastroenterology, Respiriology, and Infectious Diseases. This program has expanded in the last year and is well subscribed to by students from the Northern Medical Program and other UBC sites.

### ***The physicians involved in the program are as follows:***

1. Dr. Khalid Bashir (Internal Medicine / Nephrology)
2. Dr. Lyle Daly (Neurology)
3. Dr. Fareen Din (Internal Medicine / Nephrology)
4. Dr. H. Hadi (Internal Medicine / Cardiology)
5. Dr. Abu Hamour (Internal Medicine / Infectious Diseases)
6. Dr. Colleen Hennessy (Internal Medicine / Cardiology)
7. Dr. Z. Iqbal (Internal Medicine )
8. Dr. Donald MacRitchie (Diabetes)
9. Dr. Firas Mansour (Internal Medicine / Cardiology)
10. Dr. Sharla Olsen (Internal Medicine / Respiriology)
11. Dr. Jacqueline Pettersen (Neurology)
12. Dr. Abid Saadeddin (Internal Medicine / Gastroenterology)
13. Dr. John Smith (Internal Medicine / Respiriology)
14. Dr. Paul Winwood (Internal Medicine / Gastroenterology)
15. Dr. Robin Lowry (Internal Medicine / Nephrology)

# CANADA RESEARCH CHAIRS, ENDOWED CHAIRS & PROFESSORSHIPS

## CANADA RESEARCH CHAIRS



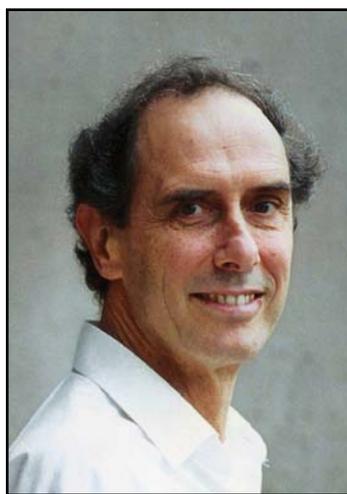
### Canada Research Chair in Chronic Obstructive Pulmonary Disease (COPD)

**Dr. Don Sin, Professor**

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Over the past year, our laboratory with the help of the Canada Research Chair program made significant contributions to the current understanding of chronic obstructive pulmonary disease (COPD) and its relation to cardiovascular disease (CVD). In collaboration with investigators in Erasmus, we showed that patients with COPD have frequent co-existing atherosclerotic CVD and sub-clinical heart failure, which in turn are associated with very poor outcomes 1-3. The use of biomarkers of heart failure such as N-terminal pro-B-type natriuretic peptide (NT-proBNP) may be useful in identifying occult heart failure in COPD patients and intervening with life-preserving therapies such as beta-blockers in these patients when (occult) heart failure is present 4. In collaboration with Drs. J. Wright, A. Churg and S. Van Eeden, we embarked on an ambitious program to understand the mechanisms linking lung injury of COPD to CVD using animal models of lung injury/inflammation. To date, we have shown that lung injury causes the acute release of inflammatory mediators in the lungs. Some of these mediators in turn translocate into the systemic circulation, causing endothelial dysfunction of systemic arteries and inducing cardiac dysfunction. Interestingly, we found that drugs such as inhaled glucocorticoids and statins can abrogate this phenomenon and restore endothelial function and cardiac performance related to lung injury in these animals 5-7. This may partially explain why the use of inhaled glucocorticoids may decrease the risk of CVD in patients with asthma or COPD 8,9. In collaboration with Dr. Stephen Lam and his group at the BC Cancer Agency, we

have been studying various lung-specific proteins as possible biomarkers in COPD. We have found that surfactant protein-D (SP-D) is a very promising systemic biomarker. It appears with disease progression, SP-D levels in the lungs decrease, while in the systemic circulation, it rises, likely reflecting increased lung permeability related to lung inflammation 10. In 2011, we will continue to pursue our research in COPD to better understand the mechanisms by which COPD increases the risk of cardiovascular diseases and lung cancer and identify novel blood based biomarkers to foster development of new treatments and preventive strategies for patients with COPD.



### Canada Research Chair Tier I in Immunology

**Dr. John Schrader, Professor**

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We have continued our work on generating human monoclonal antibodies from samples of blood from convalescent patients who had recovered from infection with the 2009 H1N1 pandemic influenza virus. We soon realized that many of the monoclonal antibodies had surprising properties and not only neutralized swine flu, but also the highly pathogenic H5N1 bird flu. This was unexpected and very useful for therapeutic purposes as normally the antibodies induced by influenza infections or vaccines are narrowly targeted and specific to a particular strain of influenza. We discovered the mechanism through which these unusual broad-spectrum anti-influenza antibodies were induced, and are now working towards a much sought-after, broad-spectrum vaccine against influenza.

We formed the hypothesis that human immunoglobulin variable-region genes, which encode part of the binding site of antibodies, have evolved to encode binding sites for vulnerable parts of common pathogens like human

cytomegalovirus or *Streptococcus pneumoniae* that the pathogen cannot easily vary. We showed that the same pair of inherited variable-region genes encode part of a site that binds the capsule of a sero-type of *S pneumoniae* and part of a binding site that encodes a vulnerable site on the envelope protein of human cytomegalovirus. This suggests that immunoglobulin variable-region genes multitask and encode different amino acids which contribute to binding sites for different pathogens. We are collaborating with Dr. Emil Pai of the University of Toronto in elucidating the structure of a crystal of a protective antibody against *S pneumoniae* and the subunit of the capsular polysaccharide. Our hypothesis predicts that inherited variable-region genes will encode the amino acids that make the foundation of the binding site for the polysaccharide.

We are also developing more efficient ways to make monoclonal antibodies for diagnosis and treatment, and have generated human monoclonal antibodies that have potential in treating arthritis, multiple sclerosis and pain.

In other research we are studying a gene that seems to counteract anxiety, depression and obesity.

Finally, we showed that a signaling protein that we discovered can cause leukemia and are collaborating with Dr. Steven Jones at the Genome Sequencing Centre to develop drugs that inhibit its activity.



### **Canada Research Chair in Neurodegeneration and Protein Misfolding Diseases**

**Dr. Neil Cashman, Professor**

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Dr. Cashman was appointed Canada Research Chair in Neurodegeneration and Protein Misfolding Diseases at the University of British Columbia in 2005. Classical and newly emergent prion diseases have created serious medical, veterinary, and economic challenges worldwide. These diseases, including Creutzfeldt-Jakob disease (CJD) of humans, bovine spongiform encephalopathy (BSE) of cattle, and

chronic wasting disease (CWD) of cervids, are due to “protein only” infectivity, driven by template-directed misfolding of the normal cellular prion protein (PrPC) by physical contact with the abnormal, disease-specific prion protein (PrPSc). Template-directed protein misfolding may also participate in other neurodegenerative syndromes, including Alzheimer’s disease, amyotrophic lateral sclerosis (ALS), and Parkinson’s disease.

Dr. Cashman’s laboratories at the Brain Research Centre and the Life Sciences Centre are now home to 15 high quality personnel and trainees working primarily in the biochemistry and immunology of protein misfolding in prion diseases and motor neuron diseases. Central programs in the lab include the development of immunotherapies for ALS, an incurable neuromuscular disease for which there is no current effective treatment, and vaccines for prion diseases and other protein misfolding diseases. Among lab accomplishments in 2010 were publications on a prion protein oligomer with toxicity to neurons, the discovery and patent filing of a novel epitope unique to Aβ oligomers in Alzheimer’s disease, the finding that prion protein is partially unfolded at the cell surface of many cancers, and several prion disease risk management studies. The Cashman lab was also granted three US patents, and held grants from PrioNet Canada, CIHR, and from industry.

Since 2005, Dr. Cashman has led PrioNet Canada as Scientific Director of this Network of Centres of Excellence. He has also served as Chief Scientific Officer of Amorfix Life Sciences in Toronto, and Director of the ALS Centre at GF Strong Hospital. He provides teaching and mentoring for neurology trainees in the UBC Medical School and Vancouver General Hospital, as well as 3 current graduate students in his laboratory.



### **Canada Research Chair in Neuroethics**

**Dr. Judy Illes, Professor**

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Dr. Judy Illes was appointed Canada Research Chair in Neuroethics and Professor of Neurology in the Department of Medicine in August 2007. With the generous support of

the Chairs program, CIHR/INMHA, the Canadian Foundation for Innovation, the British Columbia Knowledge Development Fund and other research sponsors, she established the National Core for Neuroethics at the University of British Columbia, the only national research resource in the world in the area of neuroethics. Dr. Illes and her team are devoted to accelerating the translation of research in diagnosis, prediction and treatment of neurological disease to the clinic and consumer marketplace through the lens of ethics, law, policy and society.

At this three-year anniversary, under the leadership of Dr. Illes and in collaboration with Core faculty including Professor Peter Reiner (Psychiatry) and Dr. B. Lynn Beattie (Geriatrics), and their collaborators across the UBC campus and Canada, the Core:

- continues to make significant research progress in identifying motivators for ethics in functional neuroimaging in both clinical and non-clinical applications, and seeking remedies to mitigate barriers
- has made discoveries about the perspectives of stakeholders – patients themselves, their families and their health care providers – on stem cell clinical trials for spinal cord injury
- has had breakthroughs in understanding the still tenuous landscape of knowledge translation for dementia research
- identified critical gaps in the dissemination of information about treatments for neurodevelopmental disorders on the Internet
- brought new funding and research programs to the fore, especially in the areas of cross-cultural neuroethics and gene therapy
- graduated young researchers to leading graduate programs and faculty positions in Canada and the United States, and,
- successfully attracted outstanding new graduate students and postdoctoral fellows from national and international programs to the Core.

Two of Dr. Illes' students also won prestigious awards this year: PhD student Daniel Buchman (Interdisciplinary Studies Graduate Program) received the CIHR Best and Banting Graduate Student Fellowship for three years, and Masters student Alex Garnett (School of Library, Archival, and Information Studies) was recognized with the New Leader Award from the American Society for Information Science and Technology (ASIS&T). In addition, the team published more than 20 new papers and book chapters, including articles in prestigious journals such as *Nature Reviews Neurology*, *Nature Reviews Neuroscience*, *Social Science & Medicine*, *Frontiers in Human Neuroscience* and *The Lancet Neurology*. Dr. Illes also has two new books forthcoming: *The Oxford Handbook of Neuroethics* (J. Illes and B.J. Sahakian, Eds., Oxford University Press, 2011), and *Addiction Neuroethics* (A. Carter, W. Hall and J. Illes, Elsevier Press, 2011).

Beyond scholarly accomplishments, Dr. Illes and her team participated in and hosted numerous outreach activities across British Columbia including events around the Olympic

and Paralympic Games. They made visits to Northern BC to advance their community-based work on aging and wellness there, and launched Café Neuroethique for the Vancouver, British Columbia community. Dr. Illes has continued to build new relationships and interest in neuroethics among the UBC neuroscience graduate students and the Faculty of Medicine's clinical residents. She travels extensively to promote neuroethics at invited lectures and professional meetings on a global level. By all measures, she and her young organization enjoy prominence on the world stage.

Dr. Illes' research and the current activities of the Core are made possible by generous support from the Institute of Neurosciences, Mental Health and Addiction (INMHA) of the Canadian Institutes of Health Research (CIHR), the Canada Foundation for Innovation (CFI), the British Columbia Knowledge Development Foundation (BCKDF), the National Institutes of Health (NIH/NIMH), the Vancouver Coastal Health Research Institute (VCHRI), the Stem Cell Network (SCN), the Foundation for Ethics and Technology, GenomeBC, the Canadian National Centres of Excellence, the North Growth Foundation, and the Dana Foundation.



## Canada Research Chair for Neuropsychology of Vision and Eye Movements

**Dr. Jason Barton, Professor**

In the Human Vision and Eye Movement Laboratory, we investigate how cerebral cortex performs complex levels of visual processing and implements control of saccadic eye movements. To do this we study both healthy subjects and patients with damage to certain brain systems, using both assessments of behaviour and also functional neuroimaging.

In vision we formed a CIHR-funded International Prosopagnosia Study Group to evaluate patients with prosopagnosia, the inability to recognize faces, a rare condition acquired after brain damage. We also performed fMRI experiments and behavioural adaptation studies aimed at revealing how the brain encodes faces. For example, this

year we showed for the first time that adaptation induces a short-term plasticity that enhances discrimination of faces. We continued to advance our knowledge about developmental topographic disorientation, the inability to form and use mental maps of the environment, a condition we first discovered last year, and published our initial experience with a cohort of 120 subjects with this disorder recruited through the internet. We also expanded our object recognition studies to include word recognition, an important parallel to face recognition that appears to use networks in the left hemisphere similar to those used by faces in the right. We showed that recognition of stylistic properties of text and their word content are differentially impaired by right versus left occipital lesions, suggesting important differences in the computations performed by right and left occipital cortex. In terms of lower level deficits, we used neural network models and artificial gaze-contingent strategies to learn how subjects adapt to hemianopia, an important and common disorder following strokes and other brain lesions.

The saccadic control group in the laboratory has focused on using saccades to understand the influence of context on human behaviour. We reported on how recent history and future expectations influences the spatial programming of saccadic responses, and how foreknowledge is used to optimize eye movement behaviour. We began a new series of investigations studying how rewards and penalties modulate our saccadic programming, and how subjects make decisions under risk, which we modeled using Prospect theory. We will apply this work to the study of patient populations with dopaminergic abnormalities, such as Parkinson's disease, schizophrenia, and pathologic gambling.

We had 13 research presentations and 18 publications in 2010, with another 10 in press or at the epub stage. The lab consisted of five post-doctoral fellows, three graduate students, two medical residents, two undergraduate students and five medical students. Our contribution to training was recognized by the inaugural best research mentorship award in the Division of Neurology. Our work on face recognition was highlighted on Global TV, Scientific American Mind, and in newsprint. The lab was supported by five research grants from CIHR and NSERC, fellowship support from MSFHR, CIHR, Les Fonds de la Recherche Scientifique (Belgium), and the Swiss National Science Foundation, and student support from the American Academy of Neurology, NSERC, and Fight for Sight Foundation.



## **Canada Research Chair in Genetics of Respiratory Disease**

### **Dr. Andrew Sandford, Associate Professor**

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Dr. Andrew Sandford was appointed a Canada Research Chair in Genetics in July 1, 2001. His research is focused on the role that genetics plays in diseases of the airway, including asthma, chronic obstructive pulmonary disease and cystic fibrosis. There is compelling evidence to show that almost all of the major inflammatory diseases have a hereditary component. Dr. Sandford is studying patients and their families to learn the associations between genes and lung diseases.

Dr. Sandford is conducting research into the genetic basis of asthma and related allergic conditions such as rhinitis and atopic dermatitis. The genetic variants that are discovered to be associated with these diseases are investigated to determine the mechanism by which they cause increased susceptibility to these disorders. He also investigates the role of genes in increasing the susceptibility of some smokers to chronic obstructive pulmonary disease. Finally, he is investigating the genetic factors that are involved in determining the severity of pulmonary disease in patients who have cystic fibrosis.

In 2010, Dr. Sandford held grants from the Canadian Cystic Fibrosis Foundation, the Canadian Institutes of Health Research and AllerGen NCE Inc. He was also co-investigator on another grant from AllerGen NCE Inc and a newly awarded CIHR team grant. His work resulted co-authorship on a New England Journal of Medicine article that described the largest asthma genetics study to date. He also published three papers describing novel genetic associations with pulmonary disease severity in cystic fibrosis patients.



## Canada Research Chair in Parkinson's Disease

**Dr. A. Jon Stoessl, Professor**

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Dr. Stoessl was originally appointed a Tier 1 Canada Research Chair in 2000 and successfully renewed his Chair in 2007. Dr. Stoessl directs the Pacific Parkinson's Research Centre and National Parkinson Foundation Center of Excellence at UBC, as well as a CIHR Team in Parkinson's, a Michael Smith Foundation for Health Research Unit in Parkinson's disease and Monoaminergic Function in the Central Nervous System (term ended in 2010) and a Pacific Alzheimer Research Foundation Centre grant on Overlap Syndromes resulting in Dementia. The team's research program uses functional imaging to study the progression of Parkinson's disease (PD), the basis for complications of advanced disease and its treatment, as well as the use of PD as a model to better understand the role of dopamine in the healthy brain. During 2010, Dr. Stoessl and his colleagues continued this work. Multi-tracer longitudinal studies of dopaminergic function in patients with established PD revealed a more severe degree of dopamine denervation in those with young-onset disease, even though disease progression is slower in this population, reflecting better compensatory mechanisms (de la Fuente-Fernandez et al., *Annals of Neurology* 2010). Similar studies conducted in asymptomatic members of families with dominantly inherited disease were continued and expanded, as part of an international collaboration with investigators from Mayo Clinic Jacksonville, University of Washington, Norway and Japan. These studies have demonstrated increases in dopamine turnover in clinically unaffected mutation carriers, many years prior to expected disease onset, and prior to other functional abnormalities in dopaminergic function (Sossi et al., *Movement Disorders* 2010). The potential utility of this work for the development of biomarkers has resulted in new grants to Drs. Sossi and Stoessl from the Michael J. Fox Foundation. In collaboration with investigators in the Departments of Psychiatry and Psychology, PPRC investigators continue to study the basis for depression and impulse control disorders in Parkinson's disease and studies on feasibility of self-administered computerized cognitive testing continued. An important

study on the effects of manipulating expectation on placebo-induced dopamine release was published and attracted national and international media attention (Lidstone et al., *Archives of General Psychiatry*, 2010).

In addition to these activities, Dr. Stoessl served on the Editorial Boards of *Annals of Neurology*, *Lancet Neurology* and *Parkinsonism & Related Disorders* and the Clinical Scientific Advisory Board of the National Parkinson Foundation. He chairs the Interdisciplinary Adjudication Committee of the Canada Research Chairs program, the Awards Committee of the Movement Disorders Society and co-chairs the Mentorship Committee of the Parkinson Study Group. He sits on the International Executive Committee of the Movement Disorders Society, is a Councilor for the Association of Parkinsonism & Related Disorders and has been invited to co-chair the next World Parkinson Congress (Montreal, 2013).



## Canada Research Chair in Neuroepidemiology and Multiple Sclerosis

**Dr. Helen Tremlett, Associate Professor**

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Canada has some of the world's highest rates of multiple sclerosis (MS). Everyday three more Canadians are diagnosed with this devastating disease for which there is no known cure. The brain and spinal cord are attacked by the body's own immune system, leading to numbness and tingling, severe fatigue, coordination problems and potentially the need for walking aids or a wheelchair.

MS is one of the leading causes of disability in young Canadian adults. Despite this, it is not known what drives or influences disease progression in MS. If specific factors could be identified, then this could dramatically improve outcomes for people with MS and perhaps prevent disability from occurring.

The research goals of Dr Helen Tremlett, Canada Research Chair in Neuroepidemiology and Multiple Sclerosis, are to investigate possible underlying factors driving disease progression – from genes to the environment. Dr. Tremlett will

also investigate whether the current MS drugs affect disease progression by examining their long-term impact on disability and balancing any beneficial effects against drug safety. Together these initiatives will lead to a more individualized approach to care in MS.

A core component of this program will focus on bringing together, for the first time, multiple large health and clinical databases created for over two decades. In addition, experts from a wide range of disciplines, including genomics, environmental geography, epidemiology, drug safety, statistics and neurology will collaborate to form a truly multi-disciplinary approach to MS research. Ultimately, this research aims to improve the health, treatment options and outcomes for people living with MS.

Dr. Helen Tremlett heads the Pharmacoepidemiology in MS (PiMS) Research group which includes a 15 strong dedicated team of trainees, fellows and post-docs from diverse backgrounds such as pharmacy, medicine, epidemiology, genomics and biostatistics. Her team's research efforts are generously funded through CIHR, the MS Society of Canada, the US national MS Society, the UK MS Trust and the Martha Piper Fund.

## ENDOWED CHAIRS



### Allan M. McGavin Chair in Geriatric Medicine

**Dr. Janet McElhaney, Professor**

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Janet E. McElhaney, MD, FRCPC, FACP, is Professor of Medicine at the University of British Columbia (UBC) and holds the Endowed Chair in Geriatric Medicine. Her own research program focuses on the aging immune system and inflammation, and strategies to reduce the impact of influenza in older adults through the development of immune correlates of protection and testing of novel vaccines. In 2010, she was appointed to the Canadian Institutes of Health Research (CIHR) Institute of Aging Board,

became Associate Editor for Vaccine, continued as Advisor for the European Scientific Working Group on Influenza, and served as a reviewer for the CIHR, the US National Institutes of Health, the US Centers for Disease Control, and numerous other granting agencies and journals.

Her international collaboration supported by CIHR funding lead to the publication of validated assays of immunologic correlates of protection against influenza and a Provisional patent application (UBC 11-098) for an inflammatory biomarker developed in her research program. A new CIHR grant in collaboration with McMaster University is using the immune correlates and inflammatory biomarkers to evaluate influenza illness severity and guide care processes in the Providence Residential Care settings. She is also a Co-PI on a CIHR Pandemic Team grant with collaborators across Canada that is addressing issues related to the 2009 influenza pandemic. The NIH U01 grant developing a model system for pre-clinical testing of new vaccine/adjuvant combinations that has attracted interest from industry and new collaborators with plans to translate this research to Phase I clinical trials. These projects including the work on her NIH R01 at the University of Connecticut, positioning her as an international leader in this field; she will be part of a CIHR delegation to China and a World Health Organization advisory panel related to vaccine development to meet the challenges of rapid aging of populations in developing countries, particularly China and SE Asia.

Care of Older Adults with Acutely Compromised Health Network (COACHNet) is a \$23M proposal for a Network of Centres of Excellence (NCE) led by Janet McElhaney as the Scientific Director, to improve functional outcomes in hospitalized older people. Based on very positive feedback on the first application, which made it to the final four in the health category for federal funding, a letter of intent for COACHNet) is under review in the current NCE competition. COACHNet is a framework for action that will engage older patients/caregivers with interprofessional teams and research strategies to improve our understanding of how to mitigate risk and provide optimal treatment approaches during acute health events requiring hospitalization. New knowledge translation approaches will guide the ethically sound application of knowledge, create wireless communication and networks to enhance care processes, and elucidate the health economic benefits to be gained. Our goals are to optimize health outcomes, improve access, and reduce care-related costs for older Canadians. The research output will increase the capacity of the existing acute care system to meet current and future demands for access to hospital care by all Canadians.

The Vancouver Initiative To Add Life to Years (VITALiTY) was initially formed through a Michael Smith Foundation for Health Research team grant awarded to Dr. McElhaney and supported the development of the VITALiTY Team. The planning for this team led to a number of successful collaborations between Division members and UBC faculty from other health disciplines, resulting in CIHR grant awards funded or currently pending review. Division members,

Drs. Ken Madden and Phillip Lee, now lead this initiative for which a development plan has been submitted to the UBC Development Office and the VGH Hospital Foundation. The Division's major areas of research emphasis are in health services research and active research programs in diabetes, dementia, osteoporosis, falls prevention, cardiovascular disease, inflammation, immunosenescence and vaccination provide a foundation for the scholarship and service that will promote health, wellness and independence for seniors in the community of Vancouver Coastal Health and British Columbia.



### **AstraZeneca Chair in Occupational and Environmental Lung Disease**

**Dr. Chris Carlsten, Assistant Professor**

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Dr. Chris Carlsten's clinical and research interests, supported by the AstraZeneca Chair in Occupational and Environmental Lung Disease, center on occupational airways disease including the effects of diesel exhaust and other particulate matter on asthma induction and exacerbation. In 2010, he continued to develop the Chan-Yeung Centre for Occupational and Environmental Lung Disease ([www.cher.ubc.ca/CCOERD](http://www.cher.ubc.ca/CCOERD)), home of the Air Pollution Exposure Laboratory (APEL). APEL, which investigates the effects of combustion-derived particulate matter on the respiratory and immunological health endpoints in humans, is now fully functional and its unique capabilities have recently been reported in *Inhalation Toxicology*.

In 2010, Dr. Carlsten presented data from a pilot study of the efficacy of an antioxidant in mitigating the airway effects of diesel exhaust; the preliminary results strongly support the hypothesis that N-acetylcysteine abrogates phagocytosis and the increase in airway reactivity associated with diesel exhaust exposure. The full study is now nearly completed, and complete results are anticipated for publication in 2011. Finally, Dr. Carlsten and his team has accelerated work on our epidemiologic effort known as TAG (Traffic, Air pollution, and Genes; in collaboration with Dr. Michael Brauer of the School of Environmental Health), which has now gathered

data on over 20,000 children from 7 international birth cohorts to evaluate the interaction between traffic-related air pollution and genetics leading to incident asthma in children. Preliminary results show a significantly increased risk in those children with a polymorphism in the GSTP1 gene that impairs metabolisms of inhaled oxidants. Dr. Carlsten was the first author on 8 peer-reviewed papers published or accepted in 2010.



### **The Eric W. Hamber Chair in Medicine**

**Dr. Graydon Meneilly, Professor**

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The Eric W. Hamber Chair in Medicine is one of the most significant endowments of its kind in Canadian health education history. Established in 1966 by Mrs. Eric W. Hamber as a memorial to her husband, the Hon. Eric W. Hamber, former lieutenant-governor of BC and UBC chancellor, this Chair is the first perpetually endowed and fully supported chair or professorship at UBC. It is a fitting memorial to the late Mr. Hamber, who gave the strongest support as Chancellor of the University to founding of the UBC Faculty of Medicine.

The purpose of the Chair is to support the Department Head. Fully supported endowments of this kind are very important in attracting outstanding medical teachers and researchers by providing financial resources beyond those ordinarily available to the medical school. Outstanding faculty members become magnets for others. This is particularly important as the competition for top teachers and researchers is growing stronger across Canada and around the world.

Dr. Meneilly was appointed Eric W. Hamber Chair, Department of Medicine on July 1, 2002, and was reappointed on July 1, 2007. He was hired for his strength in leadership in an ever changing environment and his ability to be innovative, provide strategic direction and encourage and build collaborative relationships. He is the fourth Eric Hamber Chair.

Dr. Meneilly has held peer-review funding from national and provincial research agencies and has an international

reputation for studies of diabetes and carbohydrate metabolism in the elderly. He has over 100 peer-reviewed publications. He has spoken and written widely in his areas of expertise, and has supervised many postgraduate trainees. He has been active in hospital service leadership in a variety of settings and is currently Medical Director, Medical Services, Vancouver Acute. He brings broad perspectives of personal achievement in clinical investigation, an intense commitment to resident and student education, and innovative concepts of health service delivery across communities throughout the province.



## UBC and St. Paul's Hospital Foundation Chair in AIDS Research

### Dr. Julio S. G. Montaner, Professor

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Since 1997, the endowed UBC Chair in AIDS Research has allowed Dr. Montaner to carry out research which has successfully translated to improved treatment, care and service delivery to HIV infected individuals throughout BC and internationally.

Dr. Montaner's research focuses on the "Expansion of Highly Active Antiretroviral Therapy (HAART) coverage to control progression to AIDS and the spread of HIV". HAART stops viral replication and drives down viral load in plasma to undetectable levels. Consequently, HAART restores immune function, preventing progression to AIDS and prolonging life expectancy, among HIV-infected individuals. HAART also drives viral load to undetectable levels in semen, vaginal fluid and rectal mucosa. Consequently, HAART can substantially decrease HIV transmission. Dr. Montaner previously demonstrated an association between rising HAART uptake and decreasing new HIV diagnoses in BC between 1996 and 1999 (Lancet 2006) and his team was the first to demonstrate this same phenomenon in injection drug users, in Vancouver (BMJ 2009). Using novel mathematical model, his team estimated that expanding HAART coverage in BC from the current 5,000 to 7,500 eligible persons would lead to better health outcomes among those infected and prevent about 150 annual new HIV infections (JID2008, PLoS One 2010).

A recent economic analysis based on this model concluded that HAART expansion would actually be cost-averting, due to the multiplier effect provided by the reduction of new HIV infections over time (AIDS 2010). More recently, investigators based at the World Health Organization (WHO) independently validated the group's Treatment as Prevention. Earlier in 2010, the proposed approach received the endorsement of Michel Sidibé, the Executive Director of UNAIDS. Further support for Dr. Montaner's initiative has been provided by former US President Bill Clinton and former Canadian UN Ambassador Stephen Lewis. In 2010, the Provincial BC Government announced new targeted funding (\$48 million over four years) to support Dr. Montaner's proposal to field test expanded use of HAART in two discrete pilots in BC. This landmark initiative is known as Seek and Treat for Optimal Prevention of HIV and AIDS in BC, also known by the acronym "STOP HIV and AIDS in BC". Favourable early results of this initiative were recently published (Lancet 2010).

In September 2008, Dr. Montaner received the inaugural Avant-Garde Award from the U.S. National Institute of Drug Abuse (NIDA) at the National Institutes of Health (NIH) to support the proposed HAART expansion research (US\$2.5 million over 5 years). In 2009, Dr. Montaner was inducted as a member of the Royal Society of Canada. Dr. Montaner received the (\$100,000) CIHR Knowledge Translation Award in 2009. In late 2010, Dr. Montaner received a Doctor of Science-honoris causa degree from Simon Fraser University, the inaugural Aubrey J. Tingle Prize for Outstanding Leadership from the Michael Smith Foundation for Health Research, the Order of British Columbia, the Prix Galien Canada Research Award, and the Albert Einstein World Award of Science. Dr. Montaner's current role as the Director of the BC Centre for Excellence in HIV/AIDS at Providence Health Care and Past-President of the International AIDS Society has greatly facilitated the translation of his research at Provincial, National and International levels.

## PROFESSORSHIPS



### McLeod Family Professorship in Valvular Heart Disease

**Dr. John G. Webb, Professor**

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The past year has seen continued innovation in the field of minimally invasive heart valve procedures. Recent first-in-man procedures developed in Vancouver including transarterial and transapical aortic valve implantation continue to grow in popularity with over 35,000 procedures now performed around the world. New first-in-man procedures included implantation of transcatheter valves in failed surgical valves (preventing the need for reoperation), cerebral embolic deflection and the first-in-man implantation of two completely new types of valves.

A major focus has been the development and teaching of transcatheter valve procedures internationally. St Paul's Hospital hosts twice monthly 3 day valve workshops that have been attended by approximately many hundreds cardiac surgeons, cardiologist and others from across North America and around the world. Support of this training has included on-site performance of initial procedures and subsequent proctoring in over 25 countries. In 2010 cases were performed in Japan, Australia, New Zealand, Korea, Turkey, Saudi Arabia as well as the United States and the United Kingdom. In 2011 the largest transcatheter valve meeting, Transcatheter Valve Therapy, moved to Vancouver with a record attendance of over 700, over 60 international faculty and multiple live case transmissions from St. Paul's to the meeting venue.

Publications in 2010/2011 included two New England Journal publications on the PARTNER randomized trials comparing transcatheter valve therapy favorably to medical management and to conventional surgery as well as multiple publications in other high impact journals such as Circulation, Journal of the American College of Cardiology and European Heart Journal. This year also saw the publication of several book chapters including the chapter on structural heart interventions in Braunwald's Textbook and pending publication of Carroll and Webb's Structural Heart Interventions in Adults.



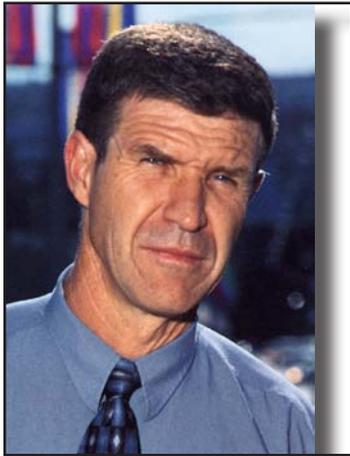
### Pacific Parkinson's Research Institute Professorship in Parkinson's Research Endowment

**Dr. Silke Appel-Cresswell, Assistant Professor**

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The Pacific Parkinson's Research Institute Professorship in Parkinson's research supports research into cognitive and neuropsychiatric aspects of the disorder such as depression, anxiety, apathy, impulse control disorders and psychosis as well as clinical work in movement disorders and particularly Parkinson's disease.

The chair holder joins the team at the Pacific Parkinson's Research Centre (PPRC) and in collaboration with her colleagues, engages in functional and structural imaging using (f)MRI and PET with Drs Stoessl, McKeown and Sossi to study neuropsychiatric and cognitive aspects of Parkinson's disease. Grants from the Parkinson's Society of Canada, the National Parkinson's disease Foundation and the Parkinson's Society of BC support the work. Dr Cresswell is establishing a comprehensive prospective database of Parkinson's disease patients seen at the PPRC which is aimed to provide the clinical correlation for imaging, treatment and potentially other biomarker and pathology studies in the future. The clinical database is closely linked to the collection of genetic material in collaboration with Dr Matt Farrer laying the foundation for combined imaging and genetic studies. She is further working with Dr Grant Iverson on computerized cognitive testing in Parkinson's disease and with Dr Jason Barton on decision making under risk in Parkinson's disease.



## Glaxosmithkline Professorship in Chronic Obstructive Pulmonary Disorder

**Dr. Stephan Van Eeden, Professor**

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Chronic obstructive pulmonary disease (COPD) is a chronic inflammatory condition of the lungs caused by the inhalation of noxious gasses and particles predominantly from cigarette smoke and air pollution. With our aging population it has become the fastest growing chronic disease and is responsible for highest rate of hospital admissions among major chronic illnesses in Canada. It is predicted to be 4th leading cause of death worldwide by 2030 by WHO, projected to be 5th leading cause of DALYs in 2020 and cost \$3-4 billion annually for care in Canada.

The GSK/CIHR professorship in COPD has been established to stimulate innovative research in COPD and to advance the clinical care for these patients. Providence Health Care, iCapture Centre for Cardiovascular and Pulmonary Research is the second leading group for high impact innovative research in COPD worldwide with numerous papers in leading journals the last year (CHEST, American Journal of Respiratory and Critical Care Medicine, NEJM etc). In addition, a “COPD Chronic Disease Management Program” has been established at St. Paul’s Hospital, Pacific Lung Health Centre over the last 5 years that lead the way in British Columbia with comprehensive evaluation and management of subjects with complicated and severe COPD. This program has recently been recognize with an award by a WHO sponsored meeting “Global Perspectives in Chronic Disease Prevention and Management” .

Dr. Stephan van Eeden was appointed the GSK/CIHR professorship in COPD in 2010 with the focus of his research on the consequences of the downstream systemic response elicited by the inflammatory response in the lung that characterize COPD. In collaboration with Dr. Don Sin and others we have established the novel concept that pro-inflammatory mediators generated in the lung such as IL-6, translocate to the systemic circulation. These mediators then impact blood vessels and other organs such as bone,

causing osteoporosis, and muscles causing de-conditioning. Animal experiments showed that inhaled corticoid steroids and statins have the ability to attenuate the detrimental effects of the circulating mediators on blood vessels. We have also systematically quantify the deposition and retention of particulate matter (PM) in lungs of subjects with COPD, with the hypothesis that these retained particulate matter promote on going inflammation in COPD lungs (even long after subjects have stopped smoking). This was recently published in CHEST. Studies on the role of these retained PM and air pollutants in the pathogenesis of COPD, are ongoing.



## Glen-Hillson Professor in Clinical HIV Virology

**Dr. Richard Harrigan, Associate Professor**

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Since 2007, the stable salary support provided by the Glen Hillson Professorship in Clinical Virology has enabled Dr. Harrigan and the Research Laboratory at the BC Centre for Excellence in HIV/AIDS to develop and expand the repertoire of tests available for HIV drug resistance and therapy monitoring, including pharmacogenetics and drug level monitoring.

Dr. Harrigan is the Director of Research Laboratories at the BC Centre for Excellence in HIV/AIDS. For more than a decade, Dr. Harrigan has been a local, national, and international leader in the development of cutting-edge translational research with important implications for the clinical management of HIV. He has contributed extensively to our understanding of HIV drug efficacy and resistance, as well as the human and viral parameters that influence HIV disease progression. Dr. Harrigan’s research in these areas has played a key role in enabling the significant improvements in quality and duration of life afforded patients by Highly Active Antiretroviral Therapy (HAART).

His work primarily focuses on HIV drug efficacy, drug resistance, and the human and viral parameters that influence HIV disease progression. At the BC Centre for Excellence in HIV/AIDS, his work has involved investigations using three major cohort studies (VIDUS, VLAS, and Vanguard), as well

as the more than four thousand patients in the BC Drug Treatment Program.

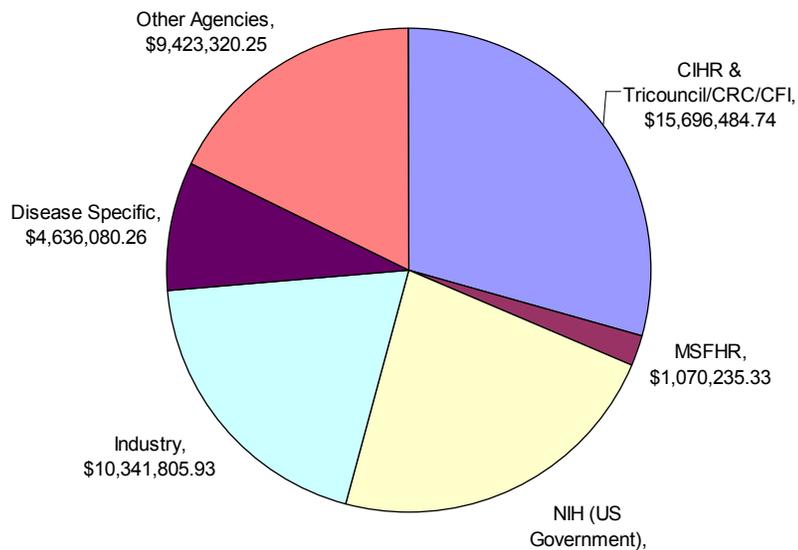
HIV infection is characterized by a continuous, dynamic evolution of the viral population as it adapts to its environment as a result of host genetic factors and antiretroviral drug pressure. These parameters are insufficiently understood, and their investigation in a “real world” clinical setting can complement randomized clinical trials and prove particularly useful for determining longer-term outcomes. Recently, Dr Harrigan has demonstrated and

implemented clinical utility of a novel simple screening method for abacavir hypersensitivity, and is currently investigating the possibility of determining viral tropisms via genotypic testing utilizing novel deep-sequencing technologies.

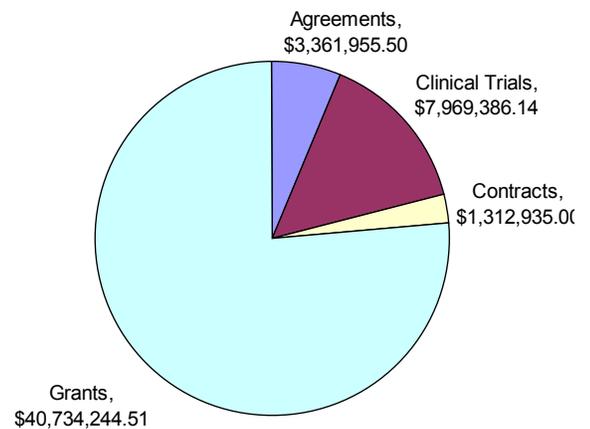
As well as the Glen-Hillson Professor in Clinical HIV Virology, Dr. Harrigan also holds the CIHR-GSK Research Chair in HIV/AIDS at the University of British Columbia, and is an Associate Professor in the Division of AIDS (Faculty of Medicine) at the University of British Columbia.

# RESEARCH FUNDING

## RESEARCH AWARD FUNDING BREAKDOWN



## RESEARCH FUNDING BREAKDOWN BY AWARD TYPE



For a detailed listing of research funding received by the Department in 2010, please visit our website at [www.medicine.ubc.ca/admin/annuals](http://www.medicine.ubc.ca/admin/annuals)

# PUBLICATIONS

In 2010, the members of the Department published 807 peer-reviewed papers. For a detailed listing of publications by division, please visit the Department of Medicine website at [www.medicine.ubc.ca](http://www.medicine.ubc.ca). Annual Reports can be found under the "Administration & Finance" tab.

# AFFILIATED INSTITUTES

## CENTRES

BC CENTRE FOR DISEASE CONTROL  
BIOMEDICAL RESEARCH CENTRE  
BRAIN RESEARCH CENTRE  
CENTRE FOR BLOOD RESEARCH  
CENTRE FOR HEALTH EDUCATION SCHOLARSHIP  
CENTRE FOR HIP HEALTH  
CENTRE FOR MOLECULAR MEDICINE & THERAPEUTICS  
JAMES HOGG ICAPTURE CENTRE  
PACIFIC PARKINSON'S RESEARCH CENTRE  
PROSTATE CENTRE AT VGH

## INSTITUTES

CHILD AND FAMILY RESEARCH INSTITUTE  
LIFE SCIENCES INSTITUTE

## SCHOOLS

SCHOOL OF AUDIOLOGY & SPEECH SCIENCES  
SCHOOL OF POPULATION & PUBLIC HEALTH

## EXTERNAL AFFILIATIONS

### HEALTH AUTHORITIES

FRASER HEALTH AUTHORITY (FH)  
INTERIOR HEALTH AUTHORITY (IH)  
NORTHERN HEALTH AUTHORITY (NH)  
PROVINCIAL HEALTH SERVICES AUTHORITY (PHSA)  
VANCOUVER COASTAL HEALTH AUTHORITY (VCH)  
VANCOUVER COASTAL HEALTH RESEARCH INSTITUTE (VCHRI)  
VANCOUVER ISLAND HEALTH AUTHORITY (VIHA)

## HOSPITALS

BC CANCER AGENCY (BCCA) - (PHSA)  
FRASER VALLEY CANCER CENTRE  
BC CHILDREN'S HOSPITAL (INCLUDES SUNNY HILL) (BCCH) - (PHSA)  
BC WOMEN'S HOSPITAL & HEALTH CENTRE (BCW) - (PHSA)  
BURNABY GENERAL HOSPITAL  
CHILLIWACK GENERAL HOSPITAL  
FRASER VALLEY HEALTH  
GF STRONG REHABILITATION CENTRE  
LIONS GATE HOSPITAL  
MOUNT ST. JOSEPH'S HOSPITAL  
ROYAL COLUMBIAN HOSPITAL  
ST. PAUL'S HOSPITAL / PROVIDENCE HEALTH CARE (SPH-PHC) - (VCH)  
SURREY MEMORIAL HOSPITAL  
VANCOUVER GENERAL HOSPITAL (VGH)  
UNIVERSITY OF BRITISH COLUMBIA HOSPITAL

## OTHER AFFILIATES

COLLEGE OF HEALTH DISCIPLINES (CHD)

# UBC DEPARTMENT OF MEDICINE MENTORING PROGRAM

**Vision:** Every new tenure track and grant tenure track department member will have a welcoming and supportive relationship with an established academic mentor throughout the initial years of their appointment and until their achievement of tenure and promotion to Associate Professor. The mentor will establish a secure and confidential environment of trust within which to share their wisdom and experiences, and to coach, challenge and sponsor their mentee.

The Department of Medicine would like to acknowledge the following faculty members for their invaluable contributions to this important program.

## ***Mentees***

Dr. Antonio Avina-Zubieta (Rheumatology)  
Dr. John Boyd (Critical Care)  
Dr. Chris Carlsten (Respiratory Medicine)  
Dr. Winson Cheung (Medical Oncology)  
Dr. Jolanda Cibere (Rheumatology)  
Dr. Victoria Cook (Respiratory Medicine)  
Dr. Silke Cresswell (Neurology)  
Dr. Denise Daley (Respiratory Medicine)  
Dr. Mahyar Etminan (Respiratory Medicine)  
Dr. Jagbir Gill (Nephrology)  
Dr. Robin Hsiung (Neurology)  
Dr. Claudia Jacova (Neurology)  
Dr. Philip Lee (Geriatric Medicine)  
Dr. Viviane Lima (AIDS)  
Dr. Chris Miller (Respiratory)  
Dr. David Moore (AIDS)  
Dr. Devki Nandan (Infectious Diseases)  
Dr. Adam Peets (Critical Care)  
Dr. Jacqueline Pettersen (Neurology)  
Dr. Krishnan Ramanathan (Cardiology)  
Dr. Chris Ryerson (Respiratory Medicine)  
Dr. Kate Shannon (AIDS)  
Dr. Scott Tebbutt (Respiratory Medicine)  
Dr. Tony Traboulee (Neurology)

## ***Mentors***

Dr. Aslim Anis (SPPH)  
Dr. Don Sin (Respiratory Medicine)  
Dr. Peter Pare & Dr. Michael Brauer (Respiratory Medicine & SOEH)  
Dr. Sharlene Gill (Medical Oncology)  
Dr. Heather McKay (Centre for Hip Health & Mobility)  
Dr. Anita Palepu (General Internal Medicine)  
Dr. Lynn Raymond (Department of Psychiatry)  
Dr. Robert McMaster (Dept. of Medical Genetics)  
Dr. John Spinelli (SPPH)  
Dr. Nadia Khan (General Internal Medicine)  
Dr. Frank Ryan (Respiratory Medicine)  
Dr. Adele Diamond (Department of Psychiatry)  
Dr. Roger Wong (Geriatric Medicine)  
Dr. Jacek Kopek (SPPH)  
Dr. Neil Reiner (Infectious Diseases)  
Dr. David Patrick (SPPH)  
Dr. Doris Doudet (Neurology)  
Dr. Glen Regehr (CHES)  
Dr. Oscar Benavente (Neurology)  
Dr. John Cairns (Cardiology)  
Dr. Karin Humphries (Cardiology)  
Dr. Jean Shoveller (SPPH)  
Dr. Paul Man (Respiratory Medicine)  
Dr. David Li (Department of Radiology)

# UBC DEPARTMENT OF MEDICINE AWARDS & HONOURS 2010

## FACULTY AWARDS

### Beckman, Jeff (Neurology)

Faculty of Medicine Clinical Faculty Award for Excellence in Teaching

### Blanke, Charles (Medical Oncology)

Life Raft Group - Induction to Gastrointestinal Stromal Tumor (GIST) Foundation GIST Hall of Fame

ASCO Statesman Award

### Brunham, Robert (Infectious Diseases)

The Order of British Columbia

### Cairns, John (Cardiology)

Vancouver Acute Award for Special Services

### Dian, Larry (Geriatric Medicine)

Donald M. Whitelaw Award for Outstanding Grand Rounds "Successful Aging: An Owner's Manual" presented February 4, 2010

### Esdale, John (Rheumatology)

Laurentian Rheumatology Association  
Roger Demers Prize for Internationally Recognized Contributions to Arthritis Research

### Fretz, Eric (Associate Member, Cardiology)

Island Medical Program - Excellence in Clinical Teaching Award

### Gin, Kenneth (Cardiology)

UBC Killam Teaching Prize

### Guzman, Jaime (Physical Medicine & Rehabilitation)

Martin M. Hoffman Award for Excellence in Research

### Isserow, Saul (Cardiology)

VGH Master Teacher Award

### Johnston, Dean (Neurology)

Donald M. Whitelaw Award for Outstanding Grand Rounds "Acute Stroke Therapy: Recent Advances" presented May 28, 2009

### Kassen, Barry (General Internal Medicine)

Faculty of Medicine Clinical Faculty Teaching Award for Career Excellence in Clinical Teaching

Royal College of Physicians & Surgeons of Canada  
Prix d'excellence Award

### Khan, Nadia (General Internal Medicine)

Martin M. Hoffman Award for Excellence in Research

St. Paul's Hospital Faculty Research Award

### Krassioukov, Andrei (Physical Medicine & Rehabilitation)

Vancouver Acute Scientific Achievement Award

### Li, Charles (Hematology)

VGH Fay R. Dirks Award for Excellence in Teaching

### McCormick, Iain (General Internal Medicine)

St. Paul's Hospital Fay R. Dirks Award for Excellence in Teaching

Graeme Copland Clinician Teacher Award

### Montaner, Julio (AIDS)

Albert Einstein World Award of Science

Prix Galien Canada Research Award

The Order of British Columbia

### Sirrs, Sandra (Endocrinology)

Award for Bringing Clinical Renown to Vancouver Acute

### Tildesley, Hugh (Endocrinology)

Brian Dufton Award

Gerald S. Wong Service Award

### Tyndall, Mark (Infectious Diseases)

St. Paul's Hospital Master Teacher Award

Howard B. Stein Master Teacher Award

### Walley, Keith (Critical Care Medicine)

UBC Killam Research Prize in Science

### Webb, Andrew (Critical Care Medicine)

Elected to Honorary Membership, Intensive Care Society of UK

Alan Gilston Medal, Intensive Care Society of UK

### Wong, Graham (Cardiology)

Faculty of Medicine Clinical Faculty Award for Excellence in Clinical Teaching

## STAFF AWARDS

### Pui, Mandy (Respiratory Medicine)

DoM Award for Early Career Excellence

### Tedder, Gale (Geriatric Medicine)

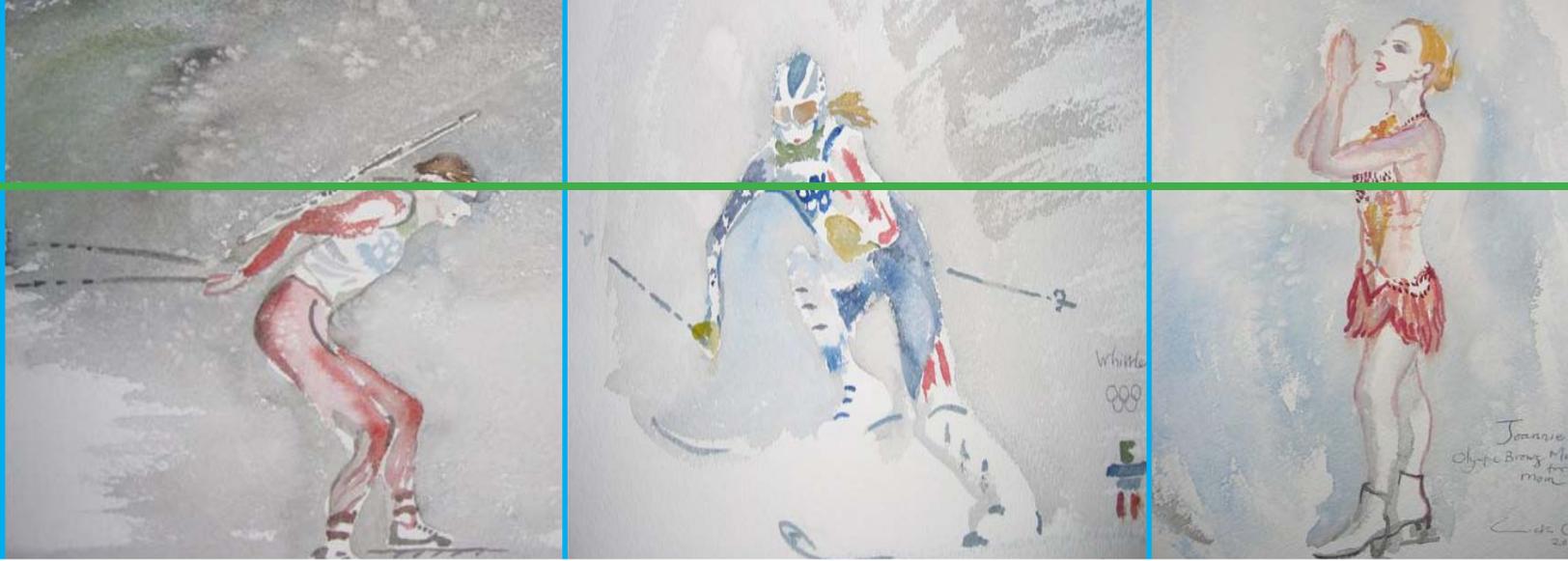
DoM Award of Excellence for M&P Staff

### Aziz, Tariq (Neurology)

DoM Award of Excellence for non-union technical staff

### Department of Medicine Health & Wellness Committee

Faculty of Medicine Award for Initiatives in Promoting Healthy Faculty, Staff and Learners



# UBC DEPARTMENT OF MEDICINE AT THE 2010 VANCOUVER WINTER OLYMPICS



Artwork courtesy of Dr. Victor Chan, Clinical Associate Professor (Emeritus)

## OLYMPIC TORCH BEARERS

Dr. Clifford Chan-Yan, Clinical Professor, Division of Nephrology  
 Dr. Mark Crossman, Clinical Instructor, Division of PMR  
 Dr. Victor Huckell, Clinical Professor, Division of Cardiology  
 Dr. Gavin Stuart, Dean, UBC Faculty of Medicine & Vice-Provost, Health

## OLYMPIC VOLUNTEERS

**Dr. Michael Byrne** Official volunteer on-call Gastroenterologist specialists for both the Olympics and Paralympic Games

**Dr. Ron Carere** Specialty Doctor for Cardiology during Olympics and Paralympics (Cardiology on-call Volunteer for Vancouver)

**Dr. Siegfried Erb** Official volunteer on-call Gastroenterologist specialists for both the Olympics and Paralympic Games

**Ms. Carole Federico** Event Services Host

**Dr. Ryan Foster** Hill-side physician  
*Dr. Foster was part of the Whistler Creekside Medical Team for the Men's Alpine events at Whistler. As part of the medical team, he responded to the acute slope-side health needs of the Olympic ski racers as well as the course workers and course crew*

**Dr. Hugh Freeman** Official volunteer on-call gastroenterologists for both Olympics and Paralympics (Chief gastroenterologist)

**Dr. James Gray** Official volunteer on-call Gastroenterologist specialists for both the Olympics and Paralympic Games

**Jonathan Hawkeswood** Paralympic Volunteer

**Dr. Brett Heilbron** Cardiology on-call volunteer during Olympics and Paralympics (Vancouver)

**Dr. Hartmut Henning** Cardiology on-call volunteers (Whistler) and "On-Call Supervisor" for Olympics and Paralympics

**Don Huysmans** Volunteer, Short Track Speed Skating and Timing Assistant

**Dr. Saul Isserow** Cardiology on-call volunteer during Olympics and Paralympics (Vancouver) and "On-Call Supervisor" for both Olympics and Paralympics in Vancouver

**Dr. Shahin Jaffer** Venue Medical Officer for Olympic Stadium (BC Place)  
*Dr. Jaffer was responsible for the provision of medical care for work force, dignitaries and spectators during the 2010 Olympic Opening and Closing Ceremonies and Victory Ceremonies and for the Opening Ceremonies for the 2010 Paralympics*  
 Venue Medical Officer for Spectator Care, BC Place  
*Dr. Jaffer was responsible for spectator medical care training during the Opening and Closing Ceremonies, Victory Ceremonies for the Olympics and for the Opening Ceremonies for the Paralympics*

**Dr. John Jue** Cardiology on-call volunteer during Olympics and Paralympics (Vancouver)

**Dr. Jason Kur** Volunteer

**Dr. Lynne MacKean** Part of the medical team for the Nordic Skiing Venue at the 2010 Paralympics

**Ms. Lenka Miklosova** Accreditation Operator, Uniform & Accreditation Centre (PNE)

**Dr. Russell O'Connor** Team Physician, Paralympics Alpine Ski Team

**Dr. Alan Rabinowitz** Paralympics on-call

Dr. Krish Ramanathan Dr. Rajiv Reebye Dr. Donald Ricci	Cardiology on-call volunteer for Olympics and Paralympics (Vancouver) Medical Venue Officer for Paralympic Wheelchair Curling Cardiology on-call volunteer during Olympics and Paralympics (Whistler & Vancouver)
Dr. Demetrios Sirounis	<b>Olympic 2010 Duty Medical Administrator</b> <i>Served as liaison between Providence Health Care and the VANOC Medical Headquarters and the Olympic Planning Director regarding Olympic and Para-Olympic family members treated in hospital</i>
Dr. Carolyn Taylor Dr. Heather Underwood Dr. John Webb Dr. Alan Weiss	Cardiology on-call volunteer (Vancouver) Medical Venue Officer for Paralympic Nordic skiing Cardiology on-call volunteer (Vancouver) Official volunteer on-call Gastroenterologist specialists for both the Olympics and Paralympic Games
Dr. Graham Wong	Cardiology on-call volunteer during Olympics and Paralympics (Vancouver)
Dr. David Wood Dr. Eric Yoshida	Cardiology on-call volunteer (Vancouver) Official volunteer on-call Gastroenterologist specialists for both the Olympics and Paralympic Games

## OTHER INVOLVEMENT/CONTRIBUTIONS

Dr. Victor Chan	<b>Artist</b> <i>Took two weeks off during the Olympics and painted watercolours after each event; from attending the events and from news photos -- see cover page of Olympics section</i>
Dr. Andrei Krassioukov	<b>Research Project</b> <i>Dr. Krassioukov was approved by the IPC to conduct one of the few "official" research projects at the Paralympics. Patricia Mills worked on the project</i>
Dr. Ken Madden	<b>Keynote Speaker</b> <i>International Olympic Committee, Team Physician Course. "Cardiovascular Symptoms During Exercise", June 2, 2009</i>
Ms. Linda Rasmussen Dr. Andrea Townson	<b>Hosted Speed Skate Official R. Hunt from Kingston, Ontario</b> <b>Teaching</b> <i>Provided two training sessions on Autonomic Dysreflexia and Paralympic Alpine Skiing Injuries to the medical team at the Whistler Polyclinic during the Paralympics</i>
UBC Division of Physical Medicine & Rehabilitation	<b>Handbook</b> <i>Several Division members were involved as authors of the Canadian Association of Sports Medicine (CASM) Athletes with a Disability Handbook prepared for the Paralympics and edited by Russell O'Connor. Contributors from the Division include: Drs. John Hawkeswood, Heather Finlayson, David Koo, Andrei Krassioukov, Rajiv Reebye, Andrea Townson, Heather Underwood and Rhonda Willms.</i>

## Dr. Clifford Chan-Yan, Torch Bearer

*Dr. Clifford Chan-Yan was one of two selected from Providence Health Care to be a torch bearer. Winners were chosen from submissions of stories of 150 words about why Providence Health Care was special. Dr. Clifford Chan-Yan's winning entry is featured below, printed with his permission.*

AIDS in the early 1980s was an emotionally, socially and politically charged epidemic, presumed by too many a life style affliction of homosexual males. AIDS was a lethal disease and fearsome for health care workers.

A patient with AIDS was quarantined in another city hospital ER and was denied admission because of his potentially lethal infectivity. Without hesitation, he was accepted in transfer for care in St. Paul's Hospital, following which a multidisciplinary AIDS Care Team was formed and which coordinated heroic, confidential and compassionate care for almost all of British Columbia's AIDS patients for several years. The rest is history - the HIV Centre for Excellence at Providence Health has become an internationally renowned leader in HIV care and research. The founding Sisters of Providence had pledged Compassionate Care for all. Respect is one of our five values: "We respect the diversity, dignity and interdependence of all persons."



I planned on surviving one marathon just to show them I could. What a life changing decision!

I ran my first marathon in 2003 (one year after that dinner), became addicted to feeling healthy and have entered 2 or 3 marathons each year since that pivotal year (16 marathons and counting).

The sensation of feeling well after losing 40 pounds is almost overwhelming. I now understand the agonies professional athletes go through to remain at the top of their performance. My marathon times are at least twice as long as the professionals, but the ability to follow my own advice

(and that I give patients) has improved dramatically. Furthermore, I have a greater understanding of the road blocks to exercise that my patients have.

The Olympics represent the best our world class athletes can do in their chosen sports. Personal exercise represents the best the general public can do in their own lives – they are participating in their own Olympics on each occasion they exercise.



The privilege of carrying an Olympic torch is great. I carry the torch on behalf of the medical profession and all of our patients who struggle day by day to maintain their own health by exercise and life style modification.

## Dr. Victor Huckell, Torch Bearer at Whistler Olympic Park, Callaghan Valley (Nordic site)

*Below is an article which Dr. Huckell wrote that was published on the BCMA website in 2010. Re-printed with his permission.*

### THE EPIPHANY

For years I went to the gym with a personal trainer friend, lifted a few weights, walked on a treadmill, grunted a lot and pretended I was healthy. Then, at one pivotal dinner my wife and friends told me that I had talked about running a marathon for years but had never done anything about it.

A good button to push – I would show them.



## The UBC National Core for Neuroethics was involved in the 2010 Olympic and Paralympic Games both professionally and personally

The Director of the Core, **Professor Judy Illes**, moderated a lecture series, in collaboration with the UBC Centre for Applied Ethics, looking at issues of ethics in sport, including notions of disability and the use of performance enhancing technologies. The events were supported in part by the UBC Winter Games Education Initiative and were part of the Winter Games Event Series. Dr. Illes was also a speaker at Peak Performance: The Path to Exceptional Athletic Achievement hosted by the Providence Heart + Lung Institute at St. Paul's Hospital, a public forum to explore questions of what constitutes peak performance. Dr. Illes also contributed over 90 hours of volunteer time during the Olympic Games as a Event Services Host at the medals plaza in Whistler, and during the Paralympic Games as a Host on the mountain at Creekside.

**Carole Federico**, a Research Coordinator at the National Core for Neuroethics, volunteered as an Event Services Host at the Vancouver Village during the Olympic Games. Although the whole experience of being at the Village during such an exciting time was memorable, her favorite experience was being present during the unveiling of the Vancouver 2010 Truce Installation where Carole was pleased to meet and chat with the Right Honourable Michaëlle Jean, Governor General of Canada.

**Kevin Sauvé**, a Research Intern at the National Core for Neuroethics and a graduate student of the School of Science Journalism at UBC worked with NBC during the Olympics and as a reporter for the International Paralympic Committee (IPC). For the IPC, Kevin interviewed athletes in Vancouver and Whistler, attended events, took photographs, and contributed to both a blog and online audio/video posts.



Photo: Dr. Jason Kur working at the Half Pipe



Photo: Cypress Mountain, Men's Moguls

conversations with strangers and other volunteers became the norm – the city of Vancouver had become a global community, where all were friends with the common purpose of promoting culture and sport.

Two years prior to the commencement of the Games I began my training with the Vancouver 2010 anti-doping team. Selected as an anti-doping athlete chaperone I had little knowledge of what exactly the position entailed. Several training sessions later and a stint working at the FIS Snowboard World Cup which breathtakingly witnessed Shawn White “McTwist” away with the gold medal. I was part of a diligent team that was well-trained in its duty and ready for the big show in February.

The principles of fairness are at the heart of anti-doping in sport and are in fact very much parallel to principles of equality which are familiar to Canadian physicians. It is interesting to note that Canadians have been at the forefront of the anti-doping movement for many years now. From Richard Pound’s recent term as President of WADA in Montreal to Beckie Scott’s commitment to fair play in the arena of cross country skiing, the contributions have been profound. The Vancouver 2010 Games were no exception to these principles with a team of well-rehearsed Canadians acting to ensure fair play for all.

However, a few days before the Games commenced, it was announced that thirty athletes would not be competing in these Olympics because of positive findings in pre-Games testing. None of the athletes were believed to be Canadian, but there was a definite awareness that zero tolerance for cheating was going to be the policy in Vancouver. And with the conclusion of the Games no doping scandals have yet to surface.



Photo: Dr. Jason Kur at UBC Arena

The position of being an anti-doping chaperone turned out to be one of the most enviable volunteer positions of all. The role comprised of an athlete assignment at a specific event. This



Photo: Dr. Judy Illes at IOC Access Control, Medals Plaza, Whistler



Photo: Dr. Judy Illes as Event Services Host, Paralympics, Creekside

## Perspectives on Vancouver 2010

SUBMITTED BY DR. JASON KUR

Our city of green was transformed into mitten crimson red. For many the Vancouver 2010 Winter Olympics were the experience of a lifetime. For me the Winter Olympics represented a once-in-a-lifetime opportunity to make a contribution with ‘glowing heart’ to a world-class event that showcased the city and country outside the confines of my rheumatology clinic.



Being one of the very lucky twenty-five thousand Hudson’s Bay blue clad volunteers or “Smurfs” (as we were affectionately known) gave an open invitation to engage gregariously with visitors, athletes, and fellow city dwellers in a manner of discourse sometimes uncommon on the West Coast. Random



Photo: Dr. Jason Kur at Opening Ceremonies

athlete would need to be tested based on the regulations set out by the International Olympic Committee (IOC) and their sport federation and usually consisted of the top finishers with a selection of random athletes. From the field of play we watched the drama unfold until ‘our’ athlete had completed the competition. In many instances this was at the gold medal race. Once the event was over, we would spring into action. The process consisted of notifying the athlete of their rights and responsibilities and then chaperoning them through the doping control process, at all times remaining professional and observing for any discrepancies. Not only was it a privilege to meet and assist world-class athletes - but to do so in an effort to promote fairness in sport seemed a rather Canadian notion.

Cypress Mountain was the main site of my volunteer experience. Despite daily reports of the paucity of snow at the venue, the mammoth efforts of the team of volunteers to ready the site ensured a spectacular competition that was highly regarded by the athletes. Moreover, Cypress was extremely good to the Canadian team. Six medals were won there, of which four of them were gold.

My first shift on the mountain allowed me to witness history in the making. Our team was placed at the finish line for the men’s moguls competition when Alex Bilodeau clinched the gold. The slope-side stadium erupted. Canada’s first gold medal as an Olympic host nation, was won by an individual whose enthusiasm and humility couldn’t have been more Canadian. Such a feat had eluded Canadian athletes in Montreal and Calgary, but it now was finally realized on the North Shore mountains where “us locals” like to hang out in winter to ski.

During the Games, I met team physicians, members of IOC and the discussed Olympic experiences with members of the World Anti-Doping Agency (WADA). I was immersed for eighteen days in talk of athletes, hockey and pavilions. The evenings were filled with recollections of medals won by Canadians at other venues.

My final shift ended much as my first had started, with gold on Cypress, won by Jasey Jay Anderson in the Men’s Snowboard Parallel Giant Slalom. In less than ideal conditions the local favourite carried the day on the final race at Cypress. What a fitting conclusion to an exhilarating competition on the city-mountains.

I concluded my Olympic experience like most other Canadians watching the gold medal hockey match on television. And for the volunteers who toiled so much to make the Games a success, and to all Canadians for that matter, the hockey win was a perfect conclusion to our winter sport celebration. In 2010, Vancouver prospered by ‘Sea, Snow, Land and Air’.

Jason Kur, MD, FRCPC  
Division of Rheumatology  
Vancouver General Hospital

## The Impact of Science and Innovation in the Evolving Global Health Paradigm: HIV/AIDS-A Global Challenge of Olympic Proportions

On February 26, 2010, LifeSciences BC, the BC Centre for Excellence in HIV/AIDS, and the University of British Columbia co-hosted, against the backdrop of the 2010 Olympic Games, a global summit to discuss how the response to HIV/AIDS can serve as an example to address global health challenges. The meeting, endorsed by the Geneva-based International AIDS Society, of which Dr. Julio Montaner is President (2008-2010), brought together world leaders in HIV research, public health and policy to discuss how the application of science, innovation and political leadership in the global response to AIDS has revolutionized the global health paradigm.

Mr. Tommy Sithole, Director of International Cooperation, represented the International Olympic Committee (IOC) at this summit. He remarked, “During these impressive Olympics in Vancouver, we are working towards our common goal of a world without HIV”. We were also joined by The Honourable Kevin Falcon, Minister of Health Services, who welcomed participants on behalf of the Government of BC, noting that the Olympics were a unique opportunity to raise awareness about HIV/AIDS in an international context. The provincial government had announced the \$48 million support to pilot the “Seek & Treat” program at the BC Centre for Excellence in HIV/AIDS designed to rapidly increase testing and treatment for all individuals who test HIV positive focusing on marginalized communities in Vancouver and Northern BC. Others representing the Province of BC included The Honourable Moira Stillwell-Minister of Advanced Education & Labour Market Development, and the The Honourable Ida Chong-Minister of Healthy Living and Sport.

We were privileged to have international speakers including: Mr. Michel Sidibé, Executive Director of UNAIDS, who focused his remarks on the impact of innovations in HIV treatment and care on the developing world. UNAIDS endorsed the Treatment as Prevention concept and Dr. Montaner’s work at the BC Centre for Excellence in HIV/AIDS and, in 2010, proceeded with implementing globally “Treatment 2.0”-the next generation of HIV treatment.

Dr. Daria Hazuda, Vice President-Worldwide Discovery Franchise Head-Infectious Diseases at Merck Research Laboratories, reviewed the development of its integrase inhibitor, Raltegravir, which was the first of a new class of HIV drugs approved in 2007.

Dr. Stefano Bertozzi, HIV Director of Global Health Programs at the Bill & Melinda Gates Foundation, discussed the impact of the global financial crisis on funding for AIDS and how this can be an opportunity to improve the efficiency of HIV programs and performance of health systems. He called on using treatment more creatively and effectively to serve the goals of both prevention and treatment.

Dr. Julio Montaner, Director of the BC Centre for Excellence in HIV/AIDS and President of the International AIDS Society, reviewed progress in clinical advances of HAART in the last three decades. He further presented his "STOP HIV/AIDS" pilot program that outlines treatment as prevention to reduce morbidity and mortality, reduce HIV transmission and reduce health care costs.

Dr. Nora Volkow, Director of the National Institute on Drug Abuse at the US National Institutes of Health gave an overview on the understanding of drug abuse and addiction.

Dr. Mark Dybul, Co-Director of the O'Neill Institute for National and Global Health Law at Georgetown University, presented on the programmatic lessons learned from the AIDS epidemic. He served as the United States Global AIDS Coordinator, leading the implementation of the President's Emergency Plan for AIDS Relief (PEPFAR) during the presidency of George W. Bush.

At its conclusion, against the backdrop of the Vancouver 2010 Olympics, the program illustrated how seemingly insurmountable challenges can be successfully overcome through international collaboration, leadership and investments in innovation, and how this in turn has informed the development and delivery of evidence-based HIV programs.

## Dr. Andrei Krassioukov - Cardiovascular Health Clinic

Dr. Andrei Krassioukov, led the only research team that ran a Cardiovascular Health Clinic approved by the International Paralympic Committee to do research and evaluation of Paralympic athletes at the Athletes Village during the Vancouver Winter Paralympic Games.

Dr. Krassioukov, a clinician and researcher at GF Strong and the Blusson Spinal Cord Centre at VGH and a Professor in the UBC Faculty of Medicine, led a team of seven residents, graduate, and undergraduate students that focused on evaluation of various autonomic dysfunctions (heart rate, blood pressure, body temperature, respiration) among Paralympians with a possibility of changing of the Paralympic classification in the future.

Their research effort has been acknowledged by International Paralympics Committee with commemorative medals and participation diplomas signed by Sir Philip Craven, president of the International Paralympics Committee, and John Furlong, CEO of the Vancouver Winter Olympics.



Photo: L-R Augusto Perez (USA Curling Team), HRH Prince Edward and Dr. Andrei Krassioukov

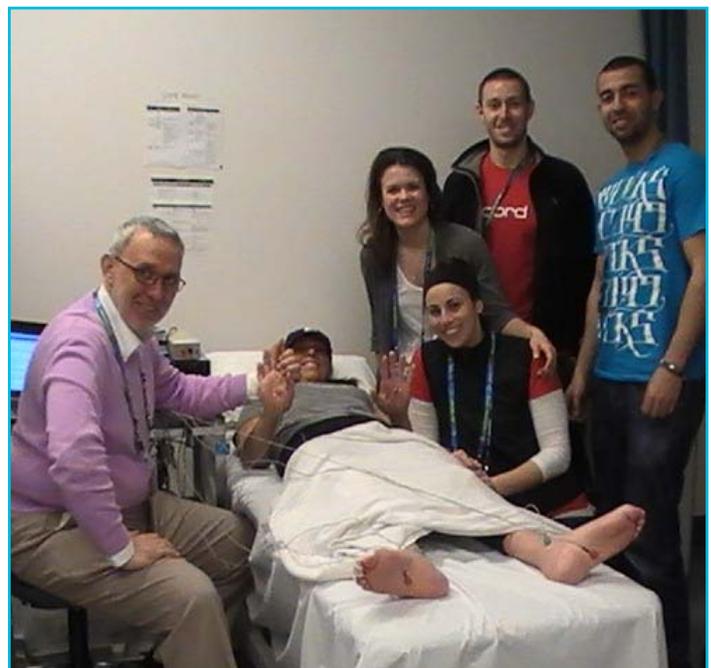


Photo: Dr. Krassioukov's laboratory during evaluation of the athletes

## Quick Facts about the Vancouver 2010 Winter Games

- 17 days of Olympic Games events
- 2,566 athletes
- 82 participating countries
- 10,000 media representatives
- 3 billion television viewers worldwide

### Top 25 Countries Medal Count

Rank	Country	Gold	Silver	Bronze	Total
1	Flag of United States	9	15	13	37
2	Flag of Germany	10	13	7	30
3	<i>Flag of Canada</i>	14	7	5	26
4	Flag of Norway	9	8	6	23
5	Flag of Austria	4	6	6	16
6	Flag of Russian Federation	3	5	7	15
7	Flag of Korea	6	6	2	14
8	Flag of China	5	2	4	11
8	Flag of Sweden	5	2	4	11
10	Flag of France	2	3	6	11
11	Flag of Switzerland	6	0	3	9
12	Flag of Netherlands	4	1	3	8
13	Flag of Czech Republic	2	0	4	6
14	Flag of Poland	1	3	2	6
15	Flag of Italy	1	1	3	5
16	Flag of Japan	0	3	2	5
17	Flag of Finland	0	1	4	5
18	Flag of Australia	2	1	0	3
19	Flag of Belarus	1	1	1	3
19	Flag of Slovakia	1	1	1	3
21	Flag of Croatia	0	2	1	3
21	Flag of Slovenia	0	2	1	3
23	Flag of Latvia	0	2	0	2
24	Flag of Great Britain	1	0	0	1
25	Flag of Estonia	0	1	0	1
25	Flag of Kazakhstan	0	1	0	1

# 2010 FACTS & FIGURES

**689**

Faculty

**172**

Staff

**15**

Chairs & Professorships

**365**

Postgraduate trainees

**263**

Medical students

**179**

Experimental Medicine  
Graduate students

**\$10,859,915**

Non peer-reviewed  
funding

**\$42,518,606**

Peer-reviewed  
funding

**27**

Endowments

**807**

Peer-reviewed  
publications

**17**

Divisions

**82,563 sq.ft**

Space



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