

PATHOLOGY

University of British Columbia



SPRING/SUMMER 2007
news

BMLSc 2007 Graduation Ceremony

Photo by: Andrew Leung



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*Current and back issue of Newsletter
can be found on the Departmental*

Website: <http://pathology.ubc.ca>



QUALITY MATTERS

Richard Hegele, MD, FRCPC, PhD

At the recent Annual Pathology Day Dinner, the keynote speaker, Dr. Polly Matzinger from the US National Institutes of Health, complimented our Department on being a particularly inquisitive and interactive group, and she poignantly indicated that we were markedly superior to a variety of prominent, “brand name” institutions. On the educational front, there is abundant evidence of the high quality of Departmental activities. For example, the Bachelor's of Medical Laboratory Science (BMLSc) program attracts far more applicants than available seats and is operating at full capacity; our large graduate studies program is thriving, with numerous students competing successfully for external awards; within the medical/dental undergraduate curriculum, our teachers and curricular content (e.g., the clinical pathology conferences) consistently receive high student ratings; all of our residency programs are earmarked for full approval by the Royal College of Physicians and Surgeons of Canada's accreditation process; and the most recent “Practical Pathology at Whistler” Continuing Profession Development-Knowledge Translation (current parlance for Continuing Medical Education) was one of the most successful in its history. Concerning Departmental “outputs”, our graduates have a remarkable tendency to go on to relevant and fulfilling careers.

“As a Department, we must be doing something right”.

Now that we have given ourselves a well-deserved pat on the back, it is time to consider a number of simultaneous challenges being faced by the Department, the extent and breadth of which are of unprecedented proportions. For example, a “cash call” by the University, near-historical lows in the percentage of successful operating grant applications from the Canadian Institutes of Health Research, continued accelerated expansion of the medical undergraduate and residency programs, and working in an era where such terminology as “deliverables” and “accountability” have entered the daily lexicon, have created an ever-changing landscape of increased pressures. Going forward, it is clear that the *status quo* will not suffice.

Our Department has the ability to shape the future through its mission of creating and conveying knowledge on the causes and mechanisms of disease, translated into improved diagnosis, prognosis and health. Working with our partners, the unique and specialized expertise of the Department means that we are particularly well-positioned for leadership that will have profound and lasting impact. The quality is there—now that we have acknowledged and celebrated it, now is time to use it intelligently and responsibly and to keep improving it.

Enjoy the newsletter. Have a happy, healthy and rewarding summer. ■



M Barfoot; Dr. D Hardwick; & Dr. R Hegele

FROM THE DIRECTOR

Maureen Barfoot

Since the first edition of our newsletter there have been a number of departmental "firsts". We held our first Seasonal Cheers event at the Medical Student Alumni Centre in December. It was a big success and we will repeat the event again this year. The occasion also marked the announcement of the establishment of the David F. Hardwick Pathology Learning Centre, which is located on the second floor of the Gordon and Leslie Diamond Health Care Centre. The Centre provides access to a variety of pathology learning resources and houses the William Boyd Pathology and Medical Laboratory Museum. Jason Ford has been appointed Director and Helen Dyck Centre Manager. Over the past few months Helen has been busy relocating the museum from the Laurel Pavillion to the DHCC. Stay tuned for the date of the official opening. Another successful Pathology Day was held May 24 with Dr. Polly Matzinger, Head, T-Cell Tolerance and Memory Section, Senior Investigator, National Institute of

Allergy and Infectious Diseases, Bethesda MD as the invited James Hogg Keynote Lecturer. We had a total of 72 abstracts.

During the day people were asked to vote for their choice of departmental logo. Many thanks and congratulations to Debbie Bertanjoli, Database/Information Systems Manager on the winning design (see below).



Elena Bobyрева, Human Resources Manager has implemented formal departmental orientation sessions for new faculty and staff. Thirteen clinical faculty were successfully promoted and seven newly appointed. Tracking departmental faculty teaching hours is a challenge, and we are currently working on a data base to better understand one component of the overall contribution to teaching.

Jennifer Xenakis joined the Department as Helen Dyck's replacement for the position of Education Services Manager. We are especially pleased to have Jennifer, as she is a recent graduate of the Bachelor of Medical Laboratory Science program.



Dr. J Tai & J Xenakis

Transfer of the Diagnostic Laboratory to Providence Health Care was successfully completed March 31st, thanks to the hard work of all staff involved.

Have a safe and happy summer. ■

John Galbraith, Clinical Assistant Professor, Victoria General Hospital. Dr. Galbraith is currently a Medical Microbiologist with the Vancouver Island Health Authority. He graduated from the University of Alberta medical school in 1983 and subsequently completed residency training in Family Medicine, Internal Medicine, Infectious Diseases and Medical Microbiology. In 1991 he joined the medical staff of the Royal Alexandra Hospital in Edmonton and served as Head of Microbiology and Chief of Infectious Diseases. Following laboratory restructuring in Alberta in 1996, Dr Galbraith joined Dynacare Kasper Medical Laboratories. In 2000 he was appointed the Medical Director of Dynacare Kasper and served in that capacity until October 2005 when he relocated to beautiful Victoria. His interests include lab quality promotion, antimicrobial stewardship, disease prevention and nutrition.

John is married and has seven children (only one wife!) His main interest is in fact trying to keep up with his children. ■



John Galbraith

Martin Köbel, Postdoctoral Research Fellow, Jack Bell Research Centre. Dr. Köbel is a General Pathologist from Germany with a special interest in ovarian carcinomas. *"The possibility to study this tumor type at this inspiring place together with outstanding expertise and the largest collection of these tumors ever forced me to take a sabbatical and to persuade my wife to make this exiting experience, keeping in mind that we expect our first child in July."*

A graduate of the University of Jena, Germany, I completed my residency training at the Charité University Hospital in Berlin. After a research fellowship at the Department of Pathology, Johns Hopkins University, Baltimore, MD, USA in 2003 I continued my fellowship at the University of Halle in Germany where I finished my German pathology board examination last year.

I am looking forward to discover the trails of British Columbia as well as these in ovarian carcinomas. ■



Martin Köbel

Vijayalakshmi Nirmalkumar , Postdoctoral Research Fellow, Centre for Blood Research. Dr Nirmalkumar joined as a postdoctoral fellow in February 2007, in Prof. Brooks' group. Her current research project involves the development of new polymeric tissue adhesive materials based on hyperbranched polyglycerols. She received B. Sc. degree in Chemistry from Calcutta University, India in June 1999. She then joined Anna University, Chennai, India and received M.Sc degree in Applied Chemistry in May 2001. In the same year, she joined the Department of Organic Chemistry, Indian Institute of Science, Bangalore, India for the PhD degree in Prof. Uday Maitra's research group. The research work involved the synthesis and study of properties of bile acid-dendrimers. Her areas of interest include development of polymeric biomaterials and biomedical applications of dendrimers and polymers. ■



Vijayalakshmi Nirmalkumar

Barak Rotblat, Postdoctoral Research Fellow, BC Cancer Research Centre. Following my undergraduate studies in Biology at Tel Aviv University I joined the lab of Prof. Adi Avni in the Department of Plant Sciences for my M.Sc. studies. In my thesis I focused on studies of a fungal protein named EIX which is an elicitor of programmed cell death in plants. When I finished my MSc. I joined Prof. Kloog's laboratory for my PhD thesis. My studies focused on Ras where my broad goal was to understand how Ras signaling is coordinated. To this end I decided first to learn about the contribution of the H-Ras C-terminal domain to the lateral organization of the protein in the plasma membrane. I have now started a postdoctoral fellowship at the Sorensen lab and joined forces with the Hae1 team. In this project I propose to follow a lead that came from recent observations made in several types of cancer cells. ■

Dr. Barak Rotblatt, received an International Human Frontiers Fellowship award for his Postdoctoral Research.

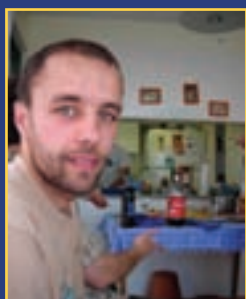


Barak Rotblat

continued

James Donkin

James Donkin, Postdoctoral Research Fellow, Child & Family Research Institute Dr. Donkin was awarded a Bachelor Health Sciences (Hons) in 2001, and completed a PhD in characterising the neuropeptide SP in traumatic brain injury at the University of Adelaide, Australia in 2006. This research resulted in a novel therapeutic treatment that was beneficial to outcome following both diffuse and focal brain injury in rats. This treatment has subsequently been entered into clinical trials. My present position as a Postdoctoral Fellow at the Child and Family Research Institute under the supervision of Dr. Cheryl Wellington is to investigate the link with cholesterol metabolism and the development of Alzheimer's disease in a transgenic mouse model, using behavioural and biochemical assays. I hope that this work will lead to the development of new therapies for Alzheimer's disease. My future career plans involve an eventual return to Australia to continue research in neurodegenerative disease. ■



Joel Montane

Joel Montane, Postdoctoral Research Fellow, Child and Family Research Institute. Dr. Montane finished his degree in Biochemistry at the Universitat Autònoma de Barcelona. During his PhD with Dr. Bosch's group at the Center of Animal Biotechnology and Gene Therapy at the Universitat Autònoma de Barcelona, Dr. Montane worked in the field of type 1 diabetes and in vivo gene therapy with both viral and non-viral methods in rodent and canine animal models of the disease. Dr. Montane has recently joined Dr. Verchere's laboratory at the Child and Family Research Institute and he is investigating areas of beta cell function and dysfunction in type 1 diabetes, as well as in islet transplantation. ■



Benjamin Smith

Benjamin Smith, Postdoctoral Research Fellow, UBC Hospital. Dr. Smith received his undergraduate degree in 1999 from McGill University in Honours Physics. He stayed at McGill for graduate studies, investigating cellular biomechanics with atomic force microscopy, and he received his Ph.D. in biophysics in 2004. Dr. Smith then came to UBC as a postdoctoral fellow to work with Prof. Evan Evans on the dynamic strength and elasticity of lipid membranes, initially appointed in the Dept of Physics (Jan. 2005). At the start of this year, his appointment was transferred to the Dept of Pathology to continue postdoctoral research with Dr. Evans. Current research efforts involve the development of experimental methods and theoretical models to study (1) the effects of cholesterol on membrane strength, (2) the membrane-based mechanisms of action and toxicity of cationic antimicrobial peptide (promising new therapeutics for the treatment of antibiotic resistant infections) and (3) in general, the effects of lipid composition and mechanical interactions on the function of membrane proteins. ■



Bin Wang

Bin Wang Research Associate, BC Children's Hospital. Dr. Wang is a Senior Research Associate in Professor Rusung Tan's laboratory of CFRI, Dept of Pathology and Laboratory Medicine, BC Children's Hospital and University of British Columbia. He got his MD degree from Suzhou Medical College, Suzhou University in 1982. After graduating, he continued his training in immunology and got his M.Sc degree at the Capital Institute of Medicine, Beijing, China in 1987. From 1988 to 1997 he worked in the Department of Microbiology and Immunology, Sun Yat-sen University of Medical Sciences in Guangzhou, China, as an assistant professor and associate professor. In 1997, Dr. Wang went to professor Chyung-ru Wang's laboratory as a research associate at Gwen Knapp Center for Lupus and Immunology Research, Immunology Committee, Department of Pathology, The University of Chicago, Chicago, USA. In 2000, he moved to Vancouver and joined the laboratory of professor John Schrader, at the Biomedical Research Centre of The University of British Columbia, as a research associate. He is interested in antigen presentation and T lymphocyte development and the mechanisms of type I diabetes. He is also interested in the early diagnosis, prevention and treatment of type I diabetes. ■



Figure 1. Wes Schreiber (centre) flanked by David Lesack (Kelowna General Hospital) on the left and Leigh Lindsay (Richmond Hospital) on the right enjoying a great day on the slopes after hearing some outstanding presentations.



Figure 2. Goran Elmberger (right) and Fredrik Petersson (centre) of the Karolinska Institute in Stockholm, Sweden.

PRACTICAL PATHOLOGY AT WHISTLER 2007

Kenneth W Berean, BSc, MD

Practical Pathology at Whistler was established by Dr. David Owen in 1995 at the urging of Dr. Bruce McManus. Dr. Owen was the original director of the conference and acted in this capacity for 3 years before turning over the directorship to Dr. Ken Berean, who has held this post for the last 10 years. The Thirteenth Annual Conference took place at the end of January this year and was once again a huge success. This was considered by the attendees to be one of the best courses ever in this series.

The program included 3 guest speakers and a number of members of the faculty in our own department. Dr. Teri Longacre, one of the guest speakers, delivered two outstanding talks on gynecologic pathology. Dr. Longacre is Professor of Pathology at Stanford University who has collaborated with

Dr. Blake Gilks and other members of our department in a variety of studies, predominantly focused on ovarian neoplasms.

Dr. Ken Batts, a Gastrointestinal and Hepatic Pathologist from Minneapolis, also gave two memorable talks that were rated the best of all the talks at the conference. Dr. Batts was, until recently, at the Mayo Clinic. One of his presentations addressed a very topical area currently being extensively studied – serrated polyps.

Many attendees thought that this was the clearest and most concise presentation they had seen on the subject. The final guest speaker was Dr. John Srigley from the Credit Valley Hospital in Mississauga, Ontario. Dr. Srigley is an internationally recognized authority on male genitourinary pathology. With the increased use of PSA for screening and the large number of

prostate needle biopsies seen in most practices, his talks were considered informative and timely. The local faculty, including David Owen, Randy Gascoyne, John O'Connell, Julie Irving, Andy Churg and Wes Schreiber gave excellent talks on a variety of subjects. Of course, in addition to the outstanding educational activities, the venue offers access to some of the best skiing in the world. This was taken advantage of by most of the attendees and by a number of members of the faculty as well (see figure 1).

In addition to a number of our residents, the conference was attended by pathologists predominantly from the United States and Canada. A handful of pathologists from Australia and New Zealand as well as Europe also made the journey to North America for an outstanding educational experience and great skiing. ■

PRACTICAL PATHOLOGY AT WHISTLER 2008 Jan 29 - Feb 1, 2008

www.pathology.ubc.ca/cme
www.epath.ca (view handouts
and Powerpoint presentations from previous years)



The Verchere laboratory enjoys a recent freezer cleaning. From L to R: Agnieszka Klimek; Bruce Verchere; Annette Plesner; Genny Trigo; Galina Soukhatcheva; Lucy Marzban; and Kate Potter

VERCHERE LABORATORY

By: Bruce C Verchere, BSc, MSc, PhD

"We are excited about our impending move in January 2008 into a new addition to the CFRI, including ~22,000 sq ft of research space".

The Verchere laboratory is located at the Child & Family Research Institute (CFRI) at BC Children's Hospital. The laboratory's research interests lie in the area of diabetes, specifically in the beta cells of the pancreatic islet. Beta cells are the insulin factory of the body, and secrete just the right amount of insulin to keep your blood sugar under control. If beta cells become dysfunctional or die, you get diabetes. We are trying to figure out why they die, and how to enhance their survival and function in both type 1 (autoimmune) and type 2 (adult-

onset) diabetes as well as following islet transplantation. The lab is currently full of superb trainees and technicians, all studying aspects of beta cell function and diabetes. There are three Pathology graduate students in the laboratory at present. Agnieszka Klimek is a PhD student studying prohormone processing in beta cells in type 2 diabetes, in both animal models and humans. Kate Potter is in the MD/PhD program and is investigating factors that lead to the demise of beta cells following islet transplantation. Meredith Hamilton, who joined us last

year from Edmonton, is studying the role of toll-like receptors in islet transplant failure and in normal beta cell function. A new fellow recently joined the lab from Barcelona, Dr. Joel Montane, and is studying gene therapy approaches to protect beta cells in type 1 diabetes. Dr. Annette Plesner is a former fellow, now Research Associate, whose research aims to find new ways to enhance islet survival following transplantation. Genny Trigo and Galina Soukhatcheva are techs who have been in the lab for a number of years, do just about everything, and keep Bruce in line. Several new folks

have joined us as technicians though recent MSFHR research unit funding, including Iris Lee, Derek Dai, and Rebecca Walters. Some recent fellows have moved on to greater things, including Dr. Lucy Marzban, who is now an Assistant Professor in the UBC Faculty of Pharmaceutical Sciences, and Dr. Dina Panagiotopoulos, who is now a Clinical Assistant Professor in the UBC Department of Pediatrics.

Some recently published findings include a study showing that cholesterol accumulation in the islet may be a major contributor to beta cell failure in type 2 diabetes (Brunham et al Nat Med 2007); our finding that impaired processing of a beta cell prohormone called proIAPP may contribute to the formation of islet amyloid deposits and

beta cell death (Marzban et al Diabetes 2006); and a study demonstrating that viral gene transfer of an anti-apoptotic protein to islets prior to transplantation can enhance their survival (Plesner et al, Diabetes 2005).

In Bruce's considerable spare time he also heads the Diabetes Research Program at the CFRI, which is undergoing rapid growth and is looking to recruit three new diabetes researchers to the faculty (and perhaps our Department!) over the next 12 months. We are excited about our impending move in January 2008 into a new addition to the CFRI, including ~22,000 sq ft of research space. The move will not only give our laboratory more space to grow, but will also place us close to other diabetes

research laboratories at the CFRI, where we can share core facilities and enhance interactions. We collaborate closely with a number of other laboratories in Pathology, including our neighbours at the CFRI Drs. Janet Chantler, Rusung Tan, and Peter van den Elzen, as well as other groups at the CFRI and elsewhere at UBC and beyond. We are currently funded by the CIHR, Canadian Diabetes Association, Juvenile Diabetes Research Foundation, NIH, MSFHR, the Stem Cell Network and the BC Children's Hospital Foundation, and Dr. Verchere is a Senior Scholar of the MSFHR. Last year Bruce was awarded the Canadian Diabetes Association's Young Scientist Award, which made his mother very proud! ■

QUARTER CENTURY CELEBRATION 2007

In January 2007, the Faculty recognized thirteen faculty and staff members from the Department of Pathology & Laboratory Medicine who have contributed more than 25 years of service to the Faculty of Medicine (and were still active in 2006)

CONGRATULATIONS TO:

Dr. Janet Chantler, **25 years**
 Dr. Alison M. Clarke, **25 years**
 Dr. Thomas Cooney, **25 years**
 Dr. Jorge F. Denegri, **26 years**
 Dr. Evan Evans, **25 years**
 Dr. Arun K. Garg, **29 years**
 Dr. Shizu Hayashi, **28 years**
 Dr. Judith Isaac-Renton, **26 years**
 Dr. Gerald Krystal, **25 years**
 Dr. David W. Secombe, **25 years**
 Dr. Joseph Y.C. Tai, **25 years**
 Dr. David C. Walker, **27 years**
 Dr. Joanne L. Wright, **26 years**



From L to R: Gavin Stuart; David Walker; Joseph Tai; Judith Isaac-Renton; Shizu Hayashi; Richard Hegele; Janet Chantler; Gerald Krystal

Pathology Teaching in the Distributed UBC Curriculum

By: Jason C. Ford, MD

In 2005, in part due to the need to train more physicians for rural practice in B.C., the UBC Faculty of Medicine began distributing its medical curriculum to three sites across the province: Vancouver, Victoria, and Prince George. We are not the first medical school to distribute from urban to rural centres: other programs have years of experience with this approach, such as the WWAMI Program at the University of Washington, or the Rural and Remote Community Clinical School run by Flinders University in Southern Australia. We are, however, the first medical school to distribute its entire four year curriculum, both pre-clinical and clinical. Many other medical schools across Canada and in other countries are planning to distribute their medical curriculum into rural centres, or have already begun such a distribution. Because our Department of Pathology is responsible for more teaching in Years 1 and 2 than any other UBC clinical department, our experience in teaching pathology across a distributed curriculum

pathologist recruitment has been staffing levels (see Table 1).

As a considerably larger urban centre, Vancouver has a vastly greater clinical need for pathologists than the other sites, and pathologist staffing parallels that disparate need.

It has therefore been more difficult to find pathologists in Prince George and Victoria. Moreover, due to budget and staffing restrictions at all sites, many pathologists have had to limit their teaching time in order to accommodate a rising clinical workload. It is only due to extraordinary personal commitments of time and energy from a great many UBC pathologists that we have been able to sustain Pathology's contribution to medical school teaching.

Technological Infrastructure

Thanks to considerable infrastructure investment by the Faculty of Medicine, UBC has developed a state-of-the-art



to robotic cameras and push-to-talk microphones. In many respects, the technological infrastructure component of the distributed medical curriculum at UBC has been a complete success.

Distance Learning

Around the world, many medical school pathology museums are being downsized or disassembled, such as at the University of Edinburgh and the University of Hong Kong. In contrast, UBC's William Boyd Museum of Pathology is acquiring new significance as one of the major components of the David F. Hardwick Pathology Learning Centre (HPLC), located at the Diamond Health Care Centre, Vancouver General Hospital.

"In addition to housing the Boyd Museum collection of 1600 pathological specimens, the HPLC will also be the physical home of a virtual pathology learning network which will link all three UBC medical sites."

Two medical students are currently working with me to write educational cases for on-line study, using the Boyd specimens as a starting point. These on-line cases will support self-directed case-based study of pathology by UBC medical students, residents, graduate students, allied health students, and indeed practising physicians—not to mention students from other universities.

Offering distributed pathology teaching at UBC has necessitated several steps:

- (1) Recruit local pathologist content experts in Victoria and Prince George
- (2) Distribute simultaneous lecture content, laboratory sessions, and small group clinico-pathologic conferences to all three sites
- (3) Develop new techniques to promote and enable distance learning in pathology

Recruitment

Fortunately for UBC and its medical students, there is considerable pathology expertise and educational talent outside of Vancouver. The Department of Pathology has been able to rely on the academic skills of many pathologists from Victoria and Prince George, to complement the educational contributions of their colleagues in Vancouver. The primary challenge in

distribution technology which allows interactive whole-class lectures and labs across all three sites. All sites are linked through data and video/audio channels via BCNET, the dedicated inter-university network in B.C. Histologic and pathologic slides can also be digitally scanned in Vancouver and made available via the web to all sites. Students can see the lecturer (and the other classrooms) on large video screens during didactic sessions; the students are themselves visible and audible to lecturers thanks

Results of Distribution

Two years into our distributed pathology curriculum, student marks and evaluations are consistent with pre-distribution results. Provisionally I believe we can state that our curriculum

has distributed well, although there remains considerable work to be done (particularly with respect to faculty recruitment and retention) to ensure continued success in pathology. ■

Table 1. Pathologist educator resources across the three UBC educational sites, 2005-6.

	Victoria	Prince George	Vancouver
Total population*	77,538	77,721	583,296
Total # physicians**	885	189	3010
Total # pathologists**	19	7	102
# Pathologists per medical student†	0.8	0.3	0.7
# Pathologists per whole class session‡	1.2	0.5	1.1
# Pathologists per per small group session§	1.4	0.5	7.3



Kate Chipperfield, Clinical Assistant Professor, Dept of Pathology & Laboratory Medicine, Vancouver General Hospital

2007 Faculty of Medicine Clinical Excellence in Teaching Award:

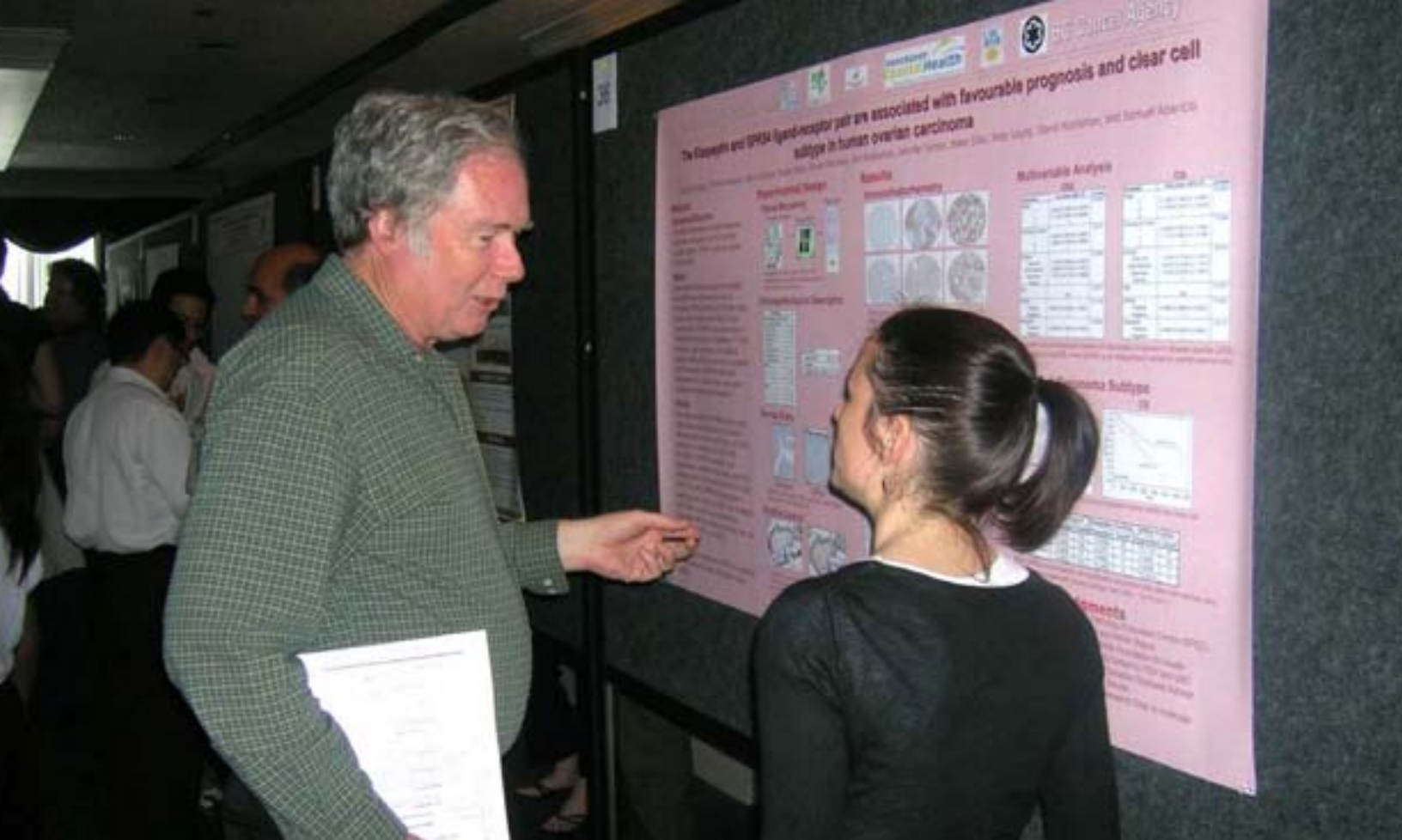
This award recognizes three clinical faculty members who excel in clinical teaching, and recognizes the essential role they play in enabling students and residents to develop clinical skills and integrate and translate prior classroom and textbook learning into effective health care.

IT'S A GIRL

Just like Dad, our new daughter, Anika Bree Lange-Sorensen, was fashionably late. She was born two weeks overdue on May 31st just before 01:00 am. Just like Mom, she is blue-eyed with blond hair and came out weighing in at 3,415 gm (7 lbs. 8 ounces), measuring 53 cm in length. Mother and daughter are doing well. Father is overwhelmed with joy.



Dr. Paul Sorensen & Anika Bree Lange-Sorensen



GRADUATE PROGRAMS

By: David Walker, BA, MA, PhD

"This year we will be admitting approximately 15 new graduate students to our program as of September up from our 13 new admissions last year".

This last year was the first full run of the new and improved Pathology 500, a core course of the department. It now runs all year, September through March on Friday afternoon from 1 until 4 PM and is 2 credits per term. Feedback from the students was good and further fine tuning will occur over the summer.

Minor changes have also been made to Pathology 535/635 and further ones are under consideration. Dr. Marcel Balley announced that he will be stepping down as coordinator of the Pathology 535/635 after 12 years of invaluable service to the students and our department in that capacity as of April 2008.

Are there any volunteers to take over the helm?

Apprenticeship of the new coordinator will begin September 2007. To date this year, 24 of our graduate students have received new funding awards from multiple organizations including NSERC, CIHR, Michael Smith Foundation for Health Research and others.

Congratulations to you all!

I am sure you all will agree that our graduate students are a very productive group but two of them have exceeded expectations and produced offspring, Dr. Natalie Johnson a baby boy and Farnoosh Tayyari a baby girl. Congratulations to both of your families. Are they granted admission to our program by birth? Since January we have six PhD students, Lindsay Brown, Veronica Hirsch-Reinshagen, Caroline Cheung, Guosong

Qiu, Erin Tranfield and Hubert Walinski finishing their degrees and one MSc student, Braydon Burgess also finished. Contrary to original plans Dr. Hirsch-Reinshagen will not be returning to Chile but staying on to do a post doc and I believe a residency here.

Dr. Qiu will begin by working in private industry while looking for a post doc and an academic position in the U.S. Dr. Cheung is looking to do a post doc in Japan and Dr. Tranfield will start a post doc in Mountain View California with NASA Ames in September after TAing for the International Space University in Beijing China during the summer. Brayden Burgess will remain in Dr. Wellington's lab for a while looking for a job in private industry. It has been a busy winter. See you all at Pathology Day. ■

Graduate students who have received awards:

Lisa Ang: GES 2006/07 (David Granville)

Azadeh Arjmandi: MSFHR Junior Grad Studentship, May 2007 – 2009 (Katerina Dorovini-Zis)

Angela Beckett: MSFHR Junior Graduate Studentship (May 2007-2009); NSERC Canada Graduate Scholarship 2006/07; CIBC Interdisciplinary Studentship in Breast Cancer Research Mary Adele Norman Graduate Award in Medical Research (Samuel Aparicio)

Wendy Boivin: NSERC – CGS- MSc (May 07); MSFHR Junior Graduate Studentship May 07-09; CIHR/MSFHR Transplantation Training Research Award Sept 06- Apr 07; BC Transplantation Research Day Poster Presentation Award Dec 06; The iCAPTURE Centre Rookie of the Year Award Dec 06 (David Granville)

Timon Buys: CIHR – CGS Doctoral Research Award (May 2006); MSFHR – Senior Graduate Studentship May 2007-09

(Wan Lam)

Ciara Chamberlain: MSFHR Junior Trainee Award, May 2007-09; Awarded the iCAPTURE team player for the month of February Award; GES 2006/2007 (David Granville)

Rajagopal Chari: Betty Rice Award for Lung Cancer Research; MSFHR – Senior Graduate Studentship; CIHR-CGS Doctoral Award 2006/07 (Wan Lam)

Leslie Chin: MSFHR Junior Graduate Studentship, 2006-2008 C. Seow

Johnathan Davies: MSFHR – Senior Graduate Studentship 2007-2009; AACR-AstraZeneca Scholar-in-Training Award, American Association for Cancer Research 98th Annual Meeting. LA, California, USA, April 14-18, 2007; NSERC Canada Graduate Scholarship – Doctoral Award 2006-2008 (Wan Lam)

cont'd on p. 14



Dr. Azadeh Arjmandi

Graduate Student in Dr. Katerina Dorovini-Zis' Lab, received one of the six American Association of Neuropathologists Trainee Travel Award.

Title of Oral Presentation: "Regulation of dendritic cell adhesion to human

cerebral endothelium by endothelial cell adhesion molecules and their ligands"

The AANP meeting was held on April 27-30, 2007 in Washington DC, as a part of the Federation of American Societies for Experimental Biology (FASEB)'s Annual Meeting.



Dr. Maggie Cheang

was selected as the top doctoral students to participate in the CIHR National Research Poster Competition (June 6, 2007) based on her upcoming presentation which is also selected as poster discussion in The American Society of Clinical Oncology Annual

Meeting on June 4, 2007 in Chicago. The title was: "Ki-67 is a luminal B marker that identifies a high-risk subgroup in hormone receptor positive and node negative breast cancer".

CIHR provided her travel grants to attend the CSHRF in Winnipeg.

Graduate students who have received awards:

cont'd from p. 13

Ronald deLeeuw: MSFHR Senior Grad Studentship May 07-09 (Wan Lam)

Natalie Prystajeky: MSFHR Senior Graduate Studentship 2006-2008 (Isaac-Renton and Peter Huck (Waterloo, Ont))

Zhen Liu: Heart & Stroke Foundation Doctoral Research Award; Received travel award for the American Society for the Virology Annual Meeting. His poster will be presented at the Society's Annual Meeting in Corvallis, USA in July (Decheng Yang)

William Lockwood: NSERC CGSD 2006/07; MSFHR Incentive Award 2006/07 (Wan Lam)

Ibrahim Mustafa: Canadian Commonwealth Scholarship (Mark Scott)

Tong Ng: GES 2006/07 (Poul Sorensen)

Kathryn Potter: MSFHR Junior Grad Studentship May 2007 – 2009 (Bruce Verchere)

Leah Prentice: Pathology Day Outstanding Poster Award 2006; CIHR CGS Doctoral Award 2006/07; MSFHR Senior Trainee May 2006-2007 (Samuel Aparicio and David Huntsman)

Natalie Prystajeky: MSFHR Senior Graduate Studentship 2006-2008 (Isaac-Renton and Peter Huck (Waterloo, Ont))

Brian Schick: The Canadian Cardiovascular Congress Student Presentation Award – (Clinical Science Runner-Up) awarded Oct 25, 2006 (J. Frohlich and Helene Cote)

Ranji Singh: Heart and Stroke Foundation Doctoral Research Award 3 yrs – starts July 2007 (Angela Devlin and Sheila Innis)

Penelope Slack: Dorothy May Ladner Memorial Fellowship Sept

2006 (Sheila Innis)

Peyman Tavassoli: US Dept of Defense Award (DOD) Jan 2007; Awarded travel grant for the Endocrine Society Meeting in Toronto, June 2-5, 2007 (Paul Rennie)

Jefferson Terry: Clinical Research Initiative – Doctoral Research Award Canadian Institutes of Health Research (Blake Gilks and Torsten Nielsen)

Rita Tory: GES 2006/07 (Kishor Wasan and John Hill)

Ivy Tsui: MRoman M Babicki Fellowship Sept 2006; CIHR/BioContact-Quebec 2006 Next Generation Award 2nd prize Oct 2006; American Association for Cancer Research (AACR) Scholar-In-Training Award Nov 2006
BioVision.Nxt Fellow 2007 March 2007; Best Scientific Poster recognition from the University of Pittsburgh (Wan Lam)

Amanda Vanden Hoek: CIHR/HSFC STPTS (Strategic Training Program in Transfusion Science) Graduate Student Award (Ed Prydzial)

Rossi Billie: Velapatio Cochachi; GES 2006/07 (David Speert)

Maite Verreault: Les Fonds de la Recherche en Sante du Quebec Scholarship (3 year beginning Sept 2004) (Marcel Bally)

Gang Wang: MSFHR Senior Graduate Studentship May 2007-09; UGF 2006/07 (M. Sadar)

Ian Wilson: 2006/07 – UGF; 2006 – BCCA Annual Conference – Poster Award; 2006/07 – CIHR CGS – Doctoral Award (Wan Lam)

Tse Yuan (Jerry) Wong: Michael Smith Junior Grad Studentship May 2007-09; GES 2006/07 (Honglin Luo and B. McManus) ■



Alzheimer's Disease - is cholesterol the cure?

By: Braydon Burgess, PhD Graduate Student in Dr. Cheryl Wellington's Lab

For the past 4 years, Dr. Cheryl Wellington has focused her research on the role of cholesterol in Alzheimer's disease.

A connection between cholesterol metabolism and Alzheimer's was originally suggested in 1993 by the finding that allelic variation in apolipoprotein E, the main cholesterol carrying apolipoprotein in the brain was strongly correlated with the incidence and age of onset of the disease. This connection has been replicated in literally hundreds of studies since the original reports; however the exact mechanism remains elusive. Longitudinal studies also report that high serum cholesterol levels, of greater than 6-6.5mmol/L in middle age is a risk factor, increasing the risk of disease by 1.2-3.1-fold independently of apoE genotype.

Understanding and translating these relationships to a disease modifying therapy is the motivation for a new research collaboration between Dr. Wellington of the Department of Pathology and Laboratory Medicine, University of Pittsburgh researchers Drs Iliya Lefterov and Radosveta Koldamova, and Dr. Gary Landreth from Case Western University. The collaboration builds on preliminary data that found "Alzheimer's" mice treated with Liver-X-Receptor (LXR) agonists, exhibited close to a 40% reduction in the number of amyloid-beta peptides in brain, a critical feature of Alzheimer's neuropathology. LXR agonists are normally produced within cells under

conditions of excess cellular cholesterol or glucose. LXR-regulated genes collectively act to mobilize cholesterol from cells for elimination from the body and include ABCA1, apoE and PPAR- γ , an anti-inflammatory transcription factor. The UBC arm of the collaboration, led by Australian post-doctoral fellow Dr. James Donkin, builds upon the preliminary results to determine whether LXR treatment can slow or reverse amyloid-induced cognitive deficits in learning and memory in mice. He also hopes to identify the key genetic components underlying the protective effects and compare prophylactic versus therapeutic efficacy of these compounds. ■



Erin Tranfield



Caroline Cheung



Lindsay Brown



Veronica Hirsch-Reinshagen



Braydon Burgess

Upcoming PhD Thesis Defense:

Hubert Walinski (Supervisor: Drs. Podor and McManus) July 17, 07. The role of vitronectin in regulation of myocardial remodeling following ischemia and infarction.

Latif Wafa (Supervisor: P. Rennie) July 27, 07. Identification and characterization of proteins that interact with the androgen receptor to modulate its activity.

Upcoming MSc Thesis Defense:

Anne Nguyen (Sup: T. Nielsen) still working on a date. Thesis title to come.

Recent PhD Thesis Defenses:

Lindsay Brown (Supervisor: Dr. David Huntsman) Mar 9, 2007.

Veronica Hirsch-Reinshagen (Supervisor: Dr. Cheryl Wellington) Mar 20, 2007. The role of the ATP-binding cassette transporter A1 in Alzheimer Disease neuropathology and brain lipoprotein metabolism.

Caroline Cheung (Supervisor: Dr. Bruce McManus) April 3, 2007. Matrix Metalloproteinases (MMPs), Inflammation, and Matrix Remodeling in Coxsackievirus-Induced Myocarditis.

Erin Tranfield (Supervisor: Dr. David C. Walker) May 11, 2007. Morphological alterations in atherosclerotic cap architecture following particulate matter exposure.
Guosong Qiu (Supervisor: Dr. John Hill) May 9, 2007. Title: Function of Lipoprotein Lipase and Endothelial Lipase in

Human Macrophages.

Upcoming PhD Thesis Defense:

Braydon Burgess (Supervisor: Dr. C. Wellington) April 17, 2007. Overexpression of endogenously regulated ABCG1 modulates cholesterol metabolite levels in brain and does not influence amyloid pathology.

Shirley Chen (Sup: C. Pallen) May 28, 2007. The regulation and function of protein tyrosine phosphatase alpha (PTPa) tyrosine phosphorylation.

Alvin Ng (Sup: J. Hung and C. MacAulay) June 22, 2007. Side population in human lung cancer cell lines and tumours is enriched with stem-like cancer. ■

Effects of Repeated Air Pollution Exposure on the Lungs

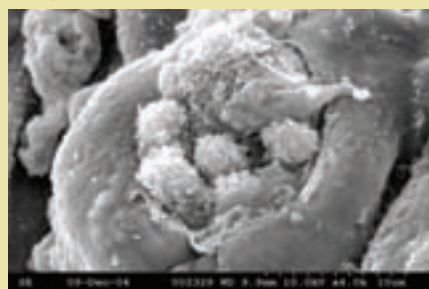
By: Erin Tranfield, PhD Graduate Student

“My PhD thesis work has primarily used electron microscopy to investigate how the structure and organization of atherosclerotic plaques changes following air pollution exposure and if these plaques exhibit features associated with instability that may predispose them to a rupture event.”

In 2002, the World Health Organization estimated that globally 2,000,000 people died as a consequence of air pollution exposure. Of the deaths associated with air pollution the greatest number are related to acute cardiovascular events such as myocardial infarctions and strokes.

Atherosclerotic plaque rupture and subsequent thrombus formation are the leading cause of acute cardiovascular events. It has been shown that the causative agent is particulate matter smaller than 10 μm in diameter (PM10), a common pollutant produced in the combustion of fossil fuels. In the iCAPTURE Centre at St Paul's Hospital Drs James Hogg, Stephan van Eeden and David Walker lead research to identify the effects of

repeated air pollution exposure on the lungs, the bone marrow and the cardiovascular system. Using both 2- and 3-dimensional analyses, electron microscopy investigations demonstrated a population of macrophage-derived foam cells immediately



below the endothelium of atherosclerotic caps of PM10 exposed Watanabe heri-

table hyperlipidemic rabbits (WHHL). This was associated with the separation of the endothelium from the dense extracellular matrix, fragmentation of the dense extracellular matrix and a significant increase in endothelial contact with macrophage-derived foam cells. In addition, scanning electron microscopy revealed leukocyte emigration over the plaque core of the PM10 exposed rabbits. Combined these observations suggest that atherosclerotic plaques in rabbits exposed to PM10 have more features of instability. When considered with previous research from our lab and another independent research group, these findings suggest a mechanism whereby PM10 exposure increases an individual's risk of an acute cardiovascular event. ■



By: Caroline Cheung, PhD Graduate Student in Dr. Bruce McManus' Lab

“It has been a bumpy ride but I truly enjoyed my 6 years with this department and laboratory. I stumbled many times but I got back up (with a lot of help!) and now I'm at the end of the tunnel”

Nanakorobi yaoki - Stumbling seven times but rise up eight times. This Japanese proverb truly captures the essence of research. Every scientist will probably agree that research is full of transient setbacks followed by euphoric advancements. It's the “fire in the belly” and persistence that keeps us going.

I have been a graduate student under Dr. Bruce McManus' guidance since 2001 and I have learned many scientific technologies as well as life lessons. Since joining Dr. McManus' laboratory, I have worked intensively on the roles of matrix metalloproteinases (MMPs) in coxsackievirus B3 (CVB3)-induced myocarditis, which is believed to lead to dilated cardiomyopathy and heart failure. The mechanisms by which this occurs are unclear but inflammatory cells may be involved because they secrete MMPs, cytokines, and growth factors that regulate cardiac repair and remodeling. My dissertation investigated the synergy between the immune system and MMPs in regulation of virus infection, inflammation, and remodeling. I studied the roles of MMP-8, MMP-9, and MMP-12 using a combination of transgenic knockout mice and neutralizing antibody therapy. I found that 4-1BB, a costimulatory molecule for T-cells, may regulate inflammation and MMP regulation. The fruits of my labour are two publications and two manuscripts in preparation.

During training to be a full-fledged scientist, the keywords are independence and collaboration. This is an oxymoron but as graduate students, we are expected to spearhead our own projects and work in an independent manner; yet we cannot succeed without collaboration. During my adventures as a grad student, I collaborated with researchers within my own laboratory and centre (James Hogg

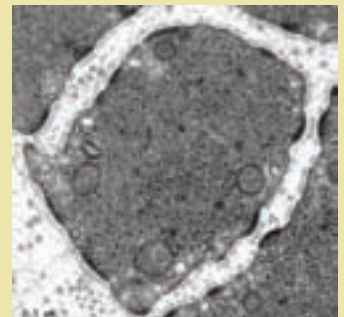
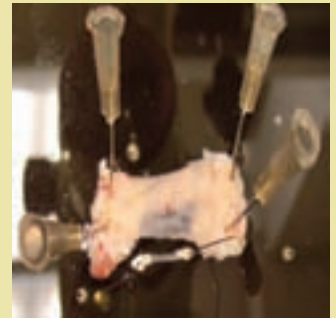


The Muscle of Asthma

By: Leslie Chin, PhD Graduate Student

Asthma is a chronic inflammatory disease of the airways. It is perhaps best known for the exaggerated narrowing of airways that characterizes an “asthma attack.” It used to be, not so long ago, that the smooth muscle that lines the airways was thought as nothing but a mere contractile element; a tissue in charge of controlling airway diameter. For the most part, inflammatory cells and the cells of the lungs proper have been the primary focus of asthma research. The smooth muscle lining the airways was believed to be the same between asthmatics and non-asthmatics, the only difference being that the inflammatory response triggered in asthmatics caused the muscle to contract. However, recent evidence has suggested that this may not be the case.

There is growing evidence suggesting that smooth muscle lining the airways of asthmatics may be intrinsically different from non-asthmatics. For instance, anti-inflammatory treatment of asthmatic airways decreases airway inflammation but not airway hyperresponsiveness. Apart from this, smooth muscle plays important roles in airway inflammation and remodeling. Asthmatic smooth muscle may also be “supercontractile,” meaning that it is capable of producing greater force and shortening more than non-asthmatic smooth muscle. Current research in laboratories around the world, and UBC, is providing many new insights in this area. In the Department of Pathology, Dr. Chun Seow’s laboratory focuses on the mechanism of force production in this tissue, and its ability to produce force over great length ranges. By understanding this fundamental property of airway smooth muscle, we can determine how asthmatic airways tighten with greater force as the airways narrow. With this knowledge new therapies can be developed to target this life-threatening response. ■



iCAPTURE Centre for Cardiovascular and Pulmonary Research), as well as with other prominent laboratories at UBC (Dr. Christopher Overall), other universities (Dr. Robert Senior), and industrial agencies (Amgen). These connections also forge friendships and may extend past the graduate career. ■

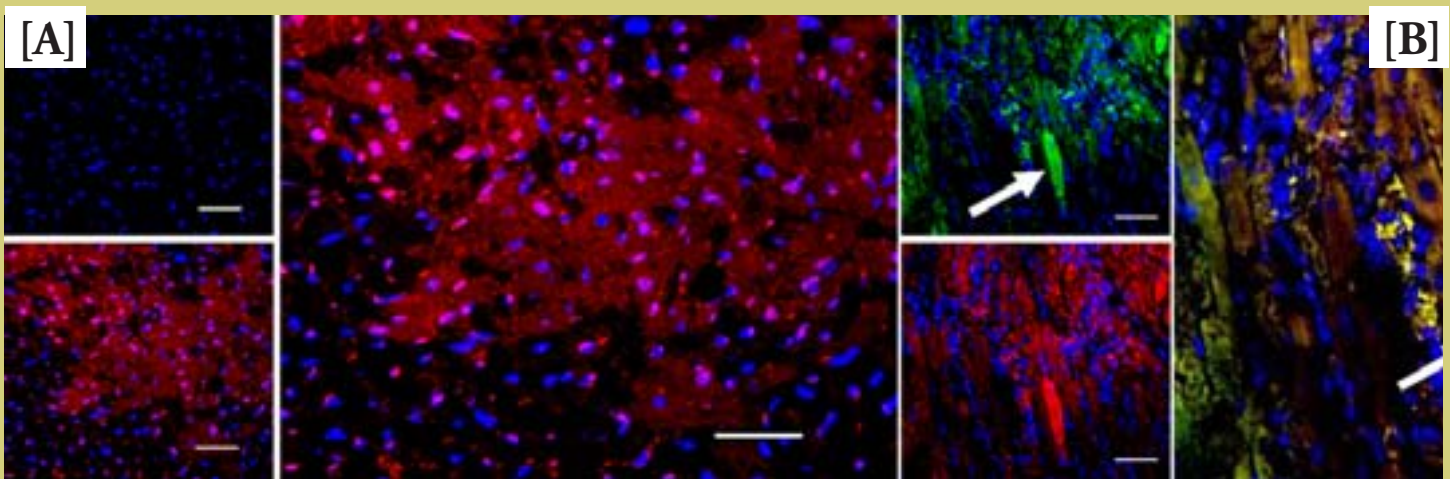


Figure 1. Expression of 4-1BB and 4-1BBL in coxsackievirus B3 (CVB3) mouse hearts. Representative myocardial sections from [A] sham, uninfected and [B] CVB3-infected mice at 9 days post-infection. Staining for 4-1BB (green, top small panels), 4-1BBL (red, lower small panels), nuclei (blue), and co-localization of the two antigens (yellow) is shown.

RESIDENCY TRAINING PROGRAM

By: Michael Nimmo, BA, BSc, MD, LMCC

"This year's graduates have again fared very well; all passed the Royal College Exams and have obtained staff positions or fellowships."

The UBC Pathology and Laboratory Medicine Residency Training Program [the "Program"] continues to thrive. The Program has just been through the regular assessment by the Royal College. The review is done every 6 years and occurred over three days in mid February. Each of the five UBC pathology programs was reviewed and I am pleased to report that each has received full accreditation. This is a testament to the dedication of the teaching faculty, the capability of the support staff, and the caliber of our residents.

This July the Program will have trainees in each of the five specialties. The total number of residents in the Program will be 34. There will be 14 residents in Anatomical Pathology, 8 in General Pathology, 4 in Medical Microbiology, 5 in Hematopathology, and 3 in Medical Biochemistry.

The Program has again filled each of the six residency positions offered through the CaRMS match. There

were approximately 20 applicants for the 6 positions. Twelve candidates were interviewed and four candidates were matched in the first iteration. The remaining two positions were offered through the second match. There were over two hundred applicants for the second match. Eight strong candidates were interviewed and the top two applicants matched to the Program.

It is with regret that we report that Dr. Wilson Yeung will be leaving St. Paul's hospital and his role as the Hematopathology residency program director. Wilson took over as Program Director from Dr. Wadsworth and has maintained the high standards established by his predecessor. Wilson has accepted a position with the Cam Cody group and will be working in Abbotsford. Dr. Bob Coupland will be taking over as program director in addition to his many duties as regional director for laboratories for VCHA. The other program directors are Blake Gilks (Anatomical Pathology), Mike Nimmo (General Pathology), Andre Mattman (Medical Biochemistry),

Patrick Doyle (Medical Microbiology), and Wayne Moore (Neuropathology). This year's graduates have again fared very well; all passed the Royal College Exams and have obtained staff positions or fellowships. Ghada Al-Rawahi will be completing a fellowship in microbiology. Nadia Droubatchevskaia will be working at St. Paul's Hospital. Carol Lee is heading to New Mexico to do a fellowship in forensic pathology.

Billy Teng has accepted a staff position at Richmond General Hospital and Leslie LeHuquet is doing a fellowship at Vancouver General Hospital. We wish them all well! We are also sad to report that Julinor Bacani will be leaving the Program. Julinor will be completing her final year of training in Edmonton.

The Program continues to train externally funded residents. These include residents from Saudi Arabia, Kuwait and Libya. There are currently 5 externally funded residents in Anatomical Pathology, two in Medical Biochemistry and one externally funded resident

Nick Au, Quentin Nakonechny and David Grynspan



Victor



Medical Microbiology Program

By: Ghada Al-Rawahi BHSc, MD, DTM&H (London), Medical Microbiology Chief Resident

"Today, one can travel to almost any city on Earth in less than 36 hours; hitchhiking microbes can do likewise"

in each of Medical Microbiology and Hematopathology.

The 2007 Resident/Graduate student research day took place in May. All third and fourth year residents presented the results of clinical and basic research studies carried out the previous year. The external adjudicator was Dr. Polly Matzinger, Head, T-Cell Tolerance and Memory Section Senior Investigator, National Institute of Allergy and Infectious Diseases, Bethesda, MD.

The award for Best Oral Presentations by a resident went to Suzanne Vercauteren "Stem Cell Cultures as a Diagnostic Tool in Myelodysplastic Syndromes". The day culminated with a pleasant dinner and entertainment at the Plaza 500 Hotel.

Finally, we would like to take this opportunity to thank all those involved in the many aspects of the residency program. If it was not for your continued support and help the Program could not survive. ■

Medical Microbiology is a branch of medicine, which that specializes in the investigation, diagnosis, and treatment of infectious diseases. It also focuses on infection control and prevention in hospitals and is central in the identification and prevention of communicable diseases in public health settings.



The UBC program in Medical Microbiology is a 5-year training program. The PGY-1 year is a rotating clinical year that provides a good foundation in clinical medicine. PGY-2 through PGY-5 years consist of rotations through the diagnostic laboratories including the provincial reference laboratory, clinical rotations in adult and pediatric infectious diseases, and a community rotation. Residents should spend a total of two years in the diagnostic laboratories, one year in clinical medicine including at least 6 months of infectious diseases, and one further year of elective. This year can be spent according to the resident's inter-

est as focused rotations in the laboratory, infectious diseases, public health, epidemiology, or research.

Despite extraordinary medical progress in this century, infectious diseases today remain a serious threat to human health, leading all other causes of death worldwide. More than 30 new human pathogens have been identified since 1973, and infectious diseases that had seemed

under control have resurged.

In addition, the development of drug-resistant microbes has facilitated the re-emergence of many diseases. Climate shifts, global travel, deforestation, and changes in the microbes themselves have compounded the problem, seeding infectious diseases in new geographic locations. Today, one can travel to almost any city on Earth in less than 36 hours; hitchhiking microbes can do likewise. These factors create exciting, challenging and fulfilling careers for medical microbiologists. There are also ample opportunities for employment in this field across Canada. ■

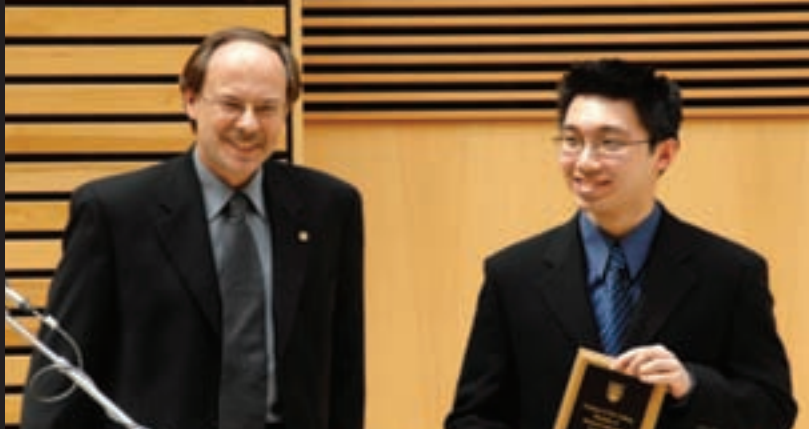
Meneghetti

Billy Teng and Julinor Bacani





Dr. Martin Petric; Dr. Swee Han Goh; Dr. Donald McLean



Dr. Morris Pudek; Waylon Tsui

BACHELOR OF MEDICAL LABORATORY SCIENCE (BMLSc) PROGRAM

By: Carol Park, BSc, MSc, PhD and Joanne Wouterse

Arrivals and Departures

In April of this year **Helen Dyck** assumed the role of Manager of The David Hardwick Pathology Learning Centre at the Diamond Health Care Centre. Helen has worked with the BMLSc Program for 12 years. We'll miss her expertise and we wish her all the best in her new role.

On the heels of Helen's departure we welcome **Jennifer Xenakis** to the BMLSc Program as the Education Services Manager. Jennifer will be primarily responsible for ensuring the educational support for the BMLSc program and liaising with the various education programs within the Department. Our gratitude goes out to **Dr. Jason Ford**

for serving as Coordinator of the BMLSc Hematology courses over the past 4 years. Dr. Ford has been appointed to the position of Medical Undergraduate Director for the Department. We wish him well in his new role and look forward to his continued teaching in the BMLSc Program.

Graduates' Further Pursuits

Onkar Bains – Histology Department, iCapture Centre; BCIT Medical Laboratory Science Program, January 2008;

Ryan Chen – Dentistry; Andrew Remillard – MD Program, UBC;

Nazgol Seyednejad – Research Technician, iCapture Centre;

Shayan Shakeraneh – Research Technician, Neuroscience Laboratory, LSC;

Neil Spencer – Law, UBC (September 2008);

Tracie Tanaka – BCIT Medical Laboratory Science Program, January 2008;

Christine Tchao – BCIT Medical Laboratory Science Program, January 2008;

Waylon Tsui – Morphological Services Laboratory, PALM;

Benedict Wong – Research Assistant, CBR;

Raymond Yip – MSc Physiology, UBC (September 2008). ■

Class of 2007

This year marked the twenty-sixth year the Department has graduated students from the BMLSc Program. Twenty three students received their BMLSc degrees in May, bringing the total number of program graduates to 346.

The following students were recognized for their outstanding academic achievements:

Waylon Tsui - Professor C.F.A. Culling Bachelor of Medical Laboratory Science Prize

Raymond Yip - Donald M. McLean Prize in Medical Microbiology

Becky Chen - B.J. Twaites Prize in Laboratory Administration

Maria Kovalik - The Eugenie Phyllis and Philip Edward Reid Prize in Morphological Sciences

Nazgol Seyednejad and Raymond Yip - Prize for Best Presentations in Path 405

The graduates recognized outstanding instructors, **Dr. Morris Pudek** and **Dr. Jason Ford**, who were each awarded the BMLSc Graduates' Choice for Teaching Excellence. In recognition of her outstanding contribution to the BMLSc Program, **Dr. Carol Park** was presented with the Reid Memorial Cup.



Dr. Richard Hegele; Crystal Leung



Maria Kovalik; Mrs. Janet Reid

Pathologists' Assistant Master's Degree Program

By: James Dimmick, MD, FRCPC and Carol Park, BSc, MSc, PhD

Pathologists' Assistants perform anatomic pathology services delegated by pathologists and are increasingly being employed especially in larger centres where they assist with handling growing workloads. In addition to surgical pathology and autopsy duties, they can perform roles in tissue banking, photomicroscopy and electron microscopy.

The Department is developing a professional master's program for

Pathologists' Assistants.

Drs. Jim Dimmick and Carol Park, together with an Academic Advisory Committee comprised of pathologists from all Health Authorities and other faculty members, are currently assembling the two-year curriculum. Following approval, it is expected that the program will be ready for admission of the first students in Fall 2009.

The first year will consist of lectures,

laboratories, small group sessions and directed studies. The second year is a practicum based in an anatomic pathology department. This program will be the second of its kind in Canada and once established, will be unique in offering many courses as web-based learning. We anticipate that the program will provide well-educated and skilled Pathologists' Assistants who will benefit anatomic pathology services in the province and beyond. ■



Pathology/Medicine and The Knowledge Revolution

William A Webber Lecture, May 25, 2007

By: David F. Hardwick, MD, FRCPC

Pathology remains central for Clinical Medicine in the "provision of knowledgeable advice". What has changed since Sir William Osler stated "*as is our Pathology, so is our Practice*" in 1906 is the scope and methods of accessing the knowledge necessary to provide that advice. One hundred

years ago there were personal strategies for data assessment and information synthesis: today we exploit data-mining and bioinformatics to create needed knowledge.

Electronic, real-time integration of clinical, anatomic pathology, microarray, radiographic, and laboratory information

is achieved in this quest. In the Pathology Department we have engaged this philosophy enthusiastically with creation of a Pathology Learning Centre which also accesses The Knowledge Hub for Pathology (www.uscap.org) that provides us as Pathologists with the most current knowledge available, free. ■

UBC Certificate Course Trains Medical Laboratory Quality Managers

2007 marks the fourth successful year for the UBC Certificate Course in Laboratory Quality Management. As the only on-line course in Canada for people interested in the new and expanding field of laboratory quality management (LQM) the course has been fully or over-subscribed for each of its four years.

Upon a successful completion this year we will have trained and certified (by examination) over 100 quality managers. The course has attracted pathologists, technologists, accrediting bodies, administrators, residents and scientists. While most are from Canada (from all provinces) we have also had successful graduates from the United States, Mexico, China, and Saudi Arabia.

The course covers information critical to anyone responsible for the development of

quality systems for medical laboratories. It address international standards for testing, and medical laboratories, (ISO 9001, ISO 15189, ISO 17025), international guidelines on quality systems, occurrence management, root cause analysis, risk management, quality, indicators, Six Sigma and Lean.

The course works as a powerful connector and network developer through the creation of discussion groups that have stayed together year after year. It is fascinating to go to meetings across

the country and run into folks who say, "I took the course last year. I haven't met so-and-so from Vancouver, but we still chat on a weekly basis". Next year, we will run the course again, and hope to have a companion course (or two) available soon.

Quality in laboratories has taken on new meaning and with it new knowledge, skills and opportunities. For additional information contact Dr. Michael Noble or visit our website at www.polqm.ca. ■



UBC PATHOLOGY DAY 2007

On Thursday, May 24, 2007, the Dept of Pathology & Laboratory Medicine held its 8th Annual Pathology Day at the Plaza 500 Hotel in Vancouver.

The James Hogg Keynote Lecturer was Dr. Polly Matzinger, Head, T-Cell Tolerance and Memory Section Senior Investigator, National Institute of Allergy and Infectious Diseases, Bethesda, MD. Dr. Matzinger presented a talk entitled "Conversations Between Tissues and T cells" to an engaging audience. Over 150 people attended this presentation.

During the conference awards were presented to the faculty, staff and students: The award for Best Oral Presentation by a Graduate Student went to **Jerry Wong** "ClassIII PI3K is required for intracellular shuttling of coxsackievirus"

The award for Best Oral Presentation by a Resident went to **Suzanne Vercauteren** "Stem Cell Cultures as a Diagnostic Tool in Myelodysplastic Syndromes"

The award for Best Poster Presentation by a Graduate Student went to **Leah M. Prentice** "The KiSS-1 and GPR54 ligand-receptor pair are associated with favourable prognosis and clear cell subtype in human ovarian carcinoma".

The following faculty members were recognized at the Pathology Day Reception and Dinner:

Dr. David Walker was awarded The Most Valuable Player Award

Dr. Jiri Frohlich received The David Hardwick Lifetime Achievement Award

Dr. Kate Chipperfield received The Excellence in Education Award

Dr. David Owen received The Award for Excellence in Service

Dr. Ian Mackenzie received The Award for Excellence in Research and Discovery

Andrew Leung received The Staff Service Award for Excellence ■



Vancouver Coastal Health, Infection Control e-learning Module

By: Deirdre Maultsaid, BA, M.Ed

All physicians, residents, students and healthcare workers at Vancouver Coastal Health and Children's and Women's Health Centre, are strongly encouraged to take the Infection Control module available at: <http://ccrs.vch.ca/>



In 2005, Dr. Elizabeth Bryce, Medical Microbiologist and Clinical Professor, Department of Pathology, in partnership with VCH Learning and Development, Children's and Women's Learning and Development, VCH Worksafe & Wellness, VCH Patient Safety, the BC Centre for Disease Control, the Occupational Health and Safety Agency of BC and UBC Continuing Professional Development and Knowledge Translation, received a three-year, \$200,000 partnership grant from the Canadian Institutes of Health Research to evaluate the effectiveness of elearning for Infection Control. The elearning module uses animation and

videos to teach the routine practices of infection control, including the proper use of Personal Protective Equipment.

The course is being evaluated five ways: 1) a user satisfaction survey; 2) a participant survey about elearning and infection control, to examine possible barriers and facilitators to learning; 3) interviews with course participants and a control group, again to examine barriers and facilitators to learning; 4) observations on the use of personal protective equipment to assess learning transfer after participants have watched the course videos and 5) multiple post-tests to measure knowledge retention

over time. Overall, the CIHR study will be used to gather recommendations for enhancing online infection control education.

The results of the user satisfaction survey (of 280 participants) have shown that the course is enjoyable and effective in transferring knowledge. The demographic profile suggests that younger healthcare workers (HCWs) access the course more frequently than do older HCWs and that the course remains under-utilized proportionately by staff who work the weekend shift (one of the groups for whom traditional classroom courses are least accessible).

In the interviews, participants praised the module's utility as a refresher on infection control and the flexibility that online education offers. Barriers to engaging in online education cited by interviewees included high workload, limited technology based skills as well as a lack of consistent opportunities for keeping up-to-date. The lack of time available at work to engage in education was identified as a pervasive organizational barrier. Research on the module continues until September, 2008. For further information, please contact Dr. Elizabeth Bryce, Elizabeth.Bryce@vch.ca or Deirdre Maultsaid, Project Manager, Deirdre.Maultsaid@vch.ca. ■



Michael Noble with colleagues in Mwanza Tanzania

L to R: M Noble; M Mwasekaga (MOHSW); C Collins (CDC Atlanta); G Fine CLSI; E Anga (CDC Tanzania)

CLINICAL NEWS

Michael Noble Assists Medical Laboratories in East Africa

As technical director Dr. Noble has lead a team to Arusha Tanzania in February for a workshop on implementing quality systems and document preparation, and in June starts the process of preparing laboratories for international accreditation.

Michael Noble of our Department has been appointed Senior Advisor and Technical Director of the Clinical and Laboratory Standards Institute (CLSI) Laboratory Strengthening Program, a part of the US cooperative venture between the President's Emergency Plan for AIDS Relief (PEPFAR) and the Centers for Disease Control and Prevention (Atlanta). The program creates an opportunity to assist laboratories mainly in East, Central and West Africa to develop improved quality management to ensure safer

and more consistent detection of HIV, and diagnoses of AIDS, Malaria, and Tuberculosis.

We have seen large reference laboratories, community laboratories, as well as small city labs and rural outposts. We have seen laboratories with an abundance of resources and laboratories with scarcity. What we have not seen or met anywhere is a laboratorian who is not committed to doing as good a job as possible. Laboratories in Tanzania appreciate that associated with every sample is a patient,

a person, a parent, a child. What they do, matters. The program has created wonderful opportunities to work with committed laboratorians and members of the Ministry of Health and Social Welfare (MOHSW) across Tanzania, as well as with teams of experts from Canada, United States and the Caribbean. Soon the CLSI program will extend into other countries.

People interested in exploring opportunities to join Dr. Noble, CLSI, and PEPFAR can contact him at mnoble@interchange.ubc.ca. ■

Clinical Microbiology Proficiency Testing Assists Laboratories across Canada

By: Michael Noble, BA, MD, FRCPC

CMPT is the only medical laboratory in Canada that is certified to an international standard (ISO 9001:2000). Next year we will be expanding our recognition, with the anticipation of seeking approval by Commission for Medicare and Medicaid Services, in the United States.

All provincial, national, and international standards for medical testing and calibration laboratories require that laboratories demonstrate their competency through regular proficiency testing. Samples are to look like and act like true samples, and laboratories are to test them as typical samples. The Clinical Microbiology Proficiency Testing program is a program of the Department of Pathology and Laboratory Medicine, UBC that ensures that Canadian laboratories are able to comply with this requirement.

We can not see inside every laboratory to ensure that our samples don't get special treatment, but we can do everything to ensure that samples are typical and realistic. Samples are not freeze dried and transported as lyophilized white powder as many other programs do. Very few microbiology laboratories receive typical samples in the form of white powder. Urine samples look like urine, and blood cultures come as blood, and wound swabs are transported on swabs. Gram stains contain epithelial cells and

white blood cells as well as bacteria. They look like real samples, react like real samples, and laboratories can report them as real samples.

What started out in 1983 as a small regional, local solution to a problem getting quality assurance samples across the border from the United States has become a nation wide program. We either provide the complete program for provinces or provide them with samples for their own programs. We are now across Canada.

CMPT has an international arm as well. CMPT has trained program personnel from Thailand, Zimbabwe, South Africa, Belgium and China. CMPT is about proficiency testing, but our quality mission is Education, Innovation, Proficiency Testing and Commitment to our Quality System.

For those interested in knowing more about proficiency testing and quality systems for medical laboratories contact Dr. Michael Noble at mnoble@interchange.ubc.ca. ■

Congratulations to The Following Department of Pathology & Laboratory Medicine Award Winners of Michael Smith Foundation for Health Research:



Dr. Evica Rajcan-Separovic
Michael Smith Foundation for Health Research Scholar Salary Award



Dr. Peter van den Elzen
Michael Smith Foundation for Health Research Scholar Salary Award



Dr. David Huntsman
Michael Smith Foundation for Health Research Senior Scholar



One of the new autopsy tables



Dr. James Dimmick; Dr. David Hardwick



Ms. Theresa Sturby

The Department of Pathology at Children's and Women's Hospital (C&W)

By: Rusung Tan, BSc, MD, FRCPC

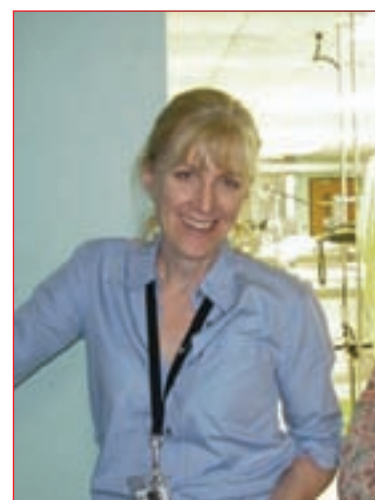
The Department of Pathology at Children's and Women's Hospital (C&W) has gone through a period of considerable change over the last few years – some of it good! In particular, the Division of Anatomical Pathology (AP) has emerged with a bright and positive future. Under the supervision of Head Technologist Susan Blaine and Assistant Head Technologist Theresa Sturby, the CoPath Laboratory Information System was implemented at the site in February 2006, allowing users greater workflow efficiencies in the entering and extraction of meaningful data. New equipment was installed, including immuno- and special staining instruments for improved tumour diagnosis, and four new ergonomic, downdraft morgue tables that provide for greater safety and efficiency.

Recently, the dictaphone system was changed to the one used throughout PHSA. Turnaround times have decreased because reports are now available for direct electronic viewing, providing in some cases a 24-hour TAT and a considerable decrease in report-related inquiries to the Division. Other projects completed or well underway include installation of a new digital radiography imaging system (Kubtec), a telepathology program sponsored by PLCO, and implementation of a new fetal remains protocol that better addresses the needs of families. Dr McFadden arranged for complete coverage of professional services within AP during the past 14 months when the division has been acutely short staffed.

In addition, Dr. McFadden oversaw a major recruitment drive that has led to the hiring of two excellent, newly-graduated pediatric pathologists from Cincinnati Children's Hospital and Boston Children's Hospital, who will start later in 2007. Special recognition should be made of the professional staff within the AP program - Drs. Chan, Henderson (on maternity leave until August, 2007), Pantzar, Senger and Dimmick and to all the locum tenens - who maintained a high standard of safety and quality during the manpower shortage. Lastly, thanks are due to the essential role of AP's technical and clerical staff, who weathered the increased workloads with grace under pressure.

The future continues to hold changes, including the development of the new C&W Hospital (which will require relocation of AP), implementation of a new EM processor, and upgrades of CoPath. Nevertheless, borrowing from the words of General Patton, "The division accepts the challenge, so that it may feel the exhilaration of victory." ■

"None of this could have been possible without the leadership of Dr. Deborah McFadden, who assumed the permanent posts of AP Division Head and Associate Medical Director of C&W Pathology one year ago."



Dr. Deborah McFadden

WHO THEY ARE, WHAT THEY DO AND WHAT THEY THINK

Aly Karsan, BA, MD

In addition to training residents, graduate, undergraduate and high school students, and post-doctoral fellows, Dr. Karsan teaches in the MEDG521/PATH531 (Molecular and Cellular Biology of Cancer) and PHAR545 (Cardiovascular Pharmacology), and gives regular lectures at continuing medical education sessions. In his spare time, Dr. Karsan enjoys waking up several times through the night to the sound of hollering children.

Aly Karsan is an Associate Professor in the Department of Pathology and Laboratory Medicine, University of British Columbia, and Senior Scientist in the Department of Medical Biophysics, and a Hematopathologist at the British Columbia Cancer Agency. He received his MD from Queen's University at Kingston, completed his residency in Hematopathology at the University of British Columbia, followed by a research fellowship in leukocyte-endothelial interactions at the University of Washington in Seattle. He was previously a Clinician-Scientist of the Canadian Institutes of Health Research (1993-2003), and is currently a Senior Scholar of the Michael Smith Foundation for Health Research. His research interests revolve around neovascularization during

tumor progression and ischemia, with an increasing focus on the diagnostics and biology of myelodysplastic syndromes. His lab collaborates with various groups locally, nationally and internationally. His research is currently supported by grants from the Canadian Institutes of Health Research, National Cancer Institute of Canada/Canadian Cancer Society, the Heart and Stroke Foundation, Genome Canada, Genome BC and the Stem Cell Network.

Dr. Karsan is fortunate to work with a very strong team of trainees and technicians who are instrumental in advancing the research program of his lab. In the last year 8 articles have been published by lab members relating to various aspects of endothelial biology and

cancer. One of the articles describes the discovery of a natural compound that promotes angiogenesis and reperfusion in an ischemia model. In collaboration with Raymond Andersen, a synthetic molecule, cholestanetrisulfate, that mimics the structure of the parent natural compound was shown to have identical effects in improving perfusion in ischemia. This paper was the subject of an editorial in the journal it was published, as the first demonstration of a small molecule that could potentially be used for therapeutic angiogenesis in ischemia. Dr. Karsan's early work in understanding the mechanisms of endothelial viability and apoptosis has been well-recognized and together 4 of his initial papers have been cited close to 650 times. ■





Aparicio Family on Beach

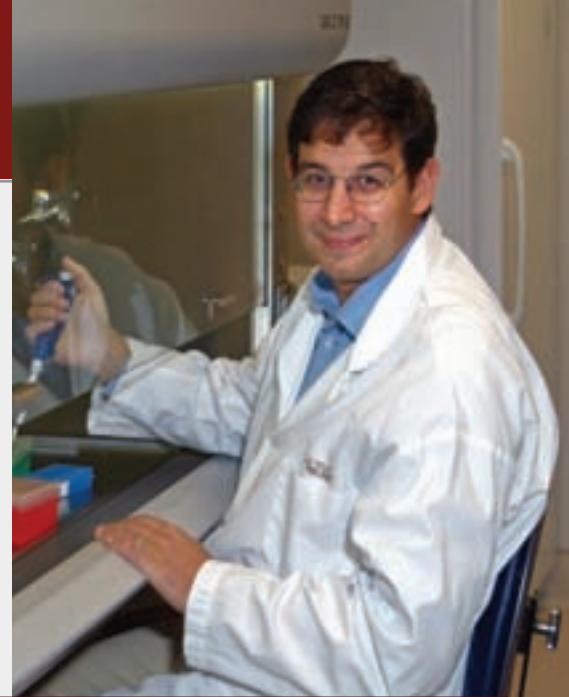
MEET THE PEOPLE OF PATHOLOGY

Samuel AJR Aparicio, BA, MA, Phd(Camb), BNBCh (Oxf)

Profesor, Dept of Pathology & Laboratory Medicine, UBC
Department Head, Molecular Oncology, BC Cancer Agency's
Research Centre; Chair, Breast Cancer, Research, BC Cancer Agency

Dr. Samuel Aparicio joined the BC Cancer Agency in 2005 to lead a program of basic and translational science in molecular oncology. He was also appointed the Nan and Lorraine Robertson Breast Cancer Chair at the BC Cancer Agency.

Dr. Aparicio is an MD-PhD physician-scientist who graduated in internal medicine and pathology from Cambridge and Oxford universities in the UK. His contributions to science span research in fundamental aspects of genomics, evolution and the application of genomics and genetics to understanding disease. His contributions to academic research have been widely published in scientific and clinical journals such as Nature, Science, Cell and the New England Journal of Medicine.



We posed these ten questions to Dr. Aparicio:

- 1. What five words best describe your life right now?*
Exhausting, exhilarating, unprecedented, frustrating, bittersweet
- 2. We know you never slack off at work, but if you did, what would you do?*
Go flying.
- 3. When you were a kid, what did you want to be when you grew up?*
Fast jet pilot.
- 4. What song puts you in a happy mood no matter what?*
Haven't found one yet. Do you know any?
- 5. Has there been a book that has changed your life? Maybe just a little bit?*
Primo Levi - The Periodic Table.
- 6. What's the best way to get on your good side?*
Bring me solutions to problems. Or money.
- 7. How do you take your tea or coffee?*
Espresso or cappuccino. No filter stuff.
- 8. What three things would you bring with you on a desert island?*
Assuming the entire works of Shakespeare as given ...
A copy of Roger Penroses latest book (A complete guide to the universe),
A loom to weave with, My family.
- 9. What did you think you would never ever do... but did?*
Start an International Biotech Company.
- 10. Finish this sentence: "What in the world was I thinking when I...?"*
.. left behind the biotech company we started for a life of ease and plentiful funds in academic research
.. left behind treating patients for trying to understand how the world works. ■

commitment

"Rescued and secured a collection of breast cancer tumour tissue dating back to the 1980s which is unique in the world. These tumour tissues will be extremely valuable resource for breast cancer research"

FROM
OLD
TO
NEW

"When I see suffering I want to do something. I remember patients we failed to help, because we didn't have the right treatment or the right insight into the disease. I have a desire to know new things; a sense of exploration. If I knew more, I could do more; I could alleviate the suffering"

Dr. Sam Aparicio,
Nan Robertson Chair of Breast Cancer Research



A new way of doing business in BC health research

PATHOLOGISTS IN THE MEDIA!!

By: Janet Wilson-McManus, Manager, BC BioLibrary

On March 30, 2007, the Board of Directors of the Michael Smith Foundation for Health Research [MSFHR] approved immediate funding for the initial development of three provincial health research technology and methodology platforms. Three additional platforms were conditionally funded [www.msfhr.org].

One of these platforms, the BC BioLibrary is led by four UBC Department of Pathology and Laboratory Members – Drs. Peter Watson, Richard Hegele, Ian Mackenzie, and David Huntsman. The MSFHR chose to highlight the BC BioLibrary Leads in their newspaper article in the Vancouver Sun on April 18th announcing the funding of the technology/methodology platform [Figure].

There is a growing gap between the pace of basic scientific advances and the successful exploitation of this knowledge through translational research for human benefit. A key contributing

factor to this gap is the availability of annotated *human biological materials*. The discipline of clinical pathology has a key role to play but has previously lacked the appropriate resources to respond. The BC BioLibrary will create a new framework to assist pathologists in this role. It will facilitate appropriate sampling and acquisition, annotation, analysis and distribution of human biological materials to diverse BioBanks including research studies, research banks, and clinical trial banks. As a ‘fuel injection’ system for biobanking, the BC BioLibrary will improve the ability of pathologists to support research and collect critically important biological materials, including frozen tissue, with emphasis on resources to enable standardized collection and annotation. It will provide access to prospective materials essential for clinical trials, drug discovery, biomedical imaging technologies, proteomics, genomics, metabolomics, and population-based outcome initiatives. Establishing the BC BioLibrary will ensure commitment to

transparency and accountability to the public and optimal use and maximal benefits of these precious gifts given for research to advance health.

The Vision of the BC BioLibrary is to accelerate translation of discoveries into improved health through the effective use of human biological materials. The Mission is to establish and maintain an integrated, comprehensive, standardized human biological materials accrual, management, and use engine.

The BC BioLibrary goals will be implemented through a Management Team guided by an Executive Committee and overseen by a Governance Oversight Committee for advice and approval of major strategic decisions. Team and committee memberships cut across institutions, health authorities, disease areas, provinces and clinical and research disciplines.

For more information, please contact Janet Wilson-McManus, Manager, BC BioLibrary at jmcmamus@mrl.ubc.ca. ■

BC Cancer Pathologist in the Media

By: Diana Ionescu, MD, Pathologist, BC Cancer Agency

In February 2007 Mrs. Adelina Suvagau, the producer of Rompost TV, a Romanian show broadcast three times a week on “m channel”, with an audience of approximately 30,000 people across Canada, approached me for an interview. She further invited me to design and

host with her professional help a series of shows about cancer prevention and screening. Superb opportunity I thought!

In early March 2007, shortly after the BC Cancer Agency’s Cervical Cancer Screening Program (CCSP) launched

their awareness campaign targeted at boosting participation rates in the program, we broadcast on Rompost TV an interview and introduction to my series of shows as well as a special show dedicated to prevention and screening for cervical cancer. *cont’d on p.31*



More shows on prevention of colorectal, prostate and breast cancer are in preparation and shows covering other major cancers are soon to follow. I

consider this TV series an excellent opportunity as a Pathologist to promote our specialty to the community, to educate the viewers about the essential

role of the pathologist in the clinical team and in screening programs for cancer and other major diseases. ■

“Early detection can save your life or that of someone you love”.

This is the message that we, as medical laboratory professionals, should send to the patients and the community, as well as to our families and friends.

ARTS IN MEDICINE

By: Alexander B Magil, BSc, MD, FRCPC



I have been active in both black and white and colour photography for more than 40 years. I photograph predominantly in black and white

because of this medium's abstract qualities. Form, texture and light are key elements. Much of my own photography involves the depiction of ordinary subjects, both man-made and natural, in ways that highlight their form and often abstract them to produce an image that reveals qualities of the subject not ordinarily appreciated on casual

inspection. The medium's properties that enable a transformation of the ordinary into the extraordinary, like alchemy, seem almost magical to me.

Since my undergraduate days at university I have done all of my own black and white film processing and printing and still experience the thrill of watching an image emerge on photographic paper during development in the darkroom. Recently I bought a digital camera and have begun to photograph digitally in colour and experiment with "Photoshop". Several years ago I joined Photoclub Vancouver and have found that the

interaction with fellow enthusiasts has been very helpful both in improving the artistic and technical aspects of my photography.

One very useful skill that I have picked up at our club's meetings has been the ability to objectively critique photographs in terms of artistic and technical quality. My work has been exhibited in public at the Vancouver Jewish Community Centre, Exposure Gallery, Alliance Francaise and the Vancouver Public Library. ■



Hostas



Li River, China



Taos Pueblo, New Mexico



UNIVERSITY OF BRITISH COLUMBIA
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