

*University of British Columbia*

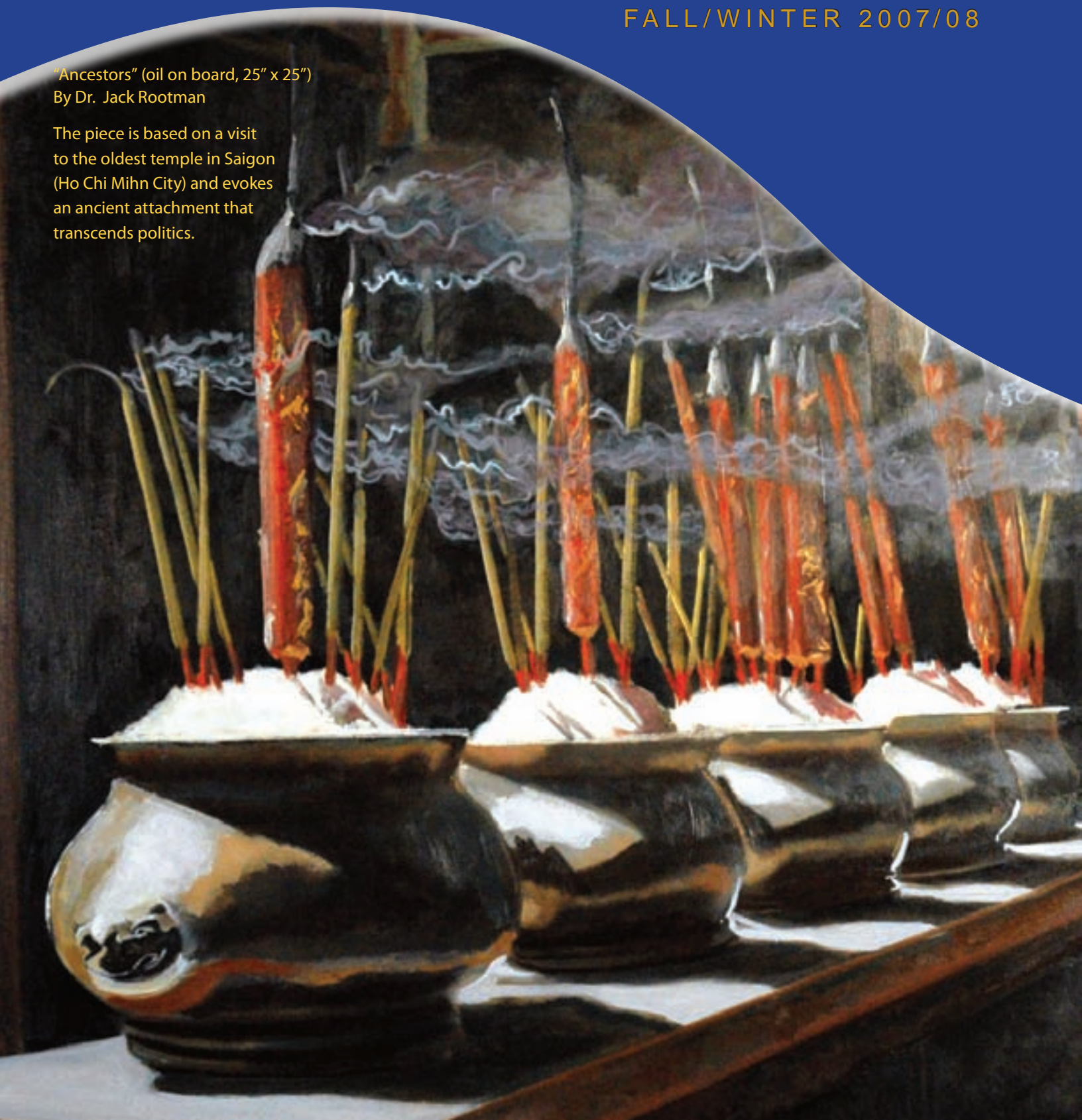
# PATHOLOGY

FALL/WINTER 2007/08

"Ancestors" (oil on board, 25" x 25")

By Dr. Jack Rootman

The piece is based on a visit to the oldest temple in Saigon (Ho Chi Minh City) and evokes an ancient attachment that transcends politics.







Dr. Fred Silva, Executive Vice-President and Secretary/Treasurer of the United States and Canadian Academy of Pathology (USCAP), at the Opening Ceremony of The UBC David F. Hardwick Pathology Learning Centre, demonstrating the use of "The Virtual Case Collection". Dr. Hardwick, resplendent in bowtie, looks on.

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*Current and back issues of the Newsletter  
can be found on the Departmental  
Website: <http://pathology.ubc.ca>*

## THE ABC'S

## OF SYSTEMS THINKING

## IN THE UBC

## DEPT OF PATHOLOGY

## & LABORATORY MEDICINE

Richard Hegele, MD, FRCPC, PhD



Now that the academic year is in full swing and we are attempting to cope with the various activities, demands and overall frenetic pace of the Holiday Season, I would like to comment on the evolving role of “systems thinking” as pertains to our academic Department. Briefly, systems thinking deals with understanding how the elements of a complex, dynamic whole interrelate with one another, such that the impact of a perturbation on one or more elements can be modeled to guide decision-making and support our mission of creating and conveying knowledge, related to the causes and mechanisms of disease, for translation into improved healthcare. A popular example of systems thinking is the effect on global climate from a butterfly flapping its wings somewhere in the South Pacific. Our Department exists within a complex system that is influenced by a multitude of internal and external drivers, and to cope with the various activities, demands and overall frenetic pace of our environment, I would like to comment on three aspects (“ABC’s”) that shape our approach:

**Accountability.** The UBC Department of Pathology and Laboratory Medicine exists in a system where there are multiple stakeholders whose scope, goals and priorities may share common elements but may also have areas of conflict. For example, on the Provincial Governmental front, the Ministry of Advanced Education is interested in seeing scientific impact from our Departmental efforts; the Ministry of Health is interested in seeing healthcare impact; the Ministry of Economic Development is interested in seeing economic impact; while the Treasury Board (the folks who sign the cheques) demand value for money. Taken in isolation, all of these priorities are laudable and justifiable, but difficulties quickly arise when one tries to operationalize them simultaneously at the Departmental level. These multiple priorities from our multiple stakeholders involve multiple accountabilities. Given this reality, we are endeavoring to pay greater attention to...

**Balance.** One of the privileges of being part of the University is the safe environment provided for free inquiry within the law, a state which does not exist nearly to the same extent in other sectors of society. Historically, our Departmental academic outputs have shown a spectacular track record of accomplishment (just read this Newsletter and you will see what I mean). This has been done in large part by a focus on outcomes and identifying opportunities for continued innovation and growth. By contrast, there is an ever-increasing demand for us to provide evidence that we abide by applicable processes (e.g., accreditation standards, conflict of interest declarations) and employ planning strategies in addition to our traditional strengths in outcomes and opportunistic thinking. At the departmental level, our aim is to ensure balance in these areas, such that desired outcomes are achieved by robust processes. Thus, by defining where we want to go, we will be able to focus our planning efforts and make optimal use of resources and effort. Which leads to...





Our congratulations to Dr. Hélène Cote, Assistant Professor, Dept of Pathology & Laboratory Medicine, who has led a successful team grant application to Canadian Institutes of Health Research (CIHR), Emerging Team Grant: HIV/AIDS "Mechanism of aging following exposure to HIV antiretroviral drugs" - \$2.18M over 5 years.

*continued..*

**Community.** In his letter to the UBC Community dated November, 2007, President Stephen Toope commented that service contributions need a fresh conversation on expanding the types of activities that legitimately warrant recognition and reward at the University level. For example, in addition to commonly-used activities such as service on scholarly committees, service could (and in my opinion, should) also include academically-related work that impacts on governmental policy, business practice, and social and economic development. From my perspective, this is a most encouraging message and is long overdue, given the various exceptional contributions of our Departmental members in areas not traditionally considered by the University to fall within the rubric of service. A major challenge is to ensure that these contributions are articulated and packaged in a manner that will be accepted and recognized by UBC and other stakeholders. Although these are early days for our Department in trying to address an expanded concept of service to the community, the overall direction as articulated by President Toope has the potential to result in a more comprehensive and accurate characterization of the valuable things we do, and confirm they are being done in an appropriate way. By reinforcing our commitment and respect for the value of each person's individual and collective roles and contributions, and being able to articulate them and account for them, we are poised to further develop and thrive going forward. ■

*In my guise as an optimistic pathologist as well as a pathological optimist, I wish you the very best for the Season and for the New Year.*

## FROM THE DIRECTOR

Maureen Barfoot

The old adage "be careful what you wish for . . ." applied this past summer when my children gave me a gift certificate for sky diving. The experience wasn't nearly as scary as it sometimes is navigating the department through all its endeavours.

Financially there is good news and bad news. We are on target for budget at year end for all accounts, however next year poses a challenge, as we are facing a 5% budget cut. Dan Holmes is replacing Mike Nimmo as our Program Director for the departmental summer student program and once again the department will be funding seven positions. Please watch our web site for further information on how to apply and upcoming deadlines. Information and instructions on general financial policies and procedures is now available on our web site at <http://www.pathology.ubc.ca/html/PoliciesAndProcedures.html>.

Monthly departmental staff orientation sessions have been introduced for new

and current employees and take place in the Pathology Boardroom, UBC Hospital. Highlights of the sessions include overview of the department and faculty; description of UBC benefits and perks; and, of course, mingling with other employees in the department. The orientation sessions consistently enjoy positive reviews from participants, and if you would like to attend one of the upcoming sessions, please contact [ebobyreva@pathology.ubc.ca](mailto:ebobyreva@pathology.ubc.ca).

Our new probationary review policy is being rolled out within the department. Managers will be given guidance on how to support their new hires during the probationary period (six months for technicians and research assistants; three months for clerical staff; and 12 months for management and professional employees).

Elena Bobyрева will be advising all managers who have employees on probation about the new policy. In an effort to avoid any misinterpretations

and bring consistency to departmental hiring procedures, effective January 1, 2008, employment offers to support staff will be made by the HR Manager.

*All staff and faculty members are invited to nominate a staff colleague for the Faculty of Medicine Applegarth Staff Service Award that recognizes excellence in personal achievements and outstanding contributions to the Faculty of Medicine.*

For information about the award and nomination procedure please visit [http://www.med.ubc.ca/\\_\\_shared/assets/Applegarth\\_Staff\\_Awards\\_package87.pdf](http://www.med.ubc.ca/__shared/assets/Applegarth_Staff_Awards_package87.pdf).

The deadline for submitting nominations is March 14, 2008. Please contact [ebobyreva@pathology.ubc.ca](mailto:ebobyreva@pathology.ubc.ca) if you would like to submit a nomination. We are pleased to welcome Ingrid Barta, the new Manager, Morphological Services Laboratory and Maggie Ma, Program Assistant, Laboratory Quality Management Program. Have a safe and happy holiday season. ■

**Sean Young, *Clinical Assistant Professor, BC Cancer Agency.*** Dr. Young is a native of Sudbury, Ontario. He spent his teenage years doing what teenagers do in Northern Ontario, namely hunting, fishing and riding a dirt bike/ski doo. After finishing high school (Ecole Secondaire Hanmer), Dr. Young studied biochemistry at the University of Waterloo. This was followed by a Master's degree in Chemistry from Laurentian University (Sudbury) and a Doctorate from the University of Ottawa (Human Molecular Genetics, Dept of Microbiology and Immunology). A short tenure as a post doctoral fellow in Vancouver was followed by formal training in Clinical Molecular Genetics at BCCH (CCMG training programme). Dr. Young is currently a laboratory geneticist overseeing the molecular diagnostic arm the BCCA Cancer Genetics Laboratory.

Dr. Young lives in East Vancouver with his wife Kevina and his two young children, Madison Paule and Jordan Patrick (4 and 2 yrs). Family life is further complicated by the presence of two cats and two rather insistent weimaraners. ■



Dr. Sean Young

**John Priatel, *Senior Research Associate, Department of Pathology and Laboratory Medicine, BC Children's Hospital.*** Dr. Priatel completed his Ph.D. training with Dr. Jamey Marth (Howard Hughes Medical Institute, University of California San Diego). Dr. Marth's laboratory pioneered the use of the bacteriophage-derived Cre recombinase for use in site-directed recombination in mice and employed this technology to study the function of mammalian protein glycosylation. By engineering systemic and T cell-specific mutations in the ST3Gal I sialyltransferase, his work elucidated a novel role for the sialylation of O-glycans in protecting CD8 T cells from apoptosis (Immunity 12, 273). During his post-doctoral work with Dr. Hung-Sia Teh (Department of Microbiology and Immunology, UBC), he trained in cellular immunology and characterized the function of the Ras guanyl-nucleotide exchange factor RasGRP1 in thymocyte selection and pathogen-specific T cell responses. Dr. Priatel has joined the lab of Dr. Rusung Tan (Child and Family Research Institute, Department of Pathology and Laboratory Medicine, UBC) and his current research interests are focused on host immunity and autoimmunity. ■



Dr. John Priatel

**Dailin Li, *Clinical Assistant Professor, Vancouver General Hospital.*** Dr. Li joined Vancouver General Hospital as a Clinical Chemist in December 2006 and the UBC Faculty of Medicine as a Clinical Assistant Professor in July 2007. She started her career as a Pediatrician in China. Her professional development was furthered by a PhD degree from Karolinska Institute, Sweden. She then did a Postdoctoral Fellowship with Dr. Amira Klip at the Toronto's Hospital for Sick Children. Her research covers nephrology, diabetes, cell biology and signal transduction. She is the author of 14 publications, 16 abstracts and 2 book chapters. After her Postdoctoral Training in Clinical Chemistry at University of Toronto, she took the position of Clinical Chemist at Queen Elizabeth Hospital on Prince Edward Island and spent 2.5 years there. In addition to her routine work as a clinical chemist at VGH, Dr. Li is involved in teaching in the UBC Bachelor of Medical Laboratory Science Program and General Pathology and Medical Biochemistry Residency Training Program. Her clinical research interests include developing new lab tests such as urinary and salivary cortisol and other analytes by liquid chromatography tandem mass spectrometry as well as collaborative clinical research with the Division of Endocrinology. She is also writing a book chapter on the adrenal gland and hypertension for a standard Clinical Chemistry textbook. ■



Dr. Dailin Li

**Oana Baboiu, *Clinical Assistant Professor, Children's and Women's Health Centre of BC.*** Dr. Baboiu graduated from the University of Medicine and Pharmacy in Craiova, Romania. After completing a residency in forensic pathology in Romania, she completed an AP/CP residency at Upstate Medical University in Syracuse, NY. This was followed by a fellowship in pediatric pathology at Cincinnati Children's Hospital Medical Center. She joined the Children's and Women's Health Centre of British Columbia as a staff pathologist and UBC Faculty of Medicine as a Clinical Assistant Professor in July 2007. Her main interest is in GI pathology and pediatric solid tumors. ■



Dr. Oana Baboiu



Dr. Darren Saunders

**Darren Saunders, *Research Associate, BC Cancer Research Centre.*** Dr. Saunders joined Professor Sam Aparicio's lab in the Molecular Oncology Dept at BC Cancer Research Centre in January 2007 funded by an International Fellowship from the New South Wales Cancer Institute. His research in Vancouver employs high content, genome-wide screens to investigate functional aspects of mammary epithelial cell biology and breast cancer. He graduated with a BSc (Hons 1) in Biological Sciences from the University of Wollongong, Australia, in 1995 and continued his postgraduate studies at the same institution, being awarded a PhD in 2000. His thesis research focused on structure/function aspects of serpin molecules in the plasminogen activation pathway in breast cancer. His post-doctoral research at the Garvan Institute in Sydney, Australia involved characterising the function of a novel tumour suppressor gene in the ubiquitin/proteasome and DNA damage response pathways, again with a focus on understanding molecular aspects of breast cancer. Dr. Saunders moved to Vancouver with his wife Samantha, who recently gave birth to beautiful baby Matilda. When he's not in the lab Dr. Saunders can be found at Whistler or on Cypress Mountain, or pining for a warm sunny beach. ■



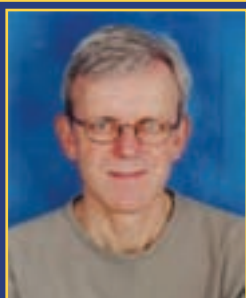
Dr. Jennifer Grant

**Jennifer Grant, *Clinical Instructor, Vancouver General Hospital.*** Dr. Grant is a newly minted microbiologist who comes to Vancouver from Montreal, QC. She completed her medical training, residency and fellowship at McGill University in internal medicine, infectious diseases and microbiology. She took a 6-month hiatus during her fellowship to volunteer for a Doctors Without Borders HIV treatment project on the Ivory Coast. Jennifer is particularly interested in tropical medicine and parasitology. ■



Dr. Hanh Huynh

**Hanh Huynh, *Instructor I, Life Sciences Centre.*** Originally from Vietnam, Dr. Hanh Huynh escaped the country and came to Canada as a "boat/refugee person" in June of 1980. After working for two years as a labourer for Cominco in Trail, BC and gaining a command of the English language, Dr. Huynh went back to school and started his first year of science at Selkirk College in Castlegar, BC. Following that year, he enrolled in UBC and completed his BSc in 1986, then continued on at UBC to receive an MSc in 1989 and a double PhD in Medicine in 1994. He finished his postdoctoral fellowship at the Rockefeller University in New York. His first trip back to Vietnam was in 1991 when he was allowed by the Vietnamese Government to return to visit with his family. Over the years, Dr. Huynh's career has included: working in the Neurology Department at the Medical School in Omaha, Nebraska at the rank of Assistant Professor; for a French pharmaceutical company in Vietnam in the areas of depression, hypertension and diabetes; and for a humanitarian organization helping Vietnamese street children from being sexually and physically exploited. Since returning to Canada in 2002, he has been tutoring first and second year medical students at UBC in problem-based learning (PBL). He had been with the Northern Medical Program since January of 2004 in the position of Assistant Professor and Course Director, Foundations of Medicine and his current research interest is in the prevention of Type 2 diabetes in children. Hanh has rejoined UBC in Aug 2007 and is tutoring PBL along with teaching in the Histology Lab for the medical students. The whole family is very happy to be back in Vancouver. ■



Dr. Gordon Ritchie

**Gordon Ritchie *Clinical Assistant Professor, Providence Health Care Laboratory.*** Dr. Ritchie received his Ph.D. from the University of British Columbia in experimental medicine. His research in the lab of Dr. Gary Quamme at UBC led to the cloning of a novel gene involved in control of magnesium metabolism. He spent 5 years as director of the Molecular Diagnostics Laboratory at Sheikh Khalifa Medical Centre in Abu Dhabi, establishing molecular assays for oncology, infectious diseases and inherited genetic disorders. Dr. Ritchie joined the PHC Laboratory at St. Paul's Hospital this year, where the initial focus has been on setting up molecular diagnostic methods in virology and microbiology. ■



## *AND... MORE MEMBERS TO THE PATHOLOGY FAMILY*

We are pleased to see that our department is growing in many ways, the least of which is a number of new babies. In 2007, four wonderful babies were born having as parents Pathologists at BC Cancer Agency or Vancouver General Hospital. In chronological order we are happy to introduce:



*Harry Hunter Scudamore*, (born first and seen on the left) and *Henry Flint Scudamore* (on the right), born on February 5, 2007 about 20 minutes apart. Proud parents of Harry and Henry are Dr. Julia Flint (Department of Pathology VGH) and Dr. Charles Scudamore.



*Andrew Christian Naus*, born on July 10, 2007. Proud parents of Andrew are Dr. Diana Ionescu and Dr. Greg Naus (both in the Department of Pathology, BCCA)



*Natalie Carol Ceballos*, born on October 26, 2007. Proud parents of Natalie are Dr. Kathy Ceballos (Department of Pathology BCCA) and Dr. Art Ceballos.

***Congratulations to the new parents.***

***We wish the babies a successful and happy life!***

**SAVE THE DATE! 9TH ANNUAL UBC PATHOLOGY DAY – MAY 29, 2008**

*details to follow.....*

Fall/Winter 2007-08

## TRANSLATING PATHOLOGICAL OBSERVATIONS INTO SCIENTIFIC DISCOVERY AND IMPROVED PATIENT CARE

Ian R. A. Mackenzie, MD FRCPC, Professor, Neuropathology

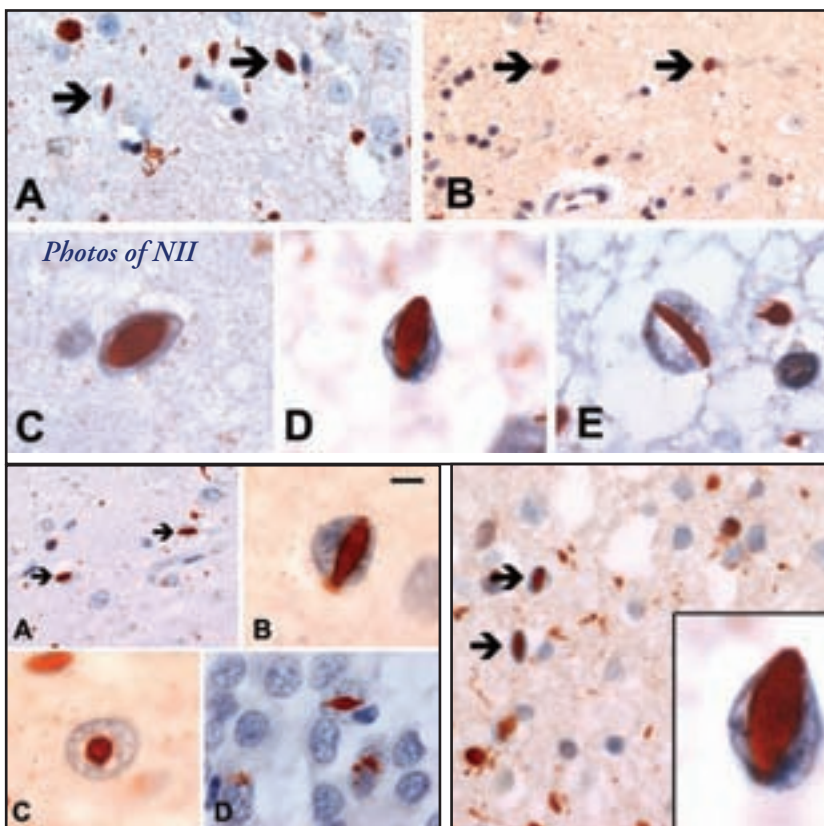
One of the main reasons I chose Neuropathology as my medical specialty was that it represents an interface between basic neuroscience and patient care. In the past few years, I have had the good fortune of being able to use observations made during my daily diagnostic practice to generate research hypotheses that have led to basic science discoveries with major clinical implications. This process has been immensely satisfying and has taught me a number of valuable lessons in persistence and self-confidence. The following is a recent example.

My interest and expertise in neurodegenerative disease provides me with the opportunity to conduct post mortem evaluations on many patients with dementia. In the first few years after

moving to Vancouver, in 1997, I noticed that I was seeing an unexpected number of cases of a relatively uncommon disorder known as frontotemporal dementia (FTD, originally known as Pick's disease). Although FTD is only responsible for ~10% of all dementia, it is important because it has a relatively early age of onset (around 60 years) and is very often familial. At that time, knowledge of the genetic, biochemical and pathological basis of FTD was far behind most other neurodegenerative conditions. It occurred to me that the pathological material I was exposed to represented an invaluable resource that could be used to investigate aspects of the disease pathogenesis. I convinced my clinical colleague, Dr. Howard Feldman (Head of Neurology

and Director of the UBC Dementia Clinic), that FTD was an emerging condition worthy of our attention.

Our initial efforts collecting detailed clinical and pathological data resulted in the publication of a number of correlative papers of modest significance. However, during this process, I made an observation that I felt was potentially more important; the presence of a unique type of cellular inclusion in some of our cases (lentiform neuronal intranuclear inclusion, NII). What impressed me most was that these inclusions were only found in a subset of our familial FTD cases, all with autosomal dominant inheritance. We hypothesized that this pathological change might be a marker



*“As a researcher, there is nothing more gratifying than taking a novel hypothesis and pursuing it all the way to fruition. Knowing that these research opportunities may reveal themselves each time I sit down at the microscope makes my diagnostic work all the more stimulating”.*



for a specific genetic defect. We began to focus our attention on FTD families with a confirmed pathological diagnosis and developed a number of extensive pedigrees (our largest family has over 300 individuals in 5 generations). To help with the genetic analysis, we approached Dr. Michael Hutton, a neurogeneticist at the Mayo Clinic with a strong track record of discovering dementia related genes. He was impressed with the number and size of our families and agreed to make finding the FTD gene the main focus of his lab. Knowledge of the underlying pathology allowed us to combine families that likely had the same gene defect, thus increasing our analytical power. We quickly determined that FTD in families with NII pathology was linked to a region on chromosome 17q21. Although acquiring additional DNA samples improved our LOD scores, we were not able to

reduce the linkage region and we finally decided to systematically sequence all 165 candidate genes. After one and a half years and screening more than 80 genes, we finally found a mutation that segregated with disease in our largest family.

It was in the gene encoding the protein progranulin (PGRN), a multifunctional secreted growth factor that had not previously been associated with neurological disease. We quickly identified additional PGRN mutations in several smaller families with the same pathology. At first, we were confused by the fact that the 8 different mutations we identified were all in different regions of the gene. However, this was explained by our subsequent functional studies that showed that all the mutations had the same effect, to create a nonfunctional (null) allele. This indicated that the disease not being caused by accumulation of a mutant protein, but

rather, was the result of reduced levels of normal PGRN (haploinsufficiency). This finding was particularly exciting as it suggested that it might be possible to treat these patients simply by replacing the missing protein.

Our results were published last summer in *Nature* (Baker, et al. *Nature* 2006,442;916-9) and received wide coverage in both lay and scientific press. Since then, more than 50 different PGRN mutations have been identified in over 100 families worldwide, making it the most common cause of familial FTD. The impact on our families has been more useful genetic counseling and genetic testing and the realistic possibility of useful therapy in the near future. The possible role of PGRN and the use of PGRN therapy in other more common neurodegenerative conditions, such as Alzheimer's disease, is currently being investigated. ■

## 2007 PROFESSOR AND CLINICAL PROFESSOR ACADEMIC GOWN HONOUREES

**F**aculty Members who have been promoted to either Clinical Professor or Professor since 2005.

### CONGRATULATIONS TO:

Dr. Kenneth Berean, Clinical Professor 2007  
 Dr. Muhammad Morshed, Clinical Professor 2007  
 Dr. Bruce Verchere, Professor 2007  
 Dr. Hilary Vallance, Clinical Professor 2006  
 Dr. Gregory Naus, Clinical Professor 2006  
 Dr. Peter Watson, Professor 2006  
 Dr. Decheng Yang, Professor 2006  
 Dr. Samuel Aparicio, Professor 2005  
 Dr. Ian Mackenzie, Professor 2005  
 Dr. Valerie White, Professor 2005  
 Dr. Janet Chantler, Professor 2005  
 Dr. C. Blake Gilks, Professor 2005  
 Dr. Michael Allard, Professor 2005



Dean Gavin Stuart congratulates Dr. Janet Chantler in recognition of her promotion to Professor at a dinner reception held in May, 2007.



## WHAT IT IS, WHERE IT CAME FROM, AND WHAT IT HOPES TO ACCOMPLISH

Bruce McManus, Director, Providence Heart + Lung Institute at St. Paul's Hospital

Innovation in heart and lung care began several decades ago at St. Paul's Hospital. Early steps included the invention of a novel heart-lung bypass machine in the 1950's, the development of cardiac surgical approaches for valve and coronary disease, intensive care, and interventional cardiology. In the 1970's, leaders in pulmonary care like Graham Copeland and Richard Donevan recognized the need to raise the bar by adding leaders in lung research. It was that vision that brought Drs. Jim

Hogg and Peter Paré from McGill University 30 years ago to establish the Pulmonary Research Laboratory. On this foundation, critical care research and cardiovascular research were developed in the 1980's and 1990's, enabling the successes with the Canada Foundation for Innovation, the attraction of several Canada Research Chairs, progression of major initiatives in translational heart and lung research, and unprecedented growth in numbers of talented trainees. After months of planning and initial

consultations, in June 2007 the Providence Heart + Lung Institute at St. Paul's Hospital (HLI) was launched at the Annual General Meeting of Providence Health Care. Governance and operational details have been worked out for the present; they will evolve. The Institute will serve as an enabling vehicle designed to bring together cooperatively the expertise, resources, and energy to achieve the common goal of restoring, enhancing or sustaining heart and lung health. The HLI will accelerate progress

## PATHOLOGY SESSION – A HIT AT THE 2007 BCCA ANNUAL CONFERENCE

Diana Ionescu, MD, Pathologist, BC Cancer Agency

Congratulations to several BCCA pathologists from PHSA Labs who ran a highly successful educational event for healthcare staff and the public at the 2007 BCCA Annual Cancer Conference. Organized by Dr. Diana Ionescu, the Pathology sessions presented four informative talks that had people lining up in the corridors. BCCA pathologists gave the following outstanding presentations:

***The Centre For Translational And Applied Genomics (CTAG): A Molecular Pathology Platform For Clinical Development And Research (Dr. David Huntsman).*** This talk provided detailed information about how the CTAG laboratory relates to the PHSA clinical laboratories, including BCCA. It also exemplified how these state-of-the-art facilities are used for different exciting projects.

***More and More: High Resolution Detection Of DNA Alterations In Cancer Specimens (Dr. Doug Horsman).*** This presentation was a description of highly specialized molecular tests now offered through the BCCA Pathology Department as prognostic and treatment assessment tools for various cancers, both in the research as well as in the clinical setting.

***HER2 Testing Guidelines in Breast Cancer: Current Recommendations and Issues (Dr. Tom Thomson).*** This highly relevant talk for healthcare professionals involved in breast cancer care reviewed the current Canadian Consensus Recommendations on Testing for HER2 in breast cancer and the importance of

accuracy in testing and the clinical impact of results. It also exemplified the BCCA Pathologists' efforts in applying strict quality control aimed at continually improving these important tests with predictive therapeutic implications and high clinical impact.

***Should We Replace The Pap Test With A Test For Human Papillomavirus For Cervical Cancer Screening? (Dr. Dirk Van Niekirk).*** A review of the natural history of HPV infection opened this informative talk looking at how the advent of sensitive tests for HPV has created the opportunity to use HPV testing as a primary screen for cervical cancer precursors. The design and primary outcome measurements of the randomised controlled trial HPV for cervical cancer (FOCAL) study which started at BCCA this fall was also illustrated.

These presentations were followed in the afternoon by a unique hands-on introduction to anatomical pathology ("You are made of cells") run by BCCA Pathologists Drs. Diana Ionescu and Greg Naus with help from Brenda Smith from the School of Cytotechnology. ■



and allow us to leverage and build on pivotal research, training and care for heart and lung diseases. The combined burdens of heart, lung and blood vessel disorders and diseases (like hardening of the arteries, heart failure, COPD, asthma and others) impose by far the greatest personal, professional and financial costs on Canadian society. A full-scale attack through new concerted efforts is needed. The collective clinical and academic people and programs, linked in a virtual manner to others at other sites in British Columbia, can become an engine for innovation in this domain of health and health research previously unprecedented. Research spans from molecule to population, model organism to human, hospital to community, fundamental to applied, and engages scholars and clinicians from many disciplines within the Faculty of Medicine at UBC as well as from the Faculty of Science and from other institutions. Indeed, while Pathology & Laboratory Medicine and Medicine are the home departments for many of the

faculty in the Institute, several UBC Departments including Surgery, Medical Genetics, Anesthesiology, Physiology & Pharmacology, Computer Sciences, and Biostatistics are involved. Juxtaposing research by the prevention and intervention programs at St. Paul's, including those focused on prevention, heart valve repair and replacement, electrophysiology, adult congenital heart care, transplantation, COPD education and care, asthma and allergy, cystic fibrosis, lung fibrosis, and ICU ailments, will accelerate conversations and actions leading to solutions and new knowledge of importance.

*In the face of a continued enormous social and economic burden of heart and lung diseases, governments and others are looking to us - - care providers, researchers and educators -- to provide leadership that is not solely visionary, but also innovatively*

*practical, efficient and feasible.*

The HLI offers a catalytic force towards these necessary directions. Over the next year, the HLI will take a strongly collaborative approach with partner organizations, programs, and people towards our vision. Success will come through facilitatory activities and processes and by implementing an operational plan that effectively harnesses the enormous capabilities resident in the heart and lung research and care programs at St. Paul's. Two near-term events will enable the HLI to reach a stage of clarity with all stakeholders and partners and internally. On February 21 there will be the first Summit of the HLI here in Vancouver with engagement of thought leaders from all sectors and perspectives in discussions about directions and pathways to impact, while on Monday, March 10th, during UBC's Celebrate Research Week, the HLI will host the 2nd Annual Heart and Lung Education and Research FEST. More information will soon follow. ■

## NEW POSITION WITH ASCP

William E. Schreiber, MD, Consultant Pathologist, VGH

**W**es Schreiber has been appointed Chair of the Commission on Education for the American Society for Clinical Pathology (ASCP). The appointment became official at the society's annual business meeting in New Orleans in October of this year.

Based in Chicago, the ASCP is the largest pathology organization in the world, with more than 9000 physician and 120,000 technologist members. ASCP provides continuing education for both groups through a variety of programs that are offered each year: two national meetings, 15 educational courses for pathologists and 11 workshops for technologists at sites throughout North America, and more than 90 teleconferences. The society also offers asynchronous learning opportunities with online e-courses. In his new position, Wes will oversee all of

these educational activities and direct planning for future programs. If you have questions about the ASCP, its

programs or how to get involved, you can give Wes a call or send an e-mail to [william.schreiber@vch.ca](mailto:william.schreiber@vch.ca). ■





Dr. Tan



# MEET THE PEOPLE OF PATHOLOGY

Rusung Tan, BSc, MD, FRCPC, Associate Professor, CWHCBC

Grew up in the Okanagan. Went to UBC to study physiology, then medical school. Interned at McGill. Worked as a GP for 4 years in Ontario and BC. Medical Microbiology residency at UBC. Ph.D. in UK. Began work at BC Children's Hospital. Special thanks to Dr. Dimmick for hiring me, and topping up my fellowship when I was in England. Back then, the pound was worth \$2.50.

Dr. Tan was raised in the Okanagan Valley and finished high school at Vernon Senior Secondary. He completed a B.Sc. (Honours) in Physiology (1982) and an MD (1986) at the University of British Columbia. Following an internship at St. Mary's Hospital in Montreal, his medical career has been varied. He began by practicing family medicine in Toronto, Northern Ontario and British Columbia before

returning for residency training in pathology (Medical Microbiology). He subsequently obtained research training with Professor Hung Sia Teh of the University of B.C. and Professor Andrew McMichael of the University of Oxford, where he completed a Ph.D. Since returning to Vancouver, Dr. Tan has been engaged in academic pathology, teaching and basic research as a medical microbiologist at C&W

Hospital. His research interests are in the areas of pediatric autoimmunity and immunodeficiencies. In particular, his research group studies why immune cells are dysfunctional in type 1 diabetes and other childhood autoimmune diseases, and why children are susceptible to certain viral infections. Dr. Tan is currently Head of the Dept of Pathology & Laboratory Medicine at C&W Hospital and a Professor at the UBC.

*"Immunology is the study of cells in the body that fight infection. When these cells function poorly, infection results. When these cells function aberrantly, autoimmunity ensues."*

## AREAS OF RESEARCH INTERESTS::

Childhood immunity and autoimmunity, particularly the role of T cells, natural killer cells and natural killer T cells in protection from viral infection, and pathogenesis of type 1 diabetes.

## REGULAR COURSES YOU TEACH:

Let's talk about the irregular courses I teach. I just returned from teaching microbiology and infectious diseases for three weeks in China as part of a BC Children's Hospital exchange. It was immensely rewarding. I realized that two things keep us in the forefront of medicine worldwide - technology and facility with the English language. But for those advantages, we would be feeling a great deal more heat. Hence, we need to keep investing in technology.

## MOST RECENT RESEARCH CONTRIBUTIONS:

Brian Chung in my lab published a couple of years ago (simultaneously with two other research groups internationally) that SLAM-associated protein is required for natural killer T (NKT) cell development, and more recently Erica Lee and Huilian Qin in collaboration with a pediatric endocrinologist at BCCH, Dina Panagiotopoulos have found defects in natural killer cells from patients with type 1 diabetes.

## MOST IMPORTANT RESEARCH CONTRIBUTIONS:

I'm most proud of finding a novel mutation in the protein responsible for X-linked lymphoproliferative disease (XLP). This discovery solved a longstanding mystery of young male deaths in a large first nations family, led to some basic immunological findings, and has been used for prenatal diagnosis in the family. Clinically, this has led to early cord blood transplantation, and better prognosis. The first author of the study was Dr. Loralyn Benoit, my first graduate student and the sequencing was done manually by my first technician (still with me), Ms. Xiaoxia Wang. Incidentally, Lora married Stevan Knezevich, one of Poul Sorensen's first graduate students, and Stevan is now a pathology resident at Washington University St. Louis. Small world.



Dr. Tan & Dr. Granville: Rio de Janeiro

Hi Dr. Tan,

Finally, we prepared fun questions for you for our paper:

If there was an extra hour in the day, what would you spend it doing?

- *Trolling youtube.*

What's the strangest thing you've seen this past month?

- *My 16 year old daughter telling her Mom that she loves her. Oh and a Chinese man riding a bicycle with a full-sized refrigerator strapped to one side.*

What is the last thing that you bought which you're really proud of?

- *Fake ipod with digital FM recorder.*

In what ways have you turned out more like your parents than you would've expected?

- *I never thought I would turn grey, go deaf and get cranky. (My dad).*

Leno or Letterman?

- *Admittedly, Letterman is cooler, and Leno is a hardcore kissup, but Leno's been a lot funnier for years.*

What is the first thing you'd change if you were "in charge of the world"?

- *Put pathologists in all major leadership positions.*

What makes you hopeful?

- *Dogs.*

Which do you dislike more? Pop-up ads or spam e-mail?

- *Pop-ups. I actually read the spam.*

You're stuck in an airport, what paper do you turn to for the news?

- *International Herald Tribune.*

What is your favorite comfort food?

- *Pizza and red wine.*

If I could also provide a quote for the department, it would be this:

***"Statistically speaking, 99% of people are not as smart as pathologists. This fact explains all our problems."** ■*



## SUMMER STUDENT PROGRAM

Dan Holmes, MD, Medical Biochemist,  
St. Paul's Hospital

Every summer the UBC Department of Pathology and Laboratory Medicine offers bursaries for medical and undergraduate students interested in pathology research. As our disciplines span everything from histomorphology to analytical chemistry, students have a wide range of academic opportunities.

The program offers 2 months of support to 5-7 students each summer depending on supervisor interest and funding availability. The positions are typically advertised in February for an application deadline in late March. Prospective supervisors should submit brief research proposals with their application. These should clearly delineate the necessary background information and hypothesis and provide a description of the scope of the project.

There should be well-defined goals that are achievable within the two-month time frame. Ethics approvals should be completed before the student commences the project. Preference is given to medical students but if no suitable medical student candidate is identified, positions may be offered to undergraduates. Applications are reviewed by a committee and bursaries are distributed according to the merit of the proposals. Many years it is possible to fund all projects.

My own experience as a supervisor was very rewarding because I had the opportunity to both teach and learn on a daily basis. I was delighted to see my student accomplishing her goals while getting some very useful academic results. In the summers to come, I hope that I am able to take advantage of the program again. ■



Noa Albanese, University of Western Ontario. Project: Characterization of the Clinical Phenotype of the Carnitine Palmitoyl Transferase-I Variant in BC First Nations. Supervisor: Hilary Vallance

My entire experience at the hospital has been extraordinary and I have thoroughly enjoyed it. I looked forward to coming to work, excited for what I would do and learn each day... [Dr Vallance was] always so positive and supportive and answered all my questions. ■



TElysia Dubland, University of British Columbia. Project: Support Vector Screening for Primary Aldosteronism Supervisor: Daniel Holmes

The UBC Pathology student program was an amazing experience and a truly rewarding way to spend my summer. It gave me the opportunity to apply what I have learned at UBC to medical research and it helped me to better understand how things I am learning in my university classes can be applied to the real world. The program helped me to better understand how scientific and medical research is conducted. I also developed many new research and computer skills. The experience has added so much to my university education. I would highly recommend it to any student that is considering it. ■

# THE DEPARTMENT OF PATHOLOGY AT BC CANCER AGENCY

Bryan Knight, MBChB, M.Med. (Anat Path), PhD, FIAC

Interim Medical Director, Department of Pathology & Laboratory Medicine, BC Cancer Agency

## The BC Cancer Agency

The BC Cancer Agency (BCCA) is an agency of the Provincial Health Services Authority (PHSA) which plans, manages and evaluates specialty and province-wide health care services across BC. The BCCA is committed to reducing the incidence of cancer, reducing the mortality from cancer, and improving the quality of life of those living with cancer. It provides a comprehensive cancer control program for the people of British Columbia by working with community partners to deliver a range of cancer-related services, including prevention, early detection, diagnosis and treatment, research, education, supportive care, rehabilitation and palliative care. It operates four regional cancer care centres that are located in the Fraser Valley, Kelowna, Vancouver and Vancouver Island, with a fifth centre opening in Abbotsford in

summer 2008. Affiliated to the BCCA is the BC Cancer Research Centre responsible for research into the causes of and cures for cancer.

In providing cancer care services, the BCCA strives to reflect the mission statement of the PHSA: Making a commitment to excellence that includes: putting patients first, giving the best value, ensuring that results matter, facilitating improvements through knowledge, and remaining open to new possibilities.

## Department of Pathology and Laboratory Medicine, BCCA

The pathology services for the BCCA are oncology orientated and are centered at the Vancouver Cancer Centre, 600 West 10th Avenue in Vancouver. However, at each Cancer Care Centre outside of Vancouver, there are one or two part-time expert oncologist pathologists who

are affiliated to the BCCA. The main laboratory in Vancouver provides a group of dedicated oncology pathologists each with special expertise in circumscribed areas of pathology.

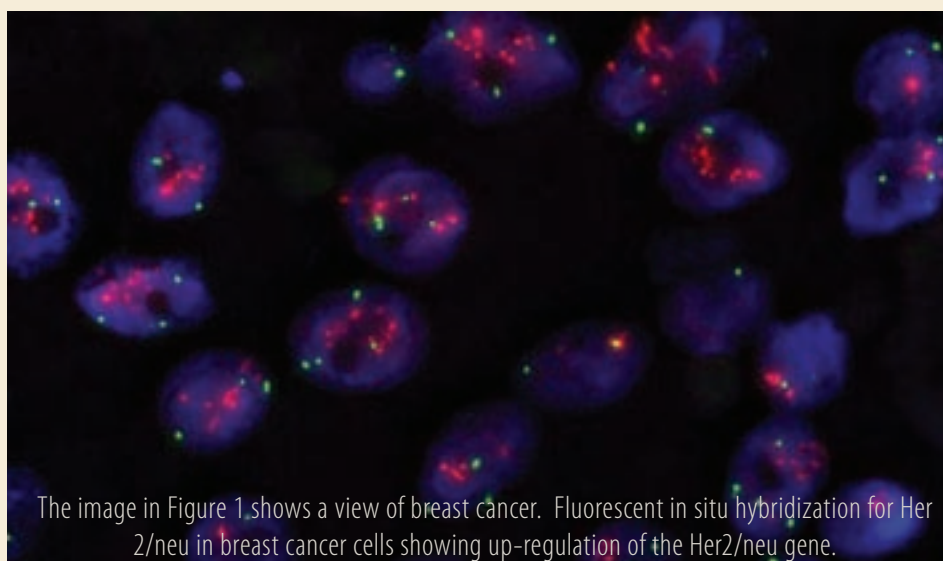
The Department of Pathology and Laboratory Medicine (DP&LM) is charged with ensuring province-wide quality cancer diagnosis. To this end, and to assist the community pathologists in accurate cancer diagnosis, the DP&LM provides an oncologic surgical pathology consultation service for pathologists across BC. In addition, at the request of BCCA oncologists, pathologists in the DP&LM review the pathology for almost all patients before they receive their cancer therapy at the agency. This is a standard strategy for all of the major cancer care centres across North America. The reviews comprise the largest area of responsibility of the DP&LM. At the BCCA between 7

## Science and Innovation in the DP&LM

The DP&LM provides very comprehensive ancillary diagnostic technology including flow-cytometry, immuno-histochemistry, and immuno-cytochemistry using a large menu of common and esoteric diagnostic antibodies. These services allow accurate classification of cancers and haematologic malignancies. The immuno-histochemistry service provides a first class evaluation of the biomarker-status in breast cancer. These biomarkers allow optimization of adjuvant chemotherapy for breast cancer. In addition, within the DP&LM is a state-of-the-art cancer cytogenetics department which characterizes the genetic changes in cancers and sarcomas. The genetic

markers for cancer allow accurate diagnosis of many very difficult-to-diagnose malignancies. These ancillary

tests can help determine the best treatment for a particular cancer, for example breast cancer.



The image in Figure 1 shows a view of breast cancer. Fluorescent in situ hybridization for Her 2/neu in breast cancer cells showing up-regulation of the Her2/neu gene.

and 15% of cancer pathology reports are changed significantly at review, frequently resulting in changes to the treatment plan. This figure is similar to the rates in other major cancer centres in North America.

#### The BCCA Cancer Screening & Fine Needle Aspiration Cytology Program

Through the Cervical Cancer Screening Program (CCSP) for BC, members of the DP&LM are responsible for running a world-famous Pap smear screening program. The CCSP was started in 1948 and was the first population-based screening program in the world. The program has significantly reduced the incidence of cervical cancer in BC by early detection of pre-invasive “lesions” that can be easily cured, thus preventing cancer. Most women who develop invasive cervical cancer



Katie Chow and Ying Ng  
at work in the CTAG Lab, BC Cancer Agency

in BC have not taken advantage of the CCSP Pap smear program. Other non-gynaecologic cytology services are also provided by the DP&LM. BCCA's exceptional cytopathology team is highly appreciated by the agency oncologists for its expertise in performing and rapidly interpreting fine needle aspiration biopsies in an ambulatory out-patient setting.

#### Academic and Teaching Activities

Members of the DP&LM hold appointments in the Department of Pathology and Laboratory Medicine

at the University of British Columbia. The BC Cancer Agency is a peripheral teaching site in the Faculty of Medicine, UBC. Pathology residents in training rotate through the BCCA DP&LM and consistently report that this experience is extremely valuable and rewarding. The department also consistently conducts post-graduate Fellowship training programs in Haematologic Oncology and Cytopathology. In addition, members of the DP&LM contribute extensively to the scholarly activities of UBC. In 2007, members of the DP&LM are engaged on 32 externally funded research projects. ■

The image in Figure 1 above shows a view of breast cancer epithelial cells stained for the Her 2/neu gene using the FISH technique (fluorescent in-situ DNA hybridization). The blue-violet bodies are breast epithelial cell nuclei. Each of the red dots in the image indicates the presence of the Her2/neu gene.

The green dots are a marker for Chromosome 17, on which the Her2/neu gene occurs. In normal breast epithelial cells, the red and green fluorescent dots occur in equal number, and only two of each should occur per cell nucleus. Each breast epithelial cell nucleus should contain only two Her2/neu gene-loci. In this image there are numerous Her2/neu loci per cell nucleus. This is known as “up-regulation” of the her2/neu gene. Up-regulation of Her2/neu occurs in a

proportion of breast cancer cases and results in the over-expression by the cancer cells of the Her 2 protein which is a promotor of cell growth. The drug Trastuzumab (known commonly as “Herceptin”) is able to block this protein and help prevent proliferation of cancer cells.

The DP&LM boasts an innovative molecular diagnostics core facility known as CTAG, which is an eponym for Centre for Translational and Applied Genomics. Cytosine, Tyrosine, Adenine and Guanine are four of the chemicals that form the basis of the genetic code. CTAG develops new molecular (gene based) pathology technologies and translates them into new, useable laboratory tests. CTAG is regarded as the jewel in the crown of

the DP&LM. CTAG also provides a bio-informatics service that is available to all staff. CTAG is a centre that provides for collaborative research between basic scientists, oncologists, the pharmaceutical and the biotechnology industries. This provincial facility is a unique multidisciplinary translational research centre that is rapidly evolving and promises a very bright future for the DP&LM.

The Research component in the DP&LM is strongly emphasized. Departmental staff members hold sizable external grant support. Members of the DP&LM provide a training program for clinician scientists in molecular oncologic pathology funded by the Canadian Institutes of Health Research. ■



## GRAND OPENING OF THE UBC DAVID F. HARDWICK PATHOLOGY LEARNING CENTRE

Jason C. Ford, MD, FRCPC, HPLC Director

Like a student finally finished with medical school and just starting residency, the UBC David F. Hardwick Pathology Learning Centre (HPLC) has matured beyond its fetal stage

On November 15, the Department of Pathology & Laboratory Medicine welcomed a number of important guests to our Hardwick Learning Centre grand opening at the Gordon and Leslie Diamond Health Care Centre. The Head of Pathology, Dr. Rick Hegele, was joined at the podium by Dr. Fred Silva, Executive Director of the United States and Canadian Academy of Pathology (USCAP), and Dr. Dorothy Shaw, UBC Faculty of Medicine Associate Dean – Faculty Affairs. Drs. Silva and Shaw both entertained the crowd with recollections of their years with Dr. Hardwick, who attended with many members of his family to mark the occasion.

All of the speakers were unanimous in honouring Dr. Hardwick for his enormous contributions to our Department, to our Faculty, to the whole UBC community, and to the practice of pathology worldwide. As Dr. Silva noted, Dr. Hardwick's energies and focus have always been as a builder: of institutions, of programs, of hospitals and departments. The Hardwick Learning Centre will, I hope, build on this legacy by helping a new generation of medical students, residents, and physicians to learn about the mechanisms and causes of human disease.

Now that it is open for use by students and others, the Hardwick Learning Centre is just beginning to live up to its name. Thanks in large part to the excellent guidance of its manager, Helen Dyck, the Hardwick Centre is a welcoming and well designed

resource for the entire UBC medical community. The Learning Centre contains most of the 1600-specimen William Boyd Museum of Pathology collection. Its virtual counterpart, at [www.hardwickpathology.med.ubc.ca](http://www.hardwickpathology.med.ubc.ca), is now bringing our impressive specimen collection to students at every site of the UBC distributed undergraduate medical program. The virtual case collection, growing daily, includes gross images as well as digital slides of many of the Boyd specimens, in addition to links to another excellent virtual slide library at the USCAP Knowledge Hub ([www.uscap.org](http://www.uscap.org)).

The next step for the Hardwick Centre is to build on its virtual collection. **For this we will need the help of the many pathologists here at UBC:**

***we need your slides!***

There are hundreds of pathological specimens within the Boyd collection which have gross photographs and clinical histories waiting to be posted to the Learning Centre website, but which lack Aperio-scanned digital microscopic slides. We need to borrow the best of the many personal slide collections within the Department to digitise for the Learning Centre. With this help, our Learning Centre will become more and more useful to the students and other trainees at UBC.

As all of the speakers at November's grand opening noted, the Hardwick Pathology Learning Centre is clearly only beginning to live up to its potential. With the continued help of the UBC pathology community, the Centre's future is very bright—perhaps even Hardwickian. ■





Grand Opening



Jason Ford



Richard Hegele



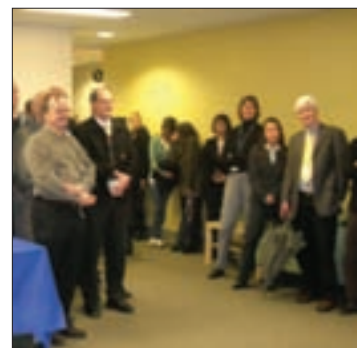
Dorothy Shaw



Fred Silva



David Hardwick





# GRADUATE PROGRAMS

David Walker, BA, MA, PhD



This year we have admitted 22 new students to the graduate program. Eight of these students were recipients of Graduate Entrance Scholarships. This fall saw five of our students graduating in November with an MSc from the department and an additional two are already defended and ready to graduate in Spring 2008. This November saw four of our Ph.D. students graduate and I can assure you that a number are in the process of finishing and will be leaving in June.

Pathology 535/635 our graduate student seminar course got underway this fall with a series of fine seminars by those students essentially finished or finishing. The high quality of their presentations of their research reflected this. There are interesting and exciting things being done by our students. In response to popular demand from students the venue for these seminars in the next term will rotate to two other locations for short periods of time to share the travel efforts. They will be held at the Child and Family Research Centre and St Paul's Hospital at the usual time 5-7PM as per the schedule. We are still looking for young blood to take over the coordination of the course from Dr. Marcel Bally for September 2008.

Pathology 500, the fall term, was enriched this term with a field trip to the David Hardwick Pathology Learning Centre. This was enjoyed by all and I believe that all came away with an image of their favorite

pathology in a favorite part of the body for which they have gone on to locate and capture images of the appropriate histopathology. With some refinements to this process I would like to see the field trip become a standard part of the fall term in a more formalized manner. The course will carry on in January in the seminar/paper analysis format organized by Dr Haydn Pritchard as was done last year however with a slightly altered cast of faculty.

## PhD graduates for November 2007

Guosong Qiu  
Erin Tranfield  
Latif Wafa  
Hubert Walinski

## MSc graduates for November 2007

Shirley Chen  
Alvin Ng  
Soroush Merchant  
Anne Nguyen  
Helen Chiu  
More to come of both in 2008 who have already successfully defended their theses. ■

## AWARDS RECEIVED BY GRADUATE STUDENTS IN 2007-08

Graduate Entrance Scholarship recipients:

Seti Boroomand	Suzanne Cheng
Suzanne Cheng	Kirstin Lindquist
Eugene Chu	Audra Vair
Alon Hendel	Pei-Shan Wang

## EXTERNAL AWARDS RECEIVED IN 2007-08

*Lisa Ang (Supervisor, Dr. David Granville)* CIHR Canada Graduate Scholarship Master's Award

*Jon Carthy (Supervisor, Dr. Bruce McManus)* Pacific Century Graduate Scholarship

*Ciara Chamberlain (Supervisor, Dr. David Granville)* CIHR Canada Graduate Scholarship. MSFHR Junior Graduate Studentship

*Rani Cruz (Supervisor, Drs. D. Granville & B. McManus)* BC Industrial Innovation Scholarship starting Dec 2007. NAVBO-CSATVB Travel Award in Mar 2007. "Have a Heart" bursary from the Canadian Cardiovascular Society Academy in Oct 2007. Keystone Conference Scholarship for February 2008

*Tyler Hickey (Supervisor, Drs. Richard Stokes & David Speert)* University Graduate Scholarship

*Agatha Jassem, (Supervisor, Dr. David Speert)* Junior Graduate Studentship from the Michael Smith Foundation for Health Research 2007-09

*Jessica Kalra (Supervisor, Dr. Marcel Bally)* Pacific Century Graduate Scholarship

*Alice Kuo (Supervisor Dr. Wan Lam)* NSERC PGSM





Leslie Chin (PhD student), Marie-France Witty (MSc), Agatha Jassem (PhD student) and Amanda Vanden Hoek (PhD student) hang out at the Rugby Beach Club Grille with fellow grad students after Path 535/635.

## A STUDENT'S POINT OF VIEW: MESSAGE FROM THE GRADUATE STUDENT REPRESENTATIVE

Agatha Jassem, Graduate Student

When I first started my graduate studies at UBC, I was not only new to the university but also to British Columbia. A little shy and anxious at first, I quickly began to feel at ease as faculty, staff and my fellow students immediately welcomed me as a new graduate student in the Department of Pathology and Laboratory Medicine. Soon afterwards, I had made some great friends and really felt as though I was part of a community within UBC, which helped make my academic and geographic transitions a lot less stressful. Since then I have really grown to appreciate all that the department offers, including the amazing support of the faculty and staff, which is truly exceptional and unmatched. Another aspect of the department that stands

out in my mind when I think about Pathology is its incredible diversity in almost every sense. The wide range of educational programs that the department offers in numerous locations throughout Vancouver reflects the broad backgrounds and interests of the departmental faculty members.

To witness first hand the immense diversity of research fields represented within the department all you have to do is attend a session of the Graduate Student Seminars (Path 535/635). Student research projects encompass a wide range of disciplines, including cell biology, physiology, immunology, microbiology and neuroscience! Personally, the breadth of knowledge that I have gained from these seminars

and other Path courses has had a huge impact not only on my academic development, but on my own research as well. Learning about scientific research areas outside of my own has broadened my perspectives in such a way that I have been able to critically approach my research from a variety of different angles. These types of unique skills that I have acquired during my training have allowed me to grow substantially as a scientific researcher and will surely play a role in my future successes.

*I conclude by saying:  
So far, so good.*

Pathology has exceeded my expectations as a department and grad school has been a truly rewarding experience thus far. ■

**Congratulations to all of them. They can be proud of their achievements and we are proud of them.**

*Cleo Lee (Supervisors, Drs. William Jia & Paul Rennie)* US Army Department of Defense Prostate Cancer Pre-Doctoral Training 2007-2010

*Arthur Liu (Supervisor, Dr. Decheng Yang)* Heart and Stroke doctoral award 2006-2009

*Ibrahim Mustafa, (Supervisor, Dr. Mark Scott)* Canadian Commonwealth Scholarship

*Ranji Singh (Supervisor, Drs. Angela Devlin & Sheila Innis)* Heart and Stroke Doctoral Research Award

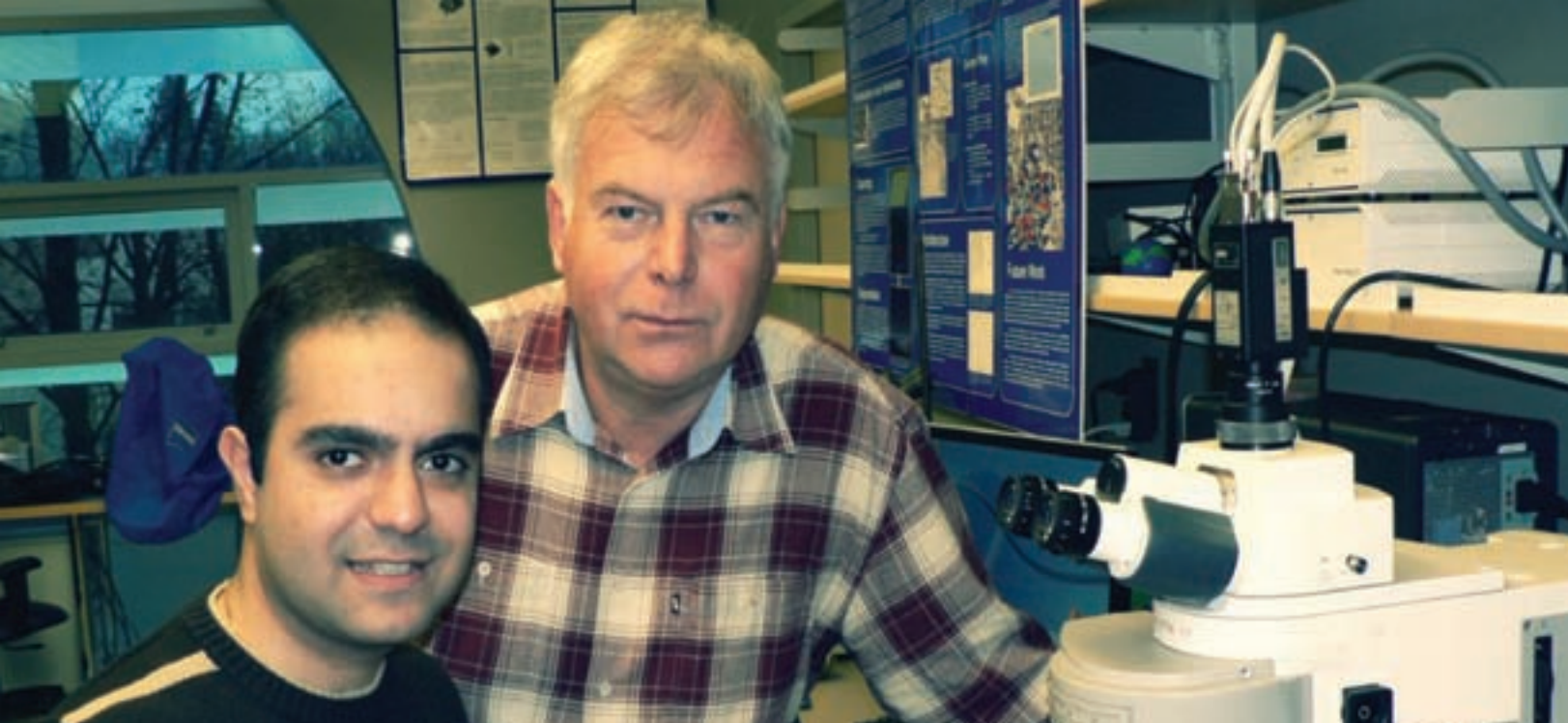
*Peyman Tavassoli (Supervisor, Dr. Paul Rennie)* Pacific Century Graduate Scholarship

*Rita Tory, (Supervisor, Drs. Kishor Wasan & John Hill)* University Graduate Fellowship (Shaughnessy)

*Ivy Tsui (Supervisor, Dr. Wan Lam)* CIHR Doctoral Research Award 2007-2010

*Ian Wilson, (Supervisor, Dr. Wan Lam)* CIHR Canada Graduate Scholarship – Doctoral 2007-2010

*Jerry Zhang, (Supervisor, Dr. Maria Issa)* CIHR Strategic Training Program in Transfusion Sciences Graduate Studentship 2007 - 2009



Dr. Mladen Korbek & Soroush Merchant

## CANCER CELLS: NOT JUST TO BE KILLED BUT DISPOSED APPROPRIATELY

Soroush Merchant, M.Sc. Graduate Student in Dr. Mladen Korbek's Lab

Photodynamic therapy (PDT) is a minimally invasive clinically approved procedure capable of inflicting sudden and overwhelming trauma to the targeted solid cancer tumours. Upon activation by light exposure, photosensitive drugs used create extensive oxidative damage. Faced with such localized insult after PDT, the body mounts an array of strong immune/inflammatory responses to engage and contain the damaged tissue. Tissue repair and reconstitution of homeostasis, which are dependent on the proper disposal of dead and damaged cells, soon follow.

A subset of the innate immune system and acute phase proteins are among the crucial participants in the removal of dead cells. Absence and/or failure of these players when faced with large loads of apoptotic cells can result in the generation of an adaptive immune response. This phenomenon could be replicated by manipulating the levels of key proteins involved in the clearance of PDT-killed tumour cells to elicit cancer specific immunity.

Realizing the groundbreaking potential of this project, I joined Dr. Mladen Korbek's team at the BC Cancer Research Centre. Contributing to the understanding of PDT's mechanism of action, Dr. Korbek has recently focused his research on utilizing this treatment in cancer immunotherapy.

The first goal of this project was to identify the genes whose protein products are the most involved in the disposal of dead cells. Our results combined with those from previous studies suggest that stress-inducible heat shock protein 70 (Hsp70), serum amyloid P component (SAP) and ficolin B genes encode proteins that are potentially the key participants in the removal of PDT-killed cancer cells. We also discovered that the systemic up-regulation of these three genes is mediated at least in part by the activation of the hypothalamic-pituitary-adrenal (HPA) axis and the release of glucocorticoids. This finding reveals the importance of sequestration of systemic resources at the level of the whole organism. Another significance

of this study was the demonstration of a novel attribute of the Hsp70 protein. Based on our data, Hsp70 may act as an acute phase protein involved in the opsonization of dead cells.

Having identified the right candidates involved in the removal of PDT-killed cancer cells, we are one step closer to answer the question whether the genomic/proteomic manipulation of these candidates would have the desired immunological effects after PDT. We have only begun to explore the possibility of promoting anti-tumour adaptive immunity by PDT assisted exposure of tumour antigens.

*Although much more needs to be done, preliminary preclinical data suggests a very promising future for this type of treatment.*

Utilizing the body's own immune system is the pinnacle of creating individually tailored cancer therapies. ■



# How to Survive Graduate School

Soroush Merchant, M.Sc. Graduate Student in Dr. Mladen Korbelik's Lab

Having completed my graduate program, I would like to offer current students some advice that served me well on my journey.

1. Engage in a field of research that you are passionate about.
2. Always remember that patients' lives depend on your research and efforts. Do your best!
3. Treasure any opportunity to learn new techniques.
4. Share and teach your expertise to those who seek it.
5. Always have a plan B in your experiments.
6. Meet and make as many good friends as possible; they are your greatest possessions.
7. Treat your supervisor as a friend and not your boss.
8. Scholarships are awarded subjectively; therefore never depend on them to stay motivated.
9. Dream big but have no expectations.
10. Plan ahead in life and explore different avenues for after graduation, for your turn will soon arrive. So please accept my **CONGRATULATIONS!**



C. Chamberlain (MSc student), W. Boivin (PhD student), R. Cruz (PhD student), L. Ang (MSc student), Dr. D. Granville (Associate Professor) and P. Hiebert (MSc student) enjoy a day in Whistler

## THE ROLE OF ANDROGEN RECEPTOR COREGULATORS IN PROSTATE CANCER

Dr. Latif Wafa (Former PhD Graduate Student in Dr. Paul Rennie's Lab, Department of Pathology and Laboratory Medicine)

Prostate cancer is the most commonly diagnosed non-skin cancer in men and the second leading cause of cancer-death in North America. While frequently curable in its early stages, many patients will present with locally advanced or metastatic disease for which there are currently no curative treatment options. Although androgen withdrawal therapies, which block the growth promoting effects of androgens, are often used to treat advanced disease, progression to the androgen-independent (AI) state is the usual outcome, giving rise to a median survival of ~19 months. In order to have any impact on mortality rates from this disease, we must develop new ways to prevent, delay, or treat the AI phenotype. The androgen receptor (AR) is a critical regulator of prostate cancer development and AI progression. Since recurrent AI prostate cancer maintains AR expression and activity, inhibition of AR function is the central focus of disease treatment. Our laboratory and

many others around the world have tried to identify the molecular mechanisms by which AR controls prostate cancer progression. The available evidence suggests that epigenetic alterations involving androgen-independent (or androgen-deprived) AR activation, through the convergence of cell signalling pathways and altered activity/expression of AR coregulators (proteins that interact with and modify AR transcription), are key to the bypassing of current therapeutic interventions.

My PhD thesis specifically focused on the identification of new AR coregulator proteins, characterization of the mechanisms by which they regulate AR transcription and comprehensive analysis of their expression profile during prostate cancer progression. A wide range of molecular biology and biochemical techniques were employed, alongside gene microarray and histological approaches in order to accomplish the aims of my project. Through our collaboration with

Dr. Ivan Sadowski (Department of Biochemistry and Molecular Biology), a novel yeast-two hybrid system was devised to identify AR-specific binding proteins. Upon in vivo confirmation of these protein interactions in prostate cancer cells, their biological effects on AR transcriptional activity were assessed. Prostate cancer tumour xenograft experiments revealed that some newly identified AR coregulators possessed the capacity to modulate AR activity in vivo. Further mechanistic studies were also performed using techniques such as mass spectrometry (collaboration with Dr. Juergen Kast, Department of Chemistry) in order to probe into the molecular processes by which identified coregulators modulated AR transcription. In partnership with Dr. Martin Gleave's lab (Department of Urologic Sciences), the relevance of these AR-protein partners to disease was examined using a clinical prostate cancer progression model. Tissue microarrays constructed from specimens



of patients subjected to androgen ablation therapy were used for histological expression profiling of AR coregulators. Overall, the research performed during my PhD furthered understanding of the role of coregulators in mediating AR activity and their importance in progression

of disease to the AI stage. Some of these novel AR coregulator proteins may serve as targets for therapy. Since numerous coregulators have been shown to modulate AR activity, it is probably necessary to simultaneously target many of these receptor-binding proteins in order to achieve

maximal suppression of AR activity. With the ability to target coregulators using new strategies and drugs that effectively shut down AR signalling, we anticipate that more effective treatment options will arise to improve the clinical outcome of patients with AI prostate cancer. ■

### A QUEST TO SAVE MANKIND

Helen Chiu, MSc. Graduate Student in Dr. Marianne Sadar's Lab

Prostate cancer is the most common cancer, affecting one in eight Canadian men. It is estimated that, in Canada alone, this disease will claim 4,300 lives in 2007. Although androgen deprivation therapy remains the most effective treatment for advanced prostate cancer since its commencement over 65 years ago by Huggins and Hodges, the cancer will inevitably progress to an androgen-independent stage associated with poor prognosis. Nevertheless, the underlying molecular mechanisms by which some prostate cancer cells may escape the apoptotic fate induced by androgen deprivation are unclear. Under the guidance of Dr. Marianne Sadar at the BC Cancer Agency, I have truly been blessed with the opportunity to explore various aspects in prostate

cancer research that include investigating the underlying biochemical mechanisms of the hormonal progression and developing potential therapeutics. My thesis research focused on deciphering the relationship between inhibitors of apoptosis proteins (IAPs) and nuclear factor (NF)-κB in prostate cancer cells in response to androgen deprivation. Integrating various biochemical approaches with two in vivo prostate cancer progression models, we found that induction in expression of neuronal apoptosis inhibitory protein in response to androgen deprivation is accompanied by an increase of NF-κB binding to the regulatory regions of the gene locus. Our findings suggest that the anti-apoptotic protein may be transcriptionally regulated by NF-κB

under androgen-deprived conditions. Thus, characterization of transcriptional regulation of IAPs may lead to novel clinical management of prostate cancer.

The graduate program offered me an experience beyond an academic pursuit. During my research training as a graduate student in Pathology and Laboratory Medicine, I was exposed to the multi-disciplinary nature of health science research. The engaging and stimulating discussions with the dedicated members of the lab as well as others in the research community were essential to my training as a scientist. The opportunities to dialogue with various scientific professionals through participation in the departmental, local and international meetings and



Prostate Group

Helen Chiu

cont'd from p. 25

*“A creative persistence combined with thorough understanding of the science is fundamental”.*

conferences widened my knowledge in many aspects of scientific research from the science and technology to research ethics. Meanwhile, the experience also enabled me to discern my own career path in the scientific community. The graduate program provided me an

invaluable experience that consisted of many important life lessons. In times of adversity or while Murphy's Law was at work in the lab, like many other graduate students, I was constantly challenged to “think outside the box” while maintaining a positive attitude.

With the hope of making a difference in humanity through scientific research, my journey through the graduate program has opened the door for me to a career discipline that never fails to provide exciting challenges. ■

## BACHELOR OF MEDICAL LABORATORY SCIENCE (BMLSc) PROGRAM

Carol Park, BSc, MSc, PhD and Joanne Wouterse

### New Faces

This September, **Greg Doheny**, joined the BMLSc Program staff as one of our Teaching Technicians. Greg holds an MSc degree in Microbiology and has worked as a technician with the departments of Pathology, Zoology, Microbiology and The Michael Smith Laboratories. He previously held the positions of Sessional Instructor and curriculum development assistant. The BMLSc Program will benefit greatly from his experience with teaching and curriculum development.

Our thanks to **Dr. Brett Casey** for teaching the Nucleic Acids section of Pathology 301 over the past four years. The BMLSc students enjoyed

his enthusiastic teaching style and have benefited immensely from his lectures. We are pleased to welcome **Dr. Sean Young**, who will take over teaching this segment of the course.

Other new members who have recently been added to the BMLSc lecture roster are **Drs. Rebecca Walters** and **Hahn Huynh** who will be teaching in the Histology course, Pathology 304; **Drs. Vicki Monsalve** and **Bernd Keller** will give lectures in the Clinical Chemistry course, Pathology 406. **Dr. Dailin Li** has assumed the role of Course Coordinator of the Toxicology course, Pathology 407 from **Dr. Bill Godolphin** who retired in 2005. Dr. Godolphin taught the course for many years, preparing the students to be independent thinkers. We thank him for his longstanding support of the

program and its students. **Drs. Walter Martz, Roy Pursell** and **Nafila Al Riyami** will also lecture in Toxicology, along with other faculty already teaching in the program.

### Annual “Getting to Know You” Potluck Dinner

This past November, **Dr. David Walker** hosted the annual “Getting to Know You” potluck dinner for BMLSc students, staff and lecturers. This is a BMLSc tradition that was begun by Dr. Philip Reid when the program started in 1980 and has been generously hosted by Dr. Walker for the past 10 years. The fourth year BMLSc students did an excellent job of organizing this event. Everyone had a chance to relax and unwind; students and faculty had the opportunity to mingle and chat outside the classroom. The food was delicious! ■



Attila Almos (RT; BMLSc, 2003; MHA, 2005)

The BMLSc Program provided me with a solid and detailed knowledge extension, building upon my previous technical training from BCIT. Ongoing education and advanced training are needed for senior positions and specialty testing in the health care environment and the BMLSc is a recognized requirement for these.

The BMLSc Program offered many hours of hands-on application of advanced laboratory techniques to help develop and enhance the academic theory throughout the program. Advanced methods ranging from specialized microscopy, to analytical chemistry to PCR analysis are examples of the many techniques utilized in the clinical and research laboratory settings. The small class size provided for an enriching and rewarding experience.



*The students were embraced into a 'family' where success and learning was the goal!*

The strong foundation from my BMLSc studies has helped me reach many of my personal and professional goals. Since graduating, I have continued my employment with the Fraser Health Authority, working in the medical laboratory department. I am currently the regional laboratory scientist for biochemistry with responsibilities including Quality Control/Quality

Assurance, Policy and Procedure development, methodology support, equipment selection and interdisciplinary liaison, to name a few.

I've had the opportunity to work in other areas of health care dealing with evaluation, measurement, and quality assessment of the laboratory services at the local, provincial and national levels.

I am currently an active member of the Chemistry Advisory Committee for the Diagnostic Accreditation program of BC (<http://www.dap.org/Default.aspx?p=112>) as well as a member of the Clinical Chemistry Working Group for a project with the Canadian Institute of Health Information (CIHI), working to re-develop the workload measurement system used in the public laboratory system. At the same time I continued my education at UBC and completed a Master's in Health Administration degree in 2005. ■

Leah Prentice (BMLSc, 2003)

Completing my BMLSc degree encouraged me to pursue further education in graduate studies which I never before believed I'd be capable of. The program is very practical and I found that I had a great advantage over other graduate students because I was familiar with many of the techniques that are used in the research laboratory. I had tried another undergraduate degree prior to entering the BMLSc Program and was frustrated by the lack of stimulating content as well as the de-personalization due to large class sizes. While I was a student in the BMLSc program, I enjoyed having a variety of professors/instructors for different subject areas and experiencing different teaching styles. Contact with



*The most valuable experience I had was learning to believe in myself and my capabilities.*

multiple teachers provided me with the opportunity to network and allowed me to find a summer studentship and my graduate studies supervisor. Following graduation, I entered the Graduate Program in Pathology and Laboratory

Medicine (at UBC) and have now completed 3 ½ years of my PhD with Drs. David Huntsman and Sam Aparicio.

As a graduate student I have been extremely fortunate. I have been awarded multiple scholarships (David Hardwick, MSFHR Junior and Senior Graduate Studentships, CIHR CGS), distinctions (two Pathology Day Poster Awards 2006, 2007), AACR and A\*STAR Travel Award 2007.

In addition, I have co-authored three publications in Cancer Research (2004), Oncogene (2005) and BMC Medicine (2007). ■



Ananta Gurung (BMLSc, 2003; MSc, 2005)



*The whole program is great - really organized and well structured.*

Although I enjoyed and did well in my early pursuit of a combined honours BSc in Chemistry and Biochemistry, and/or a degree in engineering, I'm glad that I chose to enter the BMLSc Program after the second year of my undergraduate studies.

The BMLSc Program is excellent preparation and academic background for medicine, my current career, and also provides real hands-on learning for those interested in pursuing

a career in research. I learned many valuable lab techniques such as PCR, column chromatography, Western Blotting, and many more.

The whole program is great - really organized and well structured. The small class size allows one to develop close friendships with fellow students and long-lasting professional friendships with professors and administrative staff. The best thing about the program is the quality of its instructors. Instructors I found particularly dedicated and inspirational were Dr. Park, Dr. Nimmo and Dr. Pudek.

After graduation, I received a University of Toronto entrance fellowship and pursued my MSc degree in the Department of Laboratory Medicine and Pathobiology. My research on

radiation therapy and wound healing was carried out at Toronto's Hospital for Sick Children under the supervision of Dr. Benjamin Alman. I enjoyed being part of an interdisciplinary health research team working on musculoskeletal neoplasia.

During my time as a graduate student, I received funding offers from the OGS (Ontario Graduate Scholarships) and NSERC (Natural Sciences and Engineering Research Council of Canada). To date, I have co-authored two papers, presented my work at numerous conferences, and have won a number of awards for poster presentations.

After receiving my MSc degree in 2005, I was accepted into the MD Program at UBC and returned to Vancouver where I am currently a third year medical student. ■

Challayne Kenney (BMLSc, 2006)



*Having such small class sizes really allowed for a lot of hands-on experience, as well as created some long-lasting friendships.*

The BMLSc Program gave me a skill set that is a solid foundation for graduate studies and the working world. It helped teach me how to be a critical thinker, as well as giving me a broad knowledge base of the pathophysiology of disease, research methods and theory of laboratory techniques. In addition, the

intimate class size provided invaluable one-on-one time with professors. I really appreciated being able to get to know them, as well as for them to get to know me. The support and insight I have gained from the Program's faculty members is immeasurable. I also really appreciated the creative assignments like the photography project and the tours of the BCCDC.

After graduation I continued to work for the Genetic Pathology Evaluation Centre (GPEC) as a technologist, eventually working my way up to lab manager. I volunteered with the Canadian Liver Foundation coordinating their 2007 Vancouver Living with Liver Disease workshop. I also volunteered with

the Arthritis Society assisting in the population of databases for the launch of their new website.

At the moment I am a Master's of Education student at SFU in the Health Education and Physical Activity program. This is the first program of its kind in Canada and the first year it has been offered. It's pretty exciting to be part of something so innovative. One of the classes (International Health Education) will consist of a partnership with Health Education Master's students at the University of Cologne in Germany and will include a poster presentation at an international health education conference in Cologne in May 2008. ■



# IT'S NOT TOO LATE TO REGISTER!

## ***PRACTICAL PATHOLOGY WHISTLER 2008***

***[JAN 29 - FEB 1, 2008]***

To register go to: [www.pathology.ubc.ca/cme](http://www.pathology.ubc.ca/cme)



Karen Ung, Michael Nimmo, Hamid Massoudi and Victor Meneghetti in the new resident room at VGH

## RESIDENCY TRAINING PROGRAM

Michael Nimmo, BA, BSc, MD, LMCC, FRCPC

The UBC Pathology and Laboratory Medicine Residency Training Program [the "Program"] is operating smoothly at the current time. Of note, we are pleased to report that the Royal College recently reversed its decision to remove neuropathology as a specialty program. Although each of the Programs received full accreditation from the Royal College there were concerns raised regarding various issues and these will need to be addressed. One of the major issues identified by the Examiner was a lack of familiarity by pathologists with the CanMeds competencies.

*All pathologists involved in teaching residents are reminded to review the CanMeds competencies and ensure that the residents are being assessed appropriately.*

Other issues of concern include trying to supply pathologists to under-serviced

areas. Prince George is anticipating having several vacancies in the near future. There are several initiatives that are being implemented to address this and hopefully these will provide a solution. Both Prince George and Victoria have expressed an interest in participating in the training of residents. Drs. Hegele, Nimmo, and Doyle visited with these sites and the discussions were encouraging. Development of dedicated rotations at these sites will help to relieve some of the pressure being experienced by the other teaching sites.

The Program currently has trainees in each of five specialties. The total number of residents in the Program is 36. There are 14 residents in Anatomical Pathology, 9 in General Pathology, 5 in Medical Microbiology, 5 in Hematopathology, and 3 in Medical Biochemistry. It would appear that this is approximately the limit of residents that we are able to take. One of the biggest concerns currently facing the Program is available space. The resident rooms are filled to capacity.

The space issues are compounded by medical student electives and by residents from other programs completing elective time in pathology. Dr. Doyle has been instrumental in raising our concerns with the post-graduate dean's office. The Program will be offering 5 positions in the upcoming CaRMS match and 1 International Medical Graduate [IMG] position for a total of 6. The IMG position is open to those IMG that have been through the SPH IMG Assessment program. Such candidates will be permitted to apply through CaRMS first iteration. Currently, IMGs that have not been through the SPH assessment program can only apply to the second iteration of CaRMS.

Dr. Bob Coupland has assumed the position of Hematopathology Program director taking over from Wilson Yeung. 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).

We would also like to take this opportunity to thank UBC for the monies donated to renovate the resident room at VGH. This was a major issue with the last accreditation and the relocation and renovations have made a tremendous improvement.

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 in Hematopathology.

The 2008 Resident/Graduate student research Day will take place on May 29, 2008. All third and fourth year residents, together with the Graduate students, will present the results of clinical and basic research studies carried out the previous year. This is an annual event and members of the Department are encouraged to keep their calendar clear.

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 Program could not survive. ■





Sailing Pathologists: Dr. Cheng-Han Lee, Chief Resident for Anatomic Pathology & Dr. Shane Kirby, Chief Resident General Pathology

## GENERAL PATHOLOGY PROGRAM

Shane D. Kirby, BSc, MD, PhD, LMCC, Chief Resident General Pathology

General pathology is the most diverse and challenging residency training program within the field of laboratory medicine. The scope of training requires a working knowledge of four disciplines of pathology - anatomic pathology, medical microbiology, clinical biochemistry and hematopathology - each of which is itself a separate residency training program. As research expands the science and practice of each of the disciplines, so too does the challenge of learning the requisite skills and knowledge of these fields within the limits of a five-year general pathology training program. Enrollment in general pathology programs throughout Canada has been declining, and it is likely that this breadth of knowledge has, at least in part, dissuaded some medical students from pursuing training in this field of pathology.

However, the advantages of training within general pathology are many. Our graduates are prepared for a diverse range of practice or further subspecialty training at the completion of their program. Most general pathologists will practice in a community hospital setting. Depending on the needs of individual facilities, some will be practicing as true generalists, covering all areas of pathology practice. Other practice groups will require a general pathologist to only cover specific subsets of laboratory medicine, allowing one to hone their skills in those disciplines. General pathologists may pursue subspecialty fellowship training in any of the laboratory medicine disciplines, a unique flexibility of the breadth of training. Alternatively, some general pathologists have pursued dedicated careers in research or academic teaching at tertiary care facilities.

UBC has an excellent general pathology training program. It received full accreditation from the Royal College of Physicians and Surgeons of Canada during its regular six year survey in February 2007. The program consists of a clinical rotating internship

year, followed by four years of formal training in pathology. Those four years consist of two years of anatomic pathology (including autopsy and cytology) and six months each of hematopathology, medical microbiology, clinical biochemistry and elective time. The structure of the program, under current guidelines, allows our residents to be eligible for a general practice license through the BC College of Physicians and Surgeons after two years of training. Our residents use elective time to pursue specific interests in pathology and to spend time in training at peripheral community hospitals. The majority of training is spent at Vancouver General Hospital, and recently the pathology training facilities at VGH have undergone extensive renovation and modernization. Other primary training sites include St. Paul's Hospital, BC Women's and Children's Hospitals, the BC Cancer Agency and the BC Centre for Disease Control.

Most training of general pathology residents is done by subspecialty pathologists at tertiary care facilities. However, this is not the setting in which most general pathologists will practice. To maintain rapport between general pathology residents and practicing general pathologists, we recently held a conference sponsored by the department entitled "Community Pathology Practice in BC" in August 2007. Our distinguished speakers included Drs. Dennis Grant, William Lau and Doug Webber with a practical and enlightening discussion on the scope and organization of pathology practice at community hospitals in BC. The general pathology program at UBC offers a challenging and rewarding residency training experience. General pathologists are in demand and career and training opportunities currently abound, both within BC and within Canada. ■



# ARTS IN MEDICINE

Profile of Jack Rootman, MD, LMCC, FRCSC

The art of medicine is more than a catch phrase; there are many layers of disparity between the thinking of medicine and the thinking of art, particularly in surgery, diagnostics and research. Both disciplines share a native intention that are, in Jack Rootman's opinion, complimentary.

Over the years, Jack Rootman has taken the "art" literally by studying and engaging in art production. As a medical student, when hand-drawing laboratory notes was the norm, his wife often remarked on his renderings. Then during a period of recuperative bed rest following an operation, he was reminded of his drawing facility and embarked on a serious and passionate connection with art.

What started as simple acrylic renderings of, yes, clowns, led to the carefully wrought oils, pastels and watercolors that he creates today. Developing an increasingly sophisticated skill set, Jack sought guidance and traveled to many art seminars to learn techniques and undergo critiques of his work. In addition to painting, he began to educate himself by reading about artists and art history. When possible, he enrolled in courses at the Emily Carr Institute of Art and Design in painting, print-making, drawing and creative processes. The highlight of his formal education was a 9-month leave of absence when he studied at the Art Students' League in New York with a pre-eminent group of painters.

During the last 10 years, Jack has become active in arts organizations, where he has met and befriended artists and curators in our active arts community. He has also participated in numerous shows locally and internationally.

If you were to ask Jack what art "does" for him, his answer would be like his paintings, thoughtful and passionate:

*"Making art is an engrossing and enriching avocation that has allowed me to absorb and engage in the visual world and more recently, the conceptual aspects of seeing."*

In his art practice, he has aimed for diversity in technique and subject matter. His subjects have ranged from seascapes to landscapes to figure drawing and portraiture. Currently, he is using computer-assisted images to create a different world view.

Jack anticipates a future of challenging and passionate engagement in the arts. Indeed, he looks forward eagerly to meeting this challenge, with the intention of representing some of the universals in human behaviour and interaction, emphasizing those moments that touch the spirit of humanity. ■





GRAFITTI: By Jack Rootman



# CMPT HOST'S A SUCCESSFUL ANNUAL MEETING

Michael A Noble MD FRCPC, Chair, Clinical Microbiology Proficiency Testing  
Chair, UBC Program Office for Laboratory Quality Management



The Department of Pathology and Laboratory Medicine's Clinical Microbiology Proficiency Testing program (CMPT) hosted a successful Annual Meeting, celebrating its 25th year of commitment to innovation, education, quality assessment, and continual improvement.

It has been a long travelled road from 1982 when the program was developed to provide proficiency testing samples for a small number of laboratories in the lower mainland, to today when the program is active in all provinces and territories in Canada, as well as with international linkages in the United States, Europe, and Africa. CMPT and our sister program, the UBC Program Office for Laboratory Quality Management now are recognized as part of the advancing edge in international laboratory quality movement.

Each year, CMPT invites its quality partners from across Canada to participate in summarizing the year past, and planning and developing for the year forward. A report on progress in research and development, and CMPT own quality management program were presented. CMPT is proud to be annually certified for the last 5 years to the international standard for Quality Management, ISO 9000:2000. This year's meeting was attended by

representatives from the medical and environmental laboratory communities, and from laboratory accrediting bodies from BC, Alberta, Saskatchewan, and Manitoba. Also present were representatives from industry partnerships, as well as Richard Hegele and Maureen Barfoot, and a special visit from Dr. Donald Rix, representing the Rix Family Foundation. Dr. Rix's participation was well appreciated as he brings both a vision to go forward, and also the recognition of the history of quality initiatives in British Columbia laboratories.

Proficiency testing, or as is more commonly referred to today, as External Quality Assessment provides an objective measure of quality performance, not only throughout each province, but across the country, and over time. CMPT provides a unique measure of Canadian medical microbiology laboratories. Longitudinal examination shows patterns of laboratories progress and improvement, and at the same time points to the areas

when attention and assistance are needed. Performance in larger, complex facilities remains, year over year, consistent and high, but that is not always the case for smaller laboratories and for basic testing, especially critical testing such as gram stain analysis of wounds and invasive CMPT's Annual Report provides graphic documentation of laboratory performance for the year. Copies of the annual report can be requested through [cmpt@interchange.ubc.ca](mailto:cmpt@interchange.ubc.ca).

*Next year, CMPT and the Program Office will host the Quality Conference Weekend Workshop (May 31-June 1, 2008) and the 14th annual Plenary meeting for the ISO technical committee 212, responsible for laboratory quality standards (June 2-4, 2008).*

Notice of the meeting is available at [www.polqm.ca](http://www.polqm.ca). ■

## CERTIFICATE IN INFECTION PREVENTION AND CONTROL

By: Diane Roscoe, BS, MS, MD<sup>†</sup>, Division Head, Medical Microbiology and Infection Control, Vancouver Acute and Clinical Professor, UBC

Infection Prevention and Control has become increasingly important across the spectrum of health care. It has always been a challenge to educate not only individuals who wish to do infection control as a career, but also all healthcare workers in the principles and practices of good infection control. Courses leading to this foundational knowledge have been offered through the Departments of Pathology and Laboratory Medicine and Health Care and Epidemiology with the assistance of the Office of Learning Technology since 2001. The courses consist of three on-line (WebCT) 3 credit courses using a problem-based, interactive format relevant to the practice of infection prevention and control, and a fourth course taken with a mentor as a clerkship in infection control tailored to the needs and interests of the student.

The courses have been fully subscribed since their introduction and have received very favourable reviews. Students may choose to take the

courses as stand alone courses leading to other degrees, such as BSN or MSN. The courses have attracted students from a wide range of backgrounds, including nursing, laboratory technology, dental sciences, public and occupational health, epidemiology, and undergraduate science.

The students appreciate the case-based interactive format, the online availability, and the scheduling flexibility offered to the working professional and adult learner. Course instructors include Medical Microbiologists, Infection Control Practitioners and Healthcare Epidemiologists to reflect the breadth of skills necessary in this field of practice.

*UBC has recently formally acknowledged these 4 courses as a Certificate Program in Infection Prevention and Control.*



Dr. Diane Roscoe (left) and Dr. Elizabeth Bryce

Students who meet the requirements and who complete all 4 courses are formally awarded the Certificate. November 2007 marks the inaugural awarding of the Certificate to the following students:

Tanya Denich (BC); Marian Kabatoff (AB); Anne Mediaa (Norway); Parmjeet Panesar (BC); Rolande Pickett (BC); Nancy Robertson (ON); Leah Wuitschik (AB).

### Advisory Board Members:

Elizabeth Bryce, Doug Cronk, Bonnie Henry, Linda Kingsbury, Katherine McManus, Monika Naus, Michael Noble, David Patrick, Fred Roberts, Diane Roscoe, Eva Thomas, Moira Walker. ■

## WORKPLACE SAFETY ORIENTATION REQUIREMENTS FOR FACULTY AND STAFF NEW TO OUR DEPARTMENT

By: Craig Smith, Manager, HSE Occupational and Research Safety – Clinical Assistant Professor Pathology and Laboratory Medicine

Accident rates for new and young workers are significantly higher than for mature and experienced workers. In response to this reality, WorksafeBC has recently proclaimed an amendment to the Occupational Health and Safety Regulation, effective July 26, 2007, that requires training and orientation to be provided to a new employee before beginning new work. The regulation further defines the workplace specific topics that must be addressed in the orientation program.

All employees and faculty members new to the University must receive appropriate training and orientation in the hazards of their work sites and the procedures that must be followed to safely perform their work. The University's Safety Policy #7 requires that administrative heads of units ensure that all persons working or studying within their unit are trained in and follow all

environmental and safety procedures.

Further, orientation training must be conducted at the worksite by the immediate supervisor or designate. Safety training involving hands-on demonstrations and introduction to specific workplace hazards is essential to ensure that the orientation is effective. The orientation must be documented

and signed off by the worker and the training records kept for possible review by WorksafeBC inspectors or internal auditors.

Departmental or unit specific training and orientation may need to be supplemented by other safety courses. For instance, the University requires that employees and students pass an





Craig Smith

HSE course in Laboratory Radiation Safety, Biosafety or Chemical Safety before working independently with these hazards. Check the HSE website at [www.hse.ubc.ca](http://www.hse.ubc.ca) for a listing of course offerings. HSE has developed Safety Orientation guidelines that are intended to support departments and supervisors in developing their orientation program that meets all obligations and demonstrates due diligence in safety orientation and

training activities. Step 3 of the HSE web publication 'Orientation for UBC Faculty and Staff' links to a 'new employee' template that guides supervisors through the process. It includes a Safety Training Record and a Personal Safety Checklist. For clarification on this or related issues, please contact a local safety committee member or visit [www.hse.ubc.ca](http://www.hse.ubc.ca) or contact the Department of Health Safety and Environment 822-2029. ■

## DR. MORSHED EXTENDED HIS LYME DISEASE RESEARCH NETWORK TO RUSSIA

Muhammad G. Morshed, PhD, SCCM, Program Head, Zoonotic Diseases & Emerging Pathogens Laboratory Services, BC Centre for Disease Control, Clinical Professor, Department of Pathology & Laboratory Medicine, University of British Columbia

As a Lyme Disease researcher, visited Moscow on September 2007 to kick off the IRTC funded research project

Dr. Muhammad Morshed as Program Head for Zoonotic and Emerging Pathogens Section at British Columbia Centre for Disease Control (BCCDC), Laboratory Services (formerly known as Provincial Laboratory), he leads the province's reference laboratory for vector-borne, zoonotic and emerging/re-emerging diseases. The laboratory carries out surveillance, outbreak response and laboratory investigation,

diagnostic immunoassays, cultures for special pathogens and molecular testing for detection of antigen or antibodies to bacterial, fungal, viral and parasitic zoonotic or emerging agents that are of public health concern.

Recently Dr. Morshed started collaboration with a group of Russian scientists led by Dr. Sergey Biketov, Head of Laboratory, Scientific Research

Center for Applied Microbiology and Biotechnology (SRCAMB), Obolensk, Moscow to develop a project on the tick vector for Lyme disease. This project, with a first meeting in the Moscow region of Russia, was funded (US\$ 260,000.00) by International Science & Technology Centre (IRTC). The two year study will be carried out in Moscow region of Russia.

This initiative is part of the G8 global

Dr. Muhammad G. Morshed & Dr. Tatiana Gremyakova MD, Chief Science Coordinator in Innovative Biotechnologies ISTC, Moscow, Russia





partnership against the spread of weapons and materials of mass destruction initiative launched at the 2002 G8 Summit.

Dr. Morshed was invited to Moscow to kick off the project September 8 to Sept 15, 2007 and he was invited to give lectures on Lyme disease by 1) State Research Center for Applied Microbiology and Biotechnology 2) Ministry of Health of the Russian Federation Research Center for Toxicology and Hygiene Regulation of Bio-preparedness 3) Institute of Rheumatology, Academy of Medical Sciences and 4) Faculty of Medicine,

Moscow State University. He also held meetings with different groups of researchers and discussed mutual research interests including Lyme disease. Dr. Morshed's main academic interest is on how tick and tick borne pathogens (lead example is *Borrelia burgdorferi*, causal organism for Lyme disease) are spread through migratory passerine birds. This program created an opportunity to promote further collaboration about transmission routes of Lyme disease.

Dr. Morshed has been involved Lyme disease research since 1990. In his capacity he helped to develop Canadian management and treatment guidelines for

Lyme disease. Recently, he was consulted by the Infectious Disease Society of America's Lyme Disease Working Group to review their guidelines (on Lyme disease and other tick-borne diseases).

Dr. Morshed is also a member of International Ad hoc Lyme Advisory Group. In addition to Lyme disease research, Dr. Morshed's group is also working on syphilis, *Helicobacter pylori*, West Nile virus, *Cryptococcus* and other zoonotic diseases. Dr. Morshed is also passionate about teaching. Currently he is chairing the Host Defense and Infection Block (HDI) for the Undergraduate Medical Education Program. ■

## ANNUAL MEETING OF THE AMERICAN SOCIETY OF DERMATOPATHOLOGY

Dr. Nigel Ball, dermatopathologist at the Vancouver Hospital, presented at the annual meeting of the American Society of Dermatopathology held recently in Baltimore, Maryland on October 18 to 21, 2007.

He spoke on "Canine Dermatoses" and "Challenging Diagnoses on Sun Damaged Skin", moderated 2 oral abstract sessions and chaired the short courses on "The Dermatopathology of Veterinary Dermatoses", and "Melanocytic Hyperplasia on Sun Damaged Skin – A Diagnostic Challenge." With his typical flair and incisive style, Nigel riveted the audience with graphic images and precise diagnostic points, never missing a beat. Kudos for contributing to a most instructive and stimulating educational program! ■

Dr. Nigel Ball





## GOODTIMES ALL AROUND!

Ciara Chamberlain, MSc student at iCAPTURE

As a graduate student, vacation time is a precious commodity. You plan your experiments months in advance to make sure that you will be able to enjoy every day you booked off. You want to go somewhere where you'll see some sunshine, have tons of fun, eat amazing food, and not worry about checking your email. This summer I achieved all that, and more, by going to camp.

The Canadian Cancer Society's Camp Goodtimes is a residential oncology camp for children with a history of cancer. It is hosted at Loon Lake resort in the UBC interpretative forest, located in Maple Ridge, BC. I volunteered as a skip, or camp counselor, and hung out 24 hours a day for a week with an incredible group of campers.

This year was a Country Western theme- and it was a hoedown! All the kids, volunteers and staff sported official CG cowboy hats, and many wore jeans, plaid shirts and boots. It really felt like the wild west! Notable events included the gold rush dance, the wild wild wigs dinner, and the cowpoke casino. During the last night of camp, each camper made

a personalized hobby horse or a casino wheel to take home and to treasure for a long time. The weather was too perfect, and the hardest part of the week was making sure the kids had enough sunscreen on them and water in them!

Volunteers came from all walks of life- health care workers, police officers, actors, fitness instructors, teachers and university students. Everyone worked together to make sure the campers were safe and having fun- but also participated in all the activities- including having to sit in the dunk tank, jumping in the lake at 7am, and dressing up for dinner in whatever the campers chose for you from the skit tent. This was the most selfless week of my life, and I literally slept for 14 hours when I returned home!

As a graduate student, it was quite something getting to know some incredible kids who have directly benefited from advances in health research. Sometimes as a scientist you can get lost in the micro-details of a project and lose sight of the ultimate goal- of what originally got you excited to work on a particular project. Every

research talk you attend always starts with the statistics of the disease, but never the faces or stories of those who are affected by it. Taking a step back from the bench and being immersed in the opposite side of health research reinforced the important role we play in the medical community, and re-energized my personal drive to produce the best research possible.

*So students, if you are ever feeling unmotivated or losing interest in your research, my advice to you is to get out and volunteer.*

You can meet people who have had their lives changed because of advances in medicine, and those who need new therapies to be discovered. It doesn't even have to be related to your field (I am in a cardiovascular research laboratory). Volunteering will not only make you feel good about who you are and what you do, but more importantly, it makes a huge difference in the lives of the people you interact with. I'm counting down the days until I get to go back to camp...■









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