



# UBC MD PhD

## UBC MD/PhD Program

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### Newsletter – Winter 2008

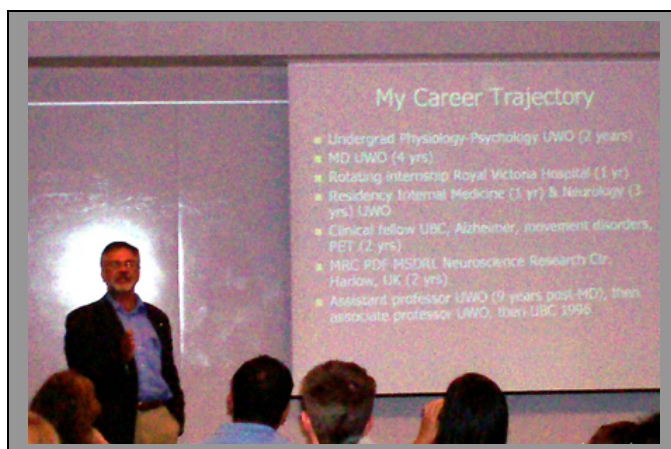
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## UBC MD/PhD Student Research Forum & Open House - 10 September 2007



Drs. Nielsen and Raymond (above),  
Dr. Jon Stoessl (right)

The eighth annual UBC MD/PhD Student Research Forum and Open House was held on Monday, 10 September 2007, at 1:00 pm, at the UBC Brain Research Centre. Opening remarks by **Dr. Lynn Raymond**, Director of the MD/PhD Program, set off the exciting half-day event.



Our guest speaker, **Dr. Jon Stoessl**, UBC Professor in Medicine (Neurology), Canada Research Chair in CNS Disorders, and Director of Pacific Parkinson's Research Centre, presented a talk entitled, "The Clinic as a Laboratory: A Clinician-Researcher's Perspective". **Dr. Cheng Han Lee**, an alumnus, talked about his early years after his post MD/PhD. Our Associate Program Director, **Dr. Torsten Nielsen**, gave a talk entitled, "Career Options in the Laboratory Medicine Specialties". **Arezoo Astanehe** and **Kate Potter**, both Year 3 MD/PhD students, jointly presented a talk entitled, "A Student's Perspective". Our sincere thanks go to all of them.

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Special thanks go to **Michael Kozoriz**, Year 2 MD/PhD student, for designing the new MD/PhD Program logo (displayed on top of this page). The logo is brilliant, thanks for the great work, Mike.

## Student Research Forum & Open House (con't)



Dr. Cheng-han Lee (left), Arezoo and Kate (right)  
Q&A Session with presenters and current MD/PhD students (below)



This annual event also includes an informal research forum with poster presentations by the currently enrolled MD/PhD students. It is intended to showcase the research by our students, and to recruit new students and interested faculty into our Program. It is a very informal arrangement, mainly giving an opportunity for students and prospective applicants to ask questions about the clinician-scientist career path. Potential applicants had some excellent questions and good discussion with the speakers and the current MD/PhD students.

Thanks go to **Fiona Young** and **Arezoo Astanehe**, both Year 3 MD/PhD students for organizing the Open House and taking some great photos for us.

A reception was held after the Open House for the students, alumni and their supervisors, to share information, advice and challenges regarding the unique experience of PhD research training and supervision within the combined MD/PhD Program. The event was a great success! Thanks to all who participated.



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## New Office Location



The MD/PhD Program office moved in November 2007.

Our new location is 2N6 - 2818 Detwiller Pavilion, 2255 Wesbrook Mall, Vancouver BC V6T 2A1.

Our new phone number is 604-822-7198, our new fax number is 604-822-7917.

Our email address and website address remain the same.

Email: [ubcmdphd@interchange.ubc.ca](mailto:ubcmdphd@interchange.ubc.ca)

Website: <http://www.med.ubc.ca/mdphd>

## MD/PhD "Building Bridges Seminar Series"

This well established seminar series is aimed at illustrating the relationship that exists between clinical practice and medical research. The meetings offer a casual and relaxed atmosphere in which to profile individuals who have successfully combined both clinical and research aspects into their medical careers.

In addition to talking about their active research, the invited speakers also talk about their experiences, discuss their training background, share their advice for prospective clinician-scientists, and talk about their opinions on career development options for clinician-scientists.

All faculty, clinical investigator trainees and students in the Faculty of Medicine are invited. Presentations are video-conferenced and broadcast to the Island Medical Program and the Northern Medical Program.

The event is being held at the Medical Student Alumni Centre, 12th Avenue & Heather Street, at 6:00 - 7:00 pm.

Date of presentation: 21 January 2008 <b>Dr. Alan So</b> , Assistant Professor, UBC Department of Urologic Sciences, and Research Scientists, Prostate Centre at Vancouver Coastal Health Research Institute
Date of presentation: 19 November 2007 <b>Dr. Youwen Zhou</b> , Associate Professor, UBC Department of Dermatology and Skin Science, and Director, Chieng Genomics Centre and Laboratory of Predictive Medicine and Therapeutics, Vancouver Coastal Health Research Institute
Date of presentation: 22 October 2007 <b>Dr. Del Dorscheid</b> , Associate Professor, UBC Department of Medicine, The James Hogg iCAPTURE Centre for Cardiovascular and Pulmonary Research
Date of presentation: 17 September 2007 <b>Dr. Andrew Weng</b> , Assistant Professor, UBC Department of Pathology & Laboratory Medicine, and Senior Scientist, Terry Fox Laboratory, BC Cancer Research Centre

*Thanks go to our invited speakers.*



Seminar participants (above),  
Dr. Youwen Zhou (centre) speaking at our  
seminar, and Dr. Torsten Nielsen (right)  
hosting our seminars.



**ALL ARE WELCOME**

Details of past and future seminars are available at  
[http://www.med.ubc.ca/education/md\\_ugrad/mdphd/seminars.htm](http://www.med.ubc.ca/education/md_ugrad/mdphd/seminars.htm).



## 4th Annual MUS Medical Student Research Forum

The fourth annual MUS Medical Student Research Forum, co-hosted by the UBC MD/PhD students and the Medical Undergraduate Society, was held on Thursday, 15 November 2007. The purpose of this annual event is to celebrate UBC medical student research, and to give an opportunity for medical students to present their research projects.

**Dr. Christopher Honey**, Associate Professor, Neurosurgery, gave a very interesting presentation entitled, "An Academic Practice in the Neurosciences".

**Dr. Torsten Nielsen**, MD/PhD Associate Director, presented an interesting talk on "Tissue Microarrays for Cancer Research". **Bryan Coburn**, Year 7 MD/PhD student, presented "Ten pieces of advice for the clinician/scientist trainee (that I wish I had heeded)".



The annual event has a huge turn-out with faculty and students in the Medicine Undergraduate Program.

Number of abstracts: 50 were submitted and 48 presented (among those three groups had multiple students presenting one poster). Two of our MD/PhD students, **Michael Kozoriz** and **Kate Potter**, presented their posters.

Judges for the poster session were:

**Dr. Alison Buchan**, Senior Associate Dean, Research, Faculty of Medicine

**Dr. Claudia Krebs**, Instructor, Department of Cellular & Physiological Sciences

**Dr. Torsten Nielsen**, Associate Director, MD/PhD Program

**Dr. Susan Porter**, Assistant Dean, Graduate & Postdoctoral Education, Faculty of Medicine

**Dr. Lynn Raymond**, Director, MD/PhD Program

**Dr. Sharon Salloum**, Associate Dean, Student Affairs - Undergraduate Education, Faculty of Medicine

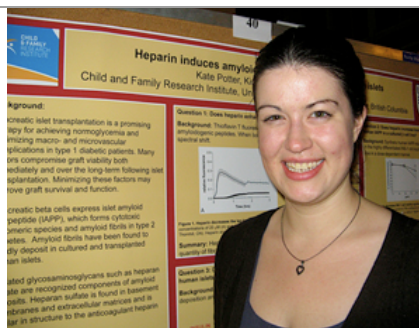
Thanks for your great work!

*Thank you !!*

Thanks also go to Dr. Alison Buchan, who did a great job in wrapping up the event (right).



Dr. Lynn Raymond, Director, MD/PhD Program (centre) at the poster session.



Kate Potter, Year 3 MD/PhD student, and her poster.



Inna Sekirov, Year 5 MD/PhD student, helped out at the wine and cheese session.

Many thanks go to **Fiona Young** (Year 3 MD/PhD Student) and **Heather O'Donnell** (MUS VP Academic) for organizing this event. Thanks also go to our MD/PhD volunteers: **Michael Kozoriz**, **Inna Sekirov** and **Kate Potter**. The event was a great success, with a huge turnout! The feedback was very positive.



Heather and Fiona

#### MUS 2007 - Names of winners

*Congratulations!!*

MD-08 Winner: May Tee  
 MD-08 Honourable Mention: Kirsten Taunton  
 MD-09 Winner: Arash Eftekhari, Daniel Ho, Katie Belezany  
 MD-09 Honourable Mention: Chris Waite  
 MD-10 Winner: Vince Lau  
 Open Winner: Ada Lam  
 Open Honourable Mention: Greg Walker  
 Other Honourable Mention: Nathan Hoag, Ross Davidson

#### Bryan Coburn - 10 pieces of advice (to take or ignore) for clinician-scientist trainees:

- 1) Work on something about which you are passionate and which is important and consequential.
- 2) Know what question you are asking and the significance of your results both within and outside your field.
- 3) Don't put off balancing your life, it doesn't get easier as your training advances.
- 4) Read broadly.
- 5) Travel/go to meetings.
- 6) Publish and present as early and often as possible and aim at a broad readership.
- 7) Collaborate. Work with people you admire.
- 8) Periodically self-evaluate.
- 9) Actively seek and exploit training opportunities with a supportive supervisor with a good track record on bringing projects to completion.
- 10) Maintain an open mind and don't be afraid of legitimate criticism.



Bryan Coburn

## Awards

*Congratulations!!*

Four MD/PhD Year I students have been awarded a Graduate Entrance Scholarship (GES) for the first year of their MD/PhD studies – **Jeremy Daniels**, **William Guest**, **Matthew Mayer** and **David McVea**.

**William Guest** and **David McVea** have been awarded the William, Sadie & Edwin Rowan Scholarship in Medicine. **Bryan Coburn** has been awarded the George W. Leroux Memorial Scholarship.

**Inna Sekirov** has been awarded a poster presentation award at the CSCI/CIHR Young Investigators Forum in Winnipeg.

## Fiona Young - MD/PhD Student Representative



**Fiona Young**, Year 3 MD/PhD student, is the student representative and Arezoo Astanehe, Year 3 MD/PhD student, who will succeed Fiona as the next student representative is the alternate student representative for 2007-2008. One of the responsibilities of the student representative is to organize the MD/PhD monthly student meetings. Another major duty of the student representative is to sit on the MD/PhD Advisory and Admissions Committee.

### Message from Fiona:

My roots lie in Montreal, Quebec, where I grew up and completed a BSc. in Biology at McGill, before venturing on to discover the wonderful things that BC has to offer. The Biology program at McGill harboured students and staff from unusually diverse fields, from Human Genetics to Conservation Biology to Ecology. Studying biology from this more general perspective, rather than focusing directly on human biology and medicine, was the best choice I could have made; it vastly enriched my experience and general knowledge as I apply it to questions in medical research.

During my undergrad I explored different areas of research. My earliest experience was as a research assistant in a cancer research lab. I then spent a summer studying a new splice variant of Synaptotagmin I in a neuroscience lab, thanks to an NSERC USRA. Finally, I completed an Honours Project studying the copper chaperones SCO1 and SCO2 in the assembly of mitochondrial Complex IV.

I was thrilled to be accepted to UBC's MD/PhD program in 2005. I am currently pursuing my PhD in the lab of Dr. Michael Hayden at the Centre for Molecular Medicine and Therapeutics at UBC. Dr. Hayden's research interests are wide-ranging, but his research focus is mainly split between Atherosclerosis and Huntington Disease (HD), where he has made key contributions in advancing both of these fields. My own research focus is on HD.

HD is a devastating inherited neurodegenerative disease characterized by loss of motor control, cognitive decline and psychiatric disturbances resulting in eventual death 15-20 years after symptoms first appear. A cure for HD in humans has yet to be found and the disease is currently fatal. In Canada, 1 in 10,000 have HD, and have a 50% risk of passing on the disease to their children. HD is caused by an expansion of a trinucleotide CAG repeat tract, resulting in an expanded stretch of polyglutamines in the protein huntingtin (htt). I am studying palmitoylation of htt, one of many post-translational modifications that this protein undergoes. Palmitoylation is the addition of the 16-carbon fatty acid palmitate to cysteine residues in a protein, and it regulates the function & localization of htt in the cell. HIP14 (Huntingtin Interacting Protein 14) is the enzyme responsible for palmitoylation of htt. In the presence of the HD mutation, HIP14 binding to htt is found to be reduced, and palmitoylation appears to be compromised. In this case, the absence of palmitoylation appears to worsen the features of HD *in vitro*. In contrast, restoration of htt palmitoylation results in an improvement of these endpoints, suggesting that decreased palmitoylation of htt may play a role in the cellular events underlying the pathogenesis of HD. Dr. Hayden's lab has developed a well-characterized YAC mouse model of HD, which recapitulates many features of the human disease. We are exploring the role of HIP14 in regulation of huntingtin palmitoylation, as well as ways to enhance HIP14 function using this and other mouse models, in addition to *in vitro* studies. This work will highlight new approaches to therapy for HD, the goal of which would be to increase the palmitoylation status of htt. Furthermore, these studies may shed light on the role of palmitoylation in other disease states. This is an exciting and understudied area of research that we anticipate will make great strides in coming years.

Outside of my PhD research, I've become involved in ongoing studies stemming from a self-directed 2nd year Doctor, Patient, and Society (DPAS) project. Together with three other students, we investigated the importance of



non-English language skills in clinical practice. We had observed that many students were entering medical school with pre-existing non-English language skills, but that they felt unprepared to serve patients in their second language owing to unfamiliarity with specific clinical vocabulary. Canada is a country of many cultures, and many patients are unable to effectively express themselves in English when ill. Indeed, previous studies indicate an improved outcome when a patient receives health services in their mother tongue. We therefore sought to enhance the pre-existing language skills of medical students so that they would be more comfortable in addressing a patient directly in their mother tongue. We distributed surveys to our peers to assess language abilities. Focusing on French as the second-language, we then developed learning resources and held an evening workshop for students to practice history-taking in French. The workshop received wonderful reviews and we are thrilled to see that our work is now being continued for several other non-English languages.

Another project that I'm involved in relates more directly to support of Canadian MD/PhD trainees. The Clinician Investigator Trainee Association of Canada (CITAC-ACCFC) was founded in 2006 by a group of MD/PhD trainees at several Canadian universities. CITAC represent the interests of all clinician-investigator trainees from across Canada, and we expect to see this initiative grow steadily in the coming years. Dr. Charles Scriver and the CIHR Institute of Genetics have generously supported this exciting initiative, and allowed us to make an ambitious idea a reality.

Finally, I've had opportunities to appreciate Vancouver and BC since moving out to the West Coast. When I'm not in the lab or in class, I get involved in various hobbies to a greater or lesser extent, including but not limited to photography, violin, hiking, running, cycling, travel, and generally thinking up crazy ideas.

I receive generous studentship support from the Canadian Institutes of Health Research (CIHR, in the form of the Walter and Jessie Boyd and Charles Scriver MD/PhD studentship) as well as the Michael Smith Foundation for Health Research (MSFHR).

## Incoming Student – January 2008



**David McVea** entered the MD/PhD Program (Year I) in January 2008. Prior to arriving at UBC, David completed a Master's Degree in Neuroscience at the University of Alberta under the supervision of Dr. Keir Pearson. The focus of David's research was the neural control of walking in the cat, particularly the modification of the basic pattern of walking to accommodate variable external environments. David plans to continue to study the role of the nervous system in health and disease at UBC.

Welcome!

## Admissions 2008

From January to March 2008, members of the MD/PhD Program Admissions Committee will be interviewing and adjudicating an impressive cadre of short-listed candidates. All through the years, exceptional individuals from across the country are recruited to the UBC MD/PhD Program.

Thanks go to Drs. Stephen Chung, John Church and Isabella Tai for their contribution to the MD/PhD Committee in the past three years. We welcome four new members to the MD/PhD Committee: Drs. Delbert Dorscheid, Vince Duronio, Sally Osborne and Rusung Tan. Thank you for the support of the MD/PhD Program.

## Orientation Session

**Dr. Lynn Raymond** and three MD/PhD students (**Will Guest**, **Matt Mayer** and **Kate Potter**) presented "About the MD/PhD Program" on 29 August 2007 during the class of 2011 orientation week. Eligible Med I students are encouraged to apply to our Program. The deadline of application is 1 November.

## Publications 2007 – Partial List

- Asper DJ, **Sekirov I**, Finlay BB, Rogan D, Potter AA. Cross reactivity of enterohemorrhagic Escherichia coli O157:H7-specific sera with non-O157 serotypes. Vaccine. 25(49):8262-9. 2007. [PMID [17980466](#)]
- Beyea MM, **Heslop CL**, Sawyez CG, Edwards JY, Markle JG, Hegele RA, Huff MW. Selective up-regulation of LXR-regulated genes ABCA1, ABCG1 and APOE in macrophages through increased endogenous synthesis of 24(S), 25-epoxycholesterol. J Biol Chem. 282(8):5207-16. 2007. [PMID [17186944](#)]
- **Brunham LR**, Kruit JK, Pape TD, Timmins JM, Reuwer AQ, Vasanji Z, Marsh BJ, Rodrigues B, Johnson JD, Parks JS, Verchere CB, Hayden MR. Beta-cell ABCA1 influences insulin secretion, glucose homeostasis and response to thiazolidinedione treatment. Nat Med. 13(3):340-7. 2007. [PMID [17322896](#)]
- **Coburn B**, Grassl GA, Finlay BB. Salmonella, the host and disease: a brief review. Immunol Cell Biol. 85(2):112-8. 2006. [PMID [17146467](#)]
- **Coburn B**, **Sekirov I**, Finlay BB. Type III Secretion Systems and Disease. Clin Microbiol Rev. 20(4):535-49. 2007. [PMID [17934073](#)]
- Lupp C, Robertson ML, Wickham ME, **Sekirov I**, Champion OL, Gaynor EC, Finlay BB. Host-mediated inflammation disrupts the intestinal microbiota and promotes the overgrowth of Enterobacteriaceae. Cell Host Microbe 2(3):204. 2007. [PMID [18030708](#)]
- Sly LM, Ho V, Antignano F, Ruschmann J, Hamilton M, Lam V, **Rauh MJ**, Krystal G. The role of SHIP in macrophages. Front Biosci. 12:2836-48. 2007. Review. [PMID [17485263](#)]
- Stratford AL, Habibi G, **Astaneche A**, Jiang H, Hu K, Park E, Shadeo A, Buys TP, Lam W, Pugh T, Marra M, Nielsen TO, Klinge U, Mertens PR, Aparicio S, Dunn SE. Epidermal growth factor receptor (EGFR) is transcriptionally induced by the Y-box binding protein-1 (YB-1) and can be inhibited with Iressa in basal-like breast cancer providing a potential target for therapy. Breast Cancer Res. 9(5):R61. 2007. [PMID [17875215](#)]
- Wickham ME, Lupp C, Vazquez A, Mascarenhas M, **Coburn B**, Coombes BK, Karmali MA, Puente JL, Deng W, Brett Finlay B. Citrobacter rodentium virulence in mice associates with bacterial load and the type III effector NleE. Microbes Infect. 9(3):400-7. 2007. [PMID [17317262](#)]
- **Young FB**. A life without pain? Hedonists take note. Clin Genet. 2007 Dec 6; [Epub ahead of print] [PMID: 18070140]
- **Young FB**. When adaptive processes go awry: gain-of-function in SCN9A. Clin Genet. 2007 Dec 6; [Epub ahead of print] [PMID: 18070139]

Congratulations go to **Liam Brunham**!!  
Scored a first-authored Nature Medicine paper.  
This is awesome!

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### Comments and Suggestions!

We welcome comments and suggestions to the UBC MD/PhD Program and to our newsletters. Please send comments to the MD/PhD Program office,  
2N6 - 2818 Detwiller Pavilion, 2255 Wesbrook Mall, UBC, Vancouver, BC, Canada V6T 2A1.  
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Edited by Jane Lee, Program Coordinator, MD/PhD Program, UBC