



UBC MD PhD

UBC MD/PhD Program

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Newsletter – Summer 2012

<http://mdprogram.med.ubc.ca/mdphd/news/>

Southern Medical Program



Left to Right: Dr. Brad Monteleone, Dr. Paul van Donkelaar, Sandy Wright, Dr. Torsten Nielsen, Dr. Lynn Raymond, Dr. Allan Jones, Dr. Chris Fibiger

Alexander (Sandy) Wright, Med I student in the Southern Medical Program (SMP), was offered admission to the UBC MD/PhD Program beginning May 2012. Sandy's research supervisor is **Dr. Paul van Donkelaar**, School of Health and Exercise Sciences at UBC Okanagan. His research project is in the field of sports medicine. Sandy, welcome aboard! (see page 5)

Our Program Director, **Dr. Lynn Raymond**, and Associate Program Director, **Dr. Torsten Nielsen**, visited the SMP on 24 May 2012. A meeting was held with **Dr. Allan Jones**, Regional Associate Dean (Interior), **Dr. Chris Fibiger**, Assistant Dean (Research) and **Dr. Connie Hull**, Assistant Dean (Student Affairs) to discuss how the MD/PhD Program works and what students need to accomplish in the program, especially at a site that is just beginning to develop its research community, as well as graduate courses and programs available at UBC Okanagan. Our Directors also met with **Dr. Paul van Donkelaar** and **Dr. Brad Monteleone** to discuss Sandy's MD/PhD curriculum. They visited different laboratory spaces where research will be carried out with Sandy's involvement.

An information session to recruit students to the MD/PhD Program and the SMP was also held during this visit.

Island Medical Program

Our Program Director, **Dr. Lynn Raymond**, visited the University of Victoria on 8 June 2012. She spent the day visiting laboratories and discussing science with several faculty members in the Island Medical Program as well as the Department of Biology. She gave a research talk that was well attended by graduate students, postdoctoral fellows and faculty. She also met with **Dr. Oscar Casiro**, Regional Associate Dean of the Island Medical Program together with **Dr. Brian Christie** (Brennan's PhD supervisor, see page 8). They discussed the success of Brennan's combined MD/PhD Program, carried out jointly at the Island Medical Program site and the Vancouver-Fraser site.

We welcome applicants from the Island Medical Program to consider the combined MD/PhD Program. All of the Island Medical Program faculty have appointments in the UBC Faculty of Medicine, so the degree would still be a UBC MD/PhD degree. The critical mass for medical research is building rapidly in the Island Medical Program, with a particular focus on Neuroscience. Beautiful new laboratories and core facilities are filling up with both experienced investigators and CIHR-funded young faculty recruits, creating an excellent environment for translational medical research.



Dr. Brian Christie, Dr. Lynn Raymond, and Dr. Oscar Casiro

Gareth Mercer and Julia Pon - Vanier Canada Graduate Scholarship Recipients (2012 competition)

We are delighted to announce that **Gareth Mercer** (Year 3) and **Julia Pon** (Year 2) are recipients of the Canadian Institutes of Health Research (CIHR) Vanier Canada Graduate Scholarship – one of the most prestigious scholarships available for doctoral studies at a Canadian university.

The mandate of the Vanier Canada Graduate Scholarship program is to attract and retain world-class doctoral students, as well as to brand Canada as a global centre of excellence in research and higher learning. The program helps attract top doctoral students to Canadian universities by offering a significant financial award to assist successful candidates during their studies. We are very proud that Gareth and Julia had excellent results in this competition! Great showing for the program and well-deserved.

*** * * Congratulations! * * ***



Gareth Mercer

Gareth Mercer's academic record is excellent and makes him a well-deserved recipient for the Vanier award. He had an outstanding average of 95% in his Honours Biotechnology BSc, a joint a program between UBC and BCIT. Gareth was on the Dean's honour list and held two major scholarships during his bachelor's degree program. As a medical student, he won a Hamber Scholarship for having the highest standing in the 2009 medical school class at UBC. In addition to his first two years of medical curriculum, he completed a program at the Johns Hopkins School of Public Health Summer Institute of Epidemiology and Biostatistics. It is a major achievement for Gareth to have completed this program on top of his medical curriculum in the first two years of the UBC MD/PhD Program.

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As for his PhD research, Gareth has a passion for global health. His research supervisor is **Dr. Julie Bettinger**, at the UBC School of Population & Public Health. His thesis project investigates factors that determine susceptibility to infection in HIV- infants born to HIV+ mothers. The project includes studying the development of the immune system and the role of breastfeeding in that development and susceptibility to infection. The data is collected in South Africa, where some of the highest rates of HIV infection are observed, including one in four infants that are HIV exposed. The results could have a large impact on this population, but also on health of children worldwide.

Gareth's track record for leadership and community activism is stellar. He has shown commitment to outreach with the local and international communities, including the development of on-line education courses for the Consortium of Universities for Global Health, and a leadership role as the UBC Canadian Federation of Medical Students Global Health liaison. Gareth has played a critical part in the design and management of the Peer Education project for the UN Millennium Development Goals. Gareth also volunteers in local communities for AGAPE and Food on the Corner, as well as having experience as a volunteer internationally in a South African HIV clinic. In that clinic, he led an initiative to teach patients to monitor their own ARV adherence and to take responsibility for their own health.

In addition to making contributions to medical research and forging collaborations with South Africa, Gareth also served as a tutor for the UBC Med I program. He is highly regarded as an excellent role model for junior medical students.

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Julia Pon has outstanding accomplishments in all aspects of the Vanier award criteria. In her undergraduate degree at the University of Alberta, Julia achieved almost exclusively A+ grades in a tough undergraduate program – BSc Honours in Molecular Genetics. She received approximately 20 different scholarships, research stipends, and awards for academic excellence, including the Governor General's Silver Medal. Julia is also a recipient of the Scriver Family MD/PhD Studentship Award.



Julie Pon

At UBC, Julia's research supervisor is **Dr. Marco Marra** at the Genome Science & Technology Graduate Program. Julia's graduate thesis work investigates the role of mutations in the DNA packaging protein, MEF2B, in the pathogenesis of non-Hodgkin lymphoma (NHL). MEF2B is involved in histone modification, and she plans to study the effects of mutations in this protein on the process of DNA packaging, cell growth, apoptosis, and the frequency of lymphoma in mice. Julie will generate and characterize a variety of genetic knock-out/knock-in (mutated) MEF2B mice, and mouse models of lymphoma. Julia's research is in the area of Human Health and Genomics, which is listed in the UBC Strategic Research Plan Summary as one of eleven research clusters central to the UBC strategic plan.

Julia excels in leadership. She has volunteered in both academic as well as rural and community outreach programs. Some of the highlights include her role as Co-editor in chief of the UBC Medical Journal. She also surveyed UBC medical students for their opinions on improving the problem-based learning approach used to teach first and second years and presented the results of the survey to faculty in the context of the Curriculum Renewal discussions. Julia has also engaged in outreach activities to the community, she has invested substantial time and shown outstanding leadership in the award-winning Beauty Night Society for marginalized women and youth living in poverty. Her work with the Beauty Night Society is an excellent example of UBC trainees giving back to the community. Julia also has shown creativity as an artist and is an active member of the Society of Western Canadian Artists.

Philip Edgcumbe and Daniel Woodworth - CGSM Recipients (2012 competition)

Our congratulations go to **Philip Edgcumbe** (Year 1) and **Daniel Woodworth** (Year 2) for winning the Canadian Institutes of Health Research (CIHR) Frederick Banting and Charles Best Canada Graduate Scholarship – Master’s Award (CGSM), beginning September 2012.

Philip’s PhD research co-supervisors are **Dr. Robert Rohling** and **Dr. Christopher Ngan**, UBC Biomedical Engineering Graduate Program. Philip’s research project will involve design of new technology for surgical intervention or diagnostics. He is also the recipient of the UBC 4YF award and the UBC Engineers in Scrubs Supplemental Award.

Daniel’s PhD research supervisor is **Dr. Robert Holt**, UBC Genome Science & Technology Graduate Program. The title of his project is “Development of phage activated bacterial cancer therapeutics for colorectal cancer”.

Congratulations!



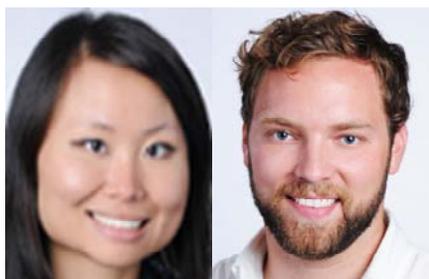
Philip Edgcumbe Daniel Woodworth

Cynthia Min and Sandy Wright - UBC Four Year Doctoral Fellowship (4YF) Recipients

Two Year 1 MD/PhD students have been awarded the UBC Four Year Doctoral Fellowship (4YF) beginning May 2012 – **Cynthia Min** and **Sandy Wright**. Congratulations!

Cynthia’s research co-supervisors are **Dr. Kevin Eva** and **Dr. Dan Pratt**, and she is hosted by the Cross-Faculty Inquiry in Education Program (CCFI). Cynthia is also awarded a Special UBC Graduate Scholarship by the CCFI for 2012S. She is our student representative on the Graduate Student Society at UBC.

Sandy is a student in the Southern Medical Program (see page 5).



Cynthia Min Sandy Wright

Incoming Student – Sandy Wright (SMP at UBC Okanagan)



Sandy Wright at the beautiful UBC Okanagan campus.

Message from Sandy:

The PhD component of my program will be completed under the supervision of **Dr. Paul van Donkelaar** in the Sports Concussion Research Lab, where I will also be working closely with **Dr. Philip Ainslie**, School of Health & Exercise Sciences at UBC Okanagan, and **Dr. Brad Monteleone**, a practicing Sports Medicine MD/PhD in Kelowna. My research will be focused on determining if deficits in neurocognitive and sensorimotor function induced by sport-related head impacts are related to alterations in cerebrovascular function for youth contact sport athletes. More specifically, I am interested in characterizing the similarities and differences between what happens in these domains following repetitive sub-concussive impacts and one-time injury events in which a concussion occurs. Prior to joining the MD/PhD Program, I completed a Master of Science in Kinesiology at the University of Waterloo in the field of fall-related injury prevention in older adults, and a Bachelor of Science in Kinesiology at Simon Fraser University. While I still hold my roots in the Maritimes, I am currently enamoured with living in the Okanagan Valley and the immediate access to food, wine, and the great outdoors.

Experiences over the course of my life have led to the development of deep-seeded passions for the pillars of academic medicine – patient care, research endeavours, and education and teaching. Although I developed an interest in research during my undergraduate years, my strong affinity for research was fostered during the time I spent at the University of Waterloo working towards a Master's degree under **Dr. Andrew Laing**. Participating in the development and dissemination of new knowledge is an incredibly stimulating exercise in critical thinking, creativity, problem solving, developing technical skills, and effective communication. Beyond a love for research, I also developed a passion for education and teaching through experiences as a teaching assistant, guest lecturer, and supervisor for undergraduate research projects. I was also fortunate enough to help develop and deliver lifelong learning sessions for seniors related to aging and mobility.

After some reflection, I realized that during the first portion of the year in the traditional MD program I was often sitting in class wondering how the information we were learning had been discovered, and questioning what the next steps are in order to advance our current knowledge in the realm of patient care. Upon tuning in to just how much I missed research and teaching after only eight or nine months away from it, I felt that the combined MD/PhD Program might be right for me. This sentiment was reinforced through subsequent conversations with practicing clinician scientists, as well as other students currently enrolled in the combined program. I have been left with no doubt that this training will not only complement, but enhance my medical training.

Class of 2012- Arezoo Astanehe



I still remember sitting in first year medicine lectures thinking how much I missed research, and contemplating whether I should continue with the MD stream or pursue an MD/PhD degree. Looking back over the past seven years, it is crystal clear to me that I made the right decision. People often ask me: “would you do it again?” and my answer is always: “absolutely.” I believe that no matter how challenging it may be to juggle multiple things in life, having passion for what you do will allow you to work hard and eventually succeed.

I am grateful that I had the opportunity to be part of the integrated MD/PhD Program at UBC, allowing me to share the excitement of scientific research with clinical interactions. I would like to thank **Drs. Lynn Raymond** and **Torsten Nielsen** for giving me the opportunity to be a part of this prestigious program and for their constant support throughout my training. Also, a special thanks to **Jane Lee** for her kindness and for always helping me stay on top of things. My sincerest gratitude goes to my wonderful supervisor and lifetime mentor, **Dr. Sandra Dunn**, for introducing me to the MD/PhD Program, and for always encouraging me to pursue my dreams. I hope that one day I can have an effect on someone’s life as Sandi has had on mine. Finally, a huge thank you to my family for their never ending support.

I am overjoyed to be starting my training in plastic and reconstructive surgery at University of Calgary with a group of mentors who are extremely encouraging and supportive of my research endeavours. Plastic and reconstructive surgery is a field with great potential for research and I cannot wait to get started. The wide scope of practice that plastic surgery encompasses makes it ideal for a young MD/PhD graduate to find a niche to engage in scientific research. I am thrilled to start my new journey, learn more about deficiencies in knowledge, and be able to one day make a contribution to this field as a surgeon-scientist.

This is not the end, but a beautiful beginning to a new and exciting journey.

Class of 2012- Suze Berkhout



Walking across the stage this past week was an amazing feeling, albeit somewhat surreal. Years of dedication and hard work culminated in a few short steps -- steps that marked admission to the ranks of both physicians and academia. I have to admit that my first inclination when I received my dual degrees was to get out (quickly), owing mostly to disbelief that I'd actually pulled off achieving the MD/PhD degree. That sense of being "found out" took a few minutes to settle. I peeked into the folder to check that, yes, it was actually my name on the degrees. I think it was at that point that I actually felt the enormity of the event, and things seemed to move from the surreal to the sublime.

But with graduation has come a much more profound sense of responsibility. The privileges of entering into a self-regulating profession are matched by the obligations each member carries, to the public as well as to each other. I was struck by the importance of this during the Hippocratic oath. Each member of the graduating class vowed to approach the very intimate and profound relationship we have with life and death with humility and an awareness of our own frailty. As one faculty member remarked, this can be relatively straightforward as a new member of the profession -- you have a strong sense of how little you know at this point. The greater challenge is to retain the sense of your limitations even as your expertise flourishes.

Graduation is also a time to look forward, and so I wish the very best to my MD/PhD colleagues who are about to head off on their own pathways through clinical medicine and research. The next years will be extremely formative for all of us, but I believe we have developed a solid foundation of scientific curiosity, academic excellence, and clinical responsibility that will see us through the challenges ahead. My own path is about to head to the Department of Psychiatry at the University of Toronto, where I will be undertaking my residency. I am looking forward to carrying on in research, and have that giddy sense that one gets when a project is complete, and opportunities for the next project seem endless.

I would like to give my heartfelt thanks to **Drs. Lynn Raymond** and **Torsten Nielsen**, for the strength of their support to the MD/PhD trainees, as well as to my supervisors, **Drs. Scott Anderson** and **Mark Tyndall**. I have also been fortunate to have a wonderful support network of friends and family, without whom my successes would be improbable. So thank you to all -- it's been quite a ride.

UBC MD/PhD PROGRAM

Class of 2012- Brennan Eadie



Brennan Eadie was awarded a Mark Cohen Prize in Ophthalmology. This prize is offered to a student in the Doctor of Medicine Program at UBC based on ophthalmology electives completed and a demonstrated interest in the field of ophthalmology. Recipient of this award must be matched to a Canadian ophthalmology postgraduate training program.
Congratulations!

The last seven years of my life have been truly amazing years. I started the UBC MD/PhD Program in 2005 with excitement and fear of what the future would hold. I was faced with the new challenges and stresses of medical school, as well as the daunting task of developing, conducting and presenting to the world a novel line of research as a PhD student. Not to mention the fact that I held a personal commitment to achieving some shred of a life outside of school. In 2012, sitting on a beach in Hawaii just days following graduation, I can't help but smile at the thought that I reached these goals.

The program started out with an intense couple years of medical school with admittedly little research being conducted. I attempted to prepare for my research intense years, but found myself caught up in my medical training. At times I'd reflect and wonder if I'd be able to hack balancing learning medicine and conducting research. Thankfully the subsequent years provided far more time for research. I came back to the lab after second year medicine and was informed that the lab was moving to the Island Medical Program at the University of Victoria. Determined to not lose the work that I had put into generating a transgenic mouse colony, I found myself with the whole colony in a van on the ferry heading to University of Victoria.

Once at the University of Victoria, we quickly assembled equipment and got down to business with experiments. The laboratory flourished in this environment, and my supervisor, **Dr. Brian Christie**, gave me tremendous intellectual and practical freedom to achieve my goals. **Dr. Oscar Casiro**, Regional Associate Dean of the Island Medical Program, was extremely helpful in creating a great research infrastructure. During these three years, I made good friends that will undoubtedly last a lifetime. I bought my first home, trained a golden retriever puppy, and married an amazing woman during these years. At the end of these three years, I defended my thesis and was very proud of the work that I had done. I had realized that it would not have been possible without the wonderful people that surrounded me.

Coming back to Vancouver for the last two years of medical school was difficult. I worried that my medical school basic training was too far in the past. I got through and within a few months, I felt that I was performing at the level of my peers. I was surprised to find myself struggling with a career choice – after all, hadn't I had enough time to think about it in this extended program! I liked pathology for the focus on understanding the underlying mechanisms of disease, I loved neurology for the clinical interaction and fruitful physical exam, but I also loved procedures. While in limbo, I had my short rotation in Ophthalmology and found that this specialty has all of the attributes that I was seeking. I also learned that my neuroscience training was relevant to subspecialty areas such as glaucoma, neuro-ophthalmology and pediatric ophthalmology. I became involved in conducting research on glaucoma with a great mentor, **Dr. Paul Mackenzie**. He is in fact an MD/PhD Ophthalmologist, who did his PhD research in neuroscience.

So what about balance with personal life? I forgot to mention that my wife and I had our first child during my second-to-last year of the program. Our daughter is now nearly 14 months old and is teaching us new things about life every day. I have an incredible amount of gratitude and respect for my wife for the support that she provides the family. As you can see, the last seven years have been truly amazing. The most important thing that I have learned is to value those that surround us both personally and professionally as everyone, even my 14-month old, has something to teach.

UBC MD/PhD PROGRAM

Class of 2012- Michael Kozoriz



In the 2012 graduation class, **Michael Kozoriz** won the George W. Leroux Memorial Scholarship -- A UBC Faculty of Medicine award for students who have demonstrated and interest in and aptitude for the field of surgery. Congratulations!!

It has been a great honour to be a student of the MD/PhD Program. My interest in medical research began during my undergraduate studies at Queen's University and this passion was strengthened during an MSc in Neuroscience at the University of Calgary. Working westward, my PhD education began at UBC as a student in the Department of Anatomy. Shortly thereafter, I joined the combined MD/PhD Program. I am grateful for the travel, collaborative opportunities, publications and awards that the research world has brought me. I have been humbled and inspired by the talent of the students in the program and feel fortunate to be part of such a distinguished group.

Living the double life of medical student and research trainee is difficult and I would like to thank my research supervisor, **Dr. Christian Naus**, for his support, guidance, and for allowing latitude in my graduate studies. I would also like to extend thanks to the many members of the Naus lab for their help, constructive criticism and friendship. Lastly, I acknowledge **Dr. Lynn Raymond**, **Dr. Torsten Nielsen** and **Jane Lee** for advocating on our behalf and the hard work they put into the program to ensure our success.

I will be staying in Vancouver to complete residency in Diagnostic Radiology at UBC. My longstanding interest in anatomy and the fact that radiology touches so many medical disciplines made it an easy choice. Radiology is a constantly evolving field and I am looking forward to the research opportunities that lie ahead.

As I neared graduation last week one of my family members stated "You only get to become a doctor twice, once". Without my family's support it would not have been possible to succeed in this program. I would like to specifically thank my parents, my wife Kelsey and my son William, for their continued love and support.

UBC Medicine Undergraduate Research Forum and Journal Release

The UBC Medicine Undergraduate Research Forum and UBC Medical Journal Release were held on Thursday, 15 March 2012, 5:30-8:30 pm, at the UBC Life Sciences Centre. We had a total of 55 abstracts submitted from student in the Medical Undergraduate Program and MD/PhD Program.

We thank everyone from our program involved in this event.

- Oral presentation: **David McVea**
- Poster presentation: **Philip Edgcumbe, Will Guest, Dmitry Mebel, Gareth Mercer**
- UBCMJ Co-editor in chief: **Julia Pon**
- Organizing Committee member and Judging coordinator: **Long Nguyen**
- Chair of the Organizing Committee: **Clara Westwell-Roper**

An extra congratulations to **Gareth Mercer** and **Philip Edgcumbe** for their “best poster” awards!



Gareth Mercer (left) and Philip Edgcumbe (right)
with Dr. Sharon Salloum, Associate Dean, Student Affairs.



Manitoba - June 2012

The **4th Annual Canadian National Medical Student Research Symposium (CNMSRS)** took place from 12-14 June 2012 at the University of Manitoba. This symposium promotes interactions between medical and basic science trainees engaged in discovery, translational, clinical and population health research among participants from all Canadian medical schools. The event was held in conjunction with the **25th Annual Canadian Student Health Research Forum (CSHRF)**. This year's program focussed on research carried out by undergraduate, medical and MD/PhD students.

The UBC Faculty of Medicine nominated **Cynthia Min** (Year 1) and **Clara Westwell-Roper** (Year 4) to present at the symposium. Cynthia presented “Recognizing uncertainty in your knowledge: The impact of response options presentation on self-monitoring accuracy”. Clara presented “Islet amyloid polypeptide: a trigger for toll-like receptor 2 in type 2 diabetes and islet transplantation?” Both students received a travel award to present at the symposium.

MD/PhD "Building Bridges Seminar Series" — ALL ARE WELCOME

This well-established seminar series aims to illustrate the relationship that exists between clinical practice and medical research. The seminars are organized for budding clinician-scientists of the MD/PhD and Clinician Investigator Programs, which allow trainees to hear about different career tracks and various ways to combine clinical and research work. In addition to speaking about their active research, the invited speakers discuss their experiences and training backgrounds, share their advice with prospective clinician-scientists, and give their opinions on career development options for clinician-scientists. All faculty, clinical investigator trainees, and students in the Faculty of Medicine are invited. Our usual venue is at the Medical Student Alumni Centre, 6:00-7:00 pm, video-conferenced to Victoria, Prince George and Kelowna. Refreshments are provided! Our sincere thanks go to our guest speakers, **Dr. David Ansley**, Clinical Professor, Department of Anesthesiology, Pharmacology & Therapeutics, who spoke on 16 April 2012. For information on upcoming seminars, please visit our webpage at <http://mdprogram.med.ubc.ca/mdphd/seminars>.

PhD Comprehensive Exams

The intent of the PhD comprehensive examination is to ensure that the student has adequately prepared for the proposed thesis research and can gain maximum benefit from this experience. The MD/PhD comprehensive examination format consists of two parts: a) a CIHR style research grant proposal in an area of the student's research, and b) an oral examination.

Four of our students successfully passed their comprehensive examinations this summer, and have been admitted to candidacy. Congratulations!

Alexis Crabtree -- Using participatory action research (PAR) methods to improve public health practice

Gareth Mercer -- An investigation of the determinants and child health benefits of involved fathering in South Africa

Long Nguyen -- Clonal analysis of normal and transformed mammary stem cell activity

Julia Pon -- Functional characterization of *MEF2B* mutations recurrent in non-Hodgkin lymphoma

MD/PhD Summer Social

The MD/PhD group enjoyed a very pleasant evening at **Dr. Torsten Nielsen's** residence on Friday, 25 May 2012. Our Program Directors, graduates, MD/PhD students and their significant others had an enjoyable time. The food was great and everyone was thrilled. After dinner, we exercised ourselves in the swimming pool and took some great pictures. The party was a great success! Thanks, Dr. Nielsen.



