



# UBC MD PhD

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## NEWSLETTER - 2023 WINTER

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



Happy 2023 everyone! Hope you all had a good start to the year. To start off our 2023 at the MD/PhD program, we want to provide you with some brief summaries and highlights regarding things that have been going on and things that you can look forward to.

### MD/PhD New Students:

As promised in our last newsletter, here are our new students who joined the program last fall. Please welcome...



#### **Nikolay Alabi** Class of 2029

Education: BSc (Life Sciences), Queen's University

Field of study: Oncological Bioinformatics

Nikolay was born in Moscow, Russia and raised in Calgary, AB. He completed his BSc at Queen's university with a specialization in life sciences as well as a certificate in data analytics. During undergrad, he spent his summers in Calgary working as a bioinformatics analyst for Qualisure Diagnostics Inc., a cancer diagnostics company developing new precision medicine tools. These experiences inspired him to further pursue bioinformatics research and potential applications to the field of oncology under the supervision of Dr. Simpson. His thesis investigated the ability of a gene-expression based machine learning algorithm to predict prognostic outcomes in head and neck cancer patients to identify patients for future treatment de-escalation. For his PhD, Nikolay will continue to work in the field of oncological bioinformatics, with the goal of developing new approaches and tools for personalized medicine. In his spare time, Nikolay enjoys basketball, skateboarding, and most outdoor activities. He is also a food fanatic and avid chess enthusiast.

**Torin Halvorson** Class of 2028

Education: BSc (Biology), University of Victoria

Field of study: Immunology

Torin was admitted to the MD program in 2022 and applied to MD/PhD out of Med 1. He hails from rural Vancouver Island and graduated from the University of Victoria in honours Biology in 2021. Torin took a roundabout route to medical research, initially pursuing interests in plant biology and agricultural science during his undergraduate degree before discovering his love for immunology in his third year. For his undergraduate honours thesis under the supervision of Dr. Julian Lum, Torin's research focused on engineering sugar metabolism in T cells to enhance the effectiveness of cancer immunotherapy. Subsequently, he completed an NSERC-funded summer research term in the laboratory of Dr. Marie-Ève Tremblay, focusing on the isolation and characterization of dark microglia, a subset of brain immune cells involved in neurodegenerative diseases. He continued this research part-time during his first year of medical school at UBC, then transferred into the MD/PhD program to pursue his PhD research in the laboratory of Dr. Megan Levings. Torin's thesis research will focus on regulatory T cells (Tregs), a unique suppressive immune cell subset, in the context of autoimmunity and transplantation. In particular, his work will investigate Treg responses in solid organ-transplant patients and seek to engineer novel strategies to enhance the function of Treg-based cellular therapies to promote immune tolerance. Outside of science and medicine, Torin trains as a competitive cyclist with the UBC Cycling Team and volunteers with UBC's Refugee Health Initiative. He also enjoys alpine and Nordic skiing, playing the piano, gardening and learning languages in his free time.

**Monica Luo** Class of 2029

Education: BSc (Physics), University of British Columbia

Field of study: Medical Imaging

Monica grew up in BC after immigrating from China. She completed a BSc in Honours Physics at UBC. During her undergraduate studies, Monica worked with Dr. Piotr Kozlowski at the UBC MRI Research Centre on research relating to MRI imaging methods, particularly luminal water imaging and inhomogeneous magnetization transfer (ihMT). Her honours thesis investigated the angular dependence of ihMT using rat spinal cords with dorsal column transection injury. In her graduate studies, she hopes to further explore her interests in medical imaging. Outside of academics, Monica enjoys snowboarding, playing the piano, and binge-watching Netflix documentaries.

**Amardeep Sekhon** Class of 2029

Education: BSc (Pharmacology), University of British Columbia

Field of study: Diabetes; endocrine physiology

Amar was born and raised in Vancouver and completed his honours BSc in Pharmacology at UBC in 2022. During his undergrad, Amar worked with Dr. Sonia Yeung in the Department of Ophthalmology & Visual Sciences where he contributed to a clinical case report & conducted a systematic review examining the role of inflammation driving corneal endothelial cell loss in dry eye disease. Amar then completed his 4<sup>th</sup> year honours thesis under the supervision of Dr. Bruce Verchere at BCCHRI, where he examined the role of impaired beta-cell prohormone processing in diabetes. For his PhD thesis, Amar will be continuing under the supervision of Dr. Bruce Verchere to study prohormone processing defects in enteroendocrine L-cells of the small intestine, a population of endocrine cells that secrete hormones such as glucagon-like peptide 1 (GLP-1) and GLP-2, which have crucial roles in the regulation of insulin secretion and intestinal growth, respectively. Both GLP-1 and 2 are derived from a larger hormonal precursor known as proglucagon, and proprotein convertase 1 (PCSK1) is thought to be a crucial enzyme involved in the processing of proglucagon into GLP-1 and 2. Infants born with PCSK1-deficiency, a rare congenital syndrome characterized by a loss-of-function mutation in the *PCSK1* gene, suffer from multiple hormone-related abnormalities ranging from severe malabsorptive diarrhea and impaired glycemic regulation. As a result, infants with PCSK1-deficiency fail to thrive as they are unable to adequately absorb nutrients within the small intestine, which can threaten the survival of affected infants' unless parenteral nutrition is provided. Amar plans to study how impairments in PCSK1-mediated prohormone processing of proglucagon in enteroendocrine L-cells contribute to malabsorptive diarrhea and impaired glucose homeostasis. These studies will provide new insights into the genetic causes of intestinal and metabolic disorders such as PCSK1-deficiency and may unravel possible therapeutic targets and approaches to alleviate these life-changing, and sometimes lethal, conditions. Outside of school, Amar enjoys going to the gym, watching NBA basketball and spending time with friends & family.

**Adam Sunavsky** Class of 2029

Education: BSc (Psychology), Queen's University; MSc (Medical Neuroscience), Dalhousie University

Field of study: Neuroscience of mood disorders

Adam was born in Slovakia and immigrated to Hamilton, Ontario when he was five. He completed his BSc in Psychology at Queen's University in Kingston, where he worked in the labs of Dr. Jordan Poppenk and Dr. Dean Tripp. Neuroscience research piqued his interest early on, when Adam completed his first independent project on the neural correlates of creativity in Dr. Poppenk's lab. For his thesis, Adam researched the psychosocial impacts of Inflammatory Bowel Disease on adolescents in Dr. Dean Tripp's lab. At Dalhousie University under Dr. Javeria Hashmi's supervision, Adam studied the role of the nucleus accumbens, a region involved in both reward and pain processing, in chronic back pain patients for his MSc thesis. Adam's PhD research will focus on researching non-invasive electrical stimulation techniques for treating mood disorders using fMRI under the supervision of Dr. Fidel Vila-Rodriguez. Studying at UBC provides the perfect environment for Adam, as he loves outdoor activities, including soccer, rowing, hiking, bouldering, snowboarding, and camping. During rainy days, Adam spends his free time playing chess or making YouTube videos.

**MD/PhD Program Networking Highlight:****UBC MD/PhD program visits the University of Northern British Columbia campus**

The directors of our program traveled to Prince George to make a very successful presentation at and tour of the University of Northern British Columbia on November 8, 2022 to promote and spread awareness about our program and to learn about the many exciting research opportunities at the Faculty of Health and Social Development at UNBC.



## MD/PhD Building Bridges Seminars:

Since September 2022, our monthly "Building Bridges Seminar" has been a resounding success. Our goal is to showcase the intersection between clinical practice and medical research and offer MD/PhD students and other interested parties a glimpse into diverse career paths that combine both clinical and research work. Our invited speakers not only highlight their current research but also share their educational journeys, offer career advice, and provide insight on clinician-scientist career development. After receiving feedback from our students, we have expanded the seminar series to include workshops on vital issues such as mental and financial wellness and grant/scholarship application strategies. Here are the presenters we had over the last few months (including a panel presentation from Michael Smith Health Research BC this month):



**Date: 26 September 2022**

**Invited speaker: Asmae El Bouhali**

Asmae is a Clinical Counsellor with membership with the Canadian Counselling and Psychotherapy Association. She holds graduate degrees in Counselling Psychology and Human Development from the University of Ottawa and the University of British Columbia. Her undergraduate degree in Clinical Psychology and Communication was obtained at the University of Amsterdam. She offers a collaborative, safe, compassionate therapeutic space in which clients can explore self-awareness, mindfulness, and personal growth. She facilitates change and goal attainment utilizing several theoretical and research-based methodologies, such as Cognitive Behavioral Therapy and Solution Focused Therapy.

Asmae talked about all the services and resources available for Graduate students and connected with our MD/PhD students to help them understand and better avail all the resources available.



**Date: 24 October 2022**

**Invited speaker: Dr. Jacqueline Saw, MD, FRCPC, FACC, FSCAI**

Dr. Jacqueline Saw is an Interventional Cardiologist at VGH, with joint appointment at St Paul's Hospital. She is a Clinical Professor of Medicine at UBC, and Program Director of the Interventional Cardiology Fellowship Program at VGH. She has been an active staff with the Division of Cardiology at VGH and joint appointment at St Paul's Hospital since 2004. Dr. Saw's research interests include spontaneous coronary artery dissection (SCAD), antiplatelet therapy, percutaneous coronary intervention, carotid artery stenting, peripheral intervention, LAA closure, and non-atherosclerotic coronary artery disease [including SCAD and coronary fibromuscular dysplasia (FMD) in women]. She is the principal investigator of the Canadian SCAD Study, PRYME, NACAD, SAFER-SCAD, Canadian WATCHMAN Registry, TAP-CABG, and ELAPSE studies.

Dr. Saw talked about her training background, career path and the current work she is doing with our students. She also responded to questions and provided great recommendations to all the attending MD/PhD and other interested students that were present in person and online.



**Date: 7 November 2022**

**Invited speaker: Rohit Singla, MASc. Biomedical Engineering**

Rohit is a year 5 MD/PhD student and Vanier Scholar at the University of British Columbia (UBC). Supervised by Prof. Robert Rohling and Dr. Chris Ngan, his current research interests include ultrasound, artificial intelligence, chronic kidney disease (T2DM, IgAN, and SLE), kidney transplantation and medical trainee education.

He presented on the topic of: Multi-parametric renal ultrasound for chronic kidney disease and renal transplantation, as well as on his perspectives about how to succeed as an MD/PhD student. Rohit's presentation was to all our current MD/PhD students, who present to their peers as part of our seminar series at least once during their time in our program.



**Date: 5 December 2022**

**Invited speaker: Dr. Liam Brunham MD, PhD, FRCPC, FACP**

Dr. Liam Brunham is the Associate Director of the UBC MD/PhD program and is also an Associate Professor in the Department of Medicine at the University of British Columbia and a Canada Research Chair in Precision Cardiovascular Disease Prevention. He is a Principal Investigator at the UBC Centre for Heart and Lung Innovation where he leads a research team focused on cardiovascular genetics. He is the Medical Lead at the Health Heart Program Prevention clinic at St. Paul's hospital, one of the largest specialty lipid clinics in Canada. In 2017 he was named as one of Canada Top 40 under 40.

Dr. Brunham, who usually recruits the speakers for our seminar series, took it upon himself to present an amazing talk he put together about Financial management for clinician scientist trainees that was extremely well-received by our students.

**On January 23, 2023** we had 3 presenters, **Dr. Danielle Lavallee** (Vice President, Research), **Dr. Ellie Griffith**, (Assistant Vice-President, Research) and **Valerie To** (Director, Research Competitions) from Michael Smith Health Research BC came to Diamond Health Care Centre to present and discuss their funding programs. Dr. Lavallee oversees Michael Smith Health Research BC's portfolio, including research strategy, funding programs and partnerships. She and her team presented their work and all the funding programs and grants available to support clinician scientists.

Our students and staff had a very interactive session with Dr. Lavallee and the funding team from Michael Smith Health Research BC. It was a great way to learn about different funding programs and discuss the financial aspects of being a clinician scientist. Following are some snippets from the evening:



Pictured below (left to right): Dr. Danielle Lavallee, Dr. Ellie Griffith, and Valerie To from Michael Smith Health Research BC



Pictured above the MD/PhD team and current students who attended the seminar

## MD/PhD Student Liaison - Maryam Vaseghi-Shanjani

**Maryam Vaseghi-Shanjani**, Year 4 student, is our 2022-2023 student liaison, supported by alternate student representative **Shayda Swann**. The major responsibility of the student liaison is to sit on the MD/PhD Admissions/Advisory Committee. Other duties include helping to organize the MD/PhD monthly student meetings/seminars, student socials, attending national MD/PhD meetings and presenting at student events to promote the MD/PhD Program. Prospective applicants are welcome to contact not only Maryam, but any of our students to ask questions. <http://mdprogram.med.ubc.ca/mdphd/students/>



**Maryam Vaseghi-Shanjani**

### Message from Maryam:

Hi! My name is Maryam and I'm currently a fourth-year student in the program and the student representative for this year. I was born in Tehran but grew up in Toronto, where I lived most of my life before moving to Vancouver for the UBC MD-PhD program.

I completed my B.Sc. degree double majoring in Biology and Psychology and later my M.Sc. in the Medical Sciences program both at McMaster University. My passion for medicine began long before my undergraduate studies, but throughout my degree, I discovered a love for scientific research and exploration. This led me to pursue research as an undergraduate student in various fields related to my degree, including cognitive psychology and comparative physiology, and a master's degree in immunology. During my master's, I investigated the impact of systemic BCG immunization on lung innate immune cells for tuberculosis prevention.

My graduate studies in immunology fueled my desire to join the MD-PhD program at UBC. Currently, I am working under the supervision of Dr. Stuart Turvey on my PhD, exploring novel and rare genetic causes of primary immunodeficiency diseases in children. As an MD-PhD student in Turvey lab, I have the unique opportunity to engage with my study participants and their families, be involved in their care, and acquire samples for my experiments at the lab. My research has had direct implications for the management and care of my study patients. This has allowed me to experience translational research in all its stages and to make significant progress towards my goal of becoming a clinician-scientist.

Outside of research, I am passionate about teaching and mentoring students interested in science and medicine. I also have a keen interest in science communication and throughout the past few years I have had the chance to be a part of multiple science literacy programs such as MCYU in the City, Let's Talk Science and Soapbox Science Vancouver through which I have been able to communicate my research with the broader population and my community.



**Message from Maryam (continued):**

As we gradually emerge from the challenging past three years due to the pandemic and moving towards a return to pre-pandemic norms, I would like to extend my gratitude to those who have tirelessly supported and advocated for the students in our program, particularly Dr. Torsten Nielsen, Dr. Liam Brunham and Naureen Khan. I also want to thank Shayda Swann, our alternative Student Liaison, and upcoming Student Representative for spearheading exciting initiatives to better support the needs of our students.

I am excited for 2023 as we welcome new students and expand our program, celebrate award-winning research spearheaded by our students, and see our graduates make a positive impact in their communities.

Building Bridges after seminar dinner socials arranged by our current student liaison: Maryam Vaseghi-Shanjani



## MD/PhD Student Conferences:

Every year our program supports all interested students to attend and network at MD/PhD and clinician scientists' conferences and or meetings in Canada or the United States. In November 2022, seven of our MD/PhD students took advantage of this opportunity to go to Montreal, where they attended the CSCI-CITAC Annual Joint Meeting Canada's premier conference for clinician-scientists and clinician-scientist trainees. This meeting is jointly organized by the Clinician Investigator Trainee Association of Canada (CITAC) and the Canadian Society for Clinical Investigation (CSCI), in collaboration with a Canadian host institution - last year being the University of Montreal. This joint meeting is a unifying event, bringing Canadian trainees into a space for discourse, skills acquisition, inspiration, and research dissemination. Since its inception in 2007, the CITAC-CSCI AJM has continued its strong support of a diverse group of trainees who share the same vocational goal of uniting science and medicine, and its influence continues to grow.

This year, Shayda Swann received two awards at the CITAC AJM, including second place for her oral presentation titled "Cortisol levels and number of age-related comorbidities between women living with and without HIV" and the CITAC Outstanding Trainee Award, which recognizes a physician-scientist trainee whose outstanding contributions to the betterment of their scientific, medical, or broader communities are benefiting the physician-scientist community.

Here is a glimpse of what our students did and represented at the CSCI-CITAC meeting in Montreal from November 13-15 2022:

Pictured (left to right): Luke MacLean, Katherine Baillie, Dhiraj Mannar, Andy An, Shayda Swann, Maryam Vaseghi-Shanjani, Li Qing Wang







Pictured above: our students and their presentations at CITAC 2022

## MD/PhD Program Highlights:

Between November 15-18 and November 21-22, UBC hosted make-up ceremonies for all graduates from the classes of Fall 2020, Spring 2020, and Spring 2021 whose original ceremonies were affected by COVID restrictions. Two of our alumni, Adam Ramzy and Amanda Dancsok, came back to Vancouver to join our program director, Dr. Nielsen, to dress up in their well-earned PhD regalia. Here a picture from the fun event:



Pictured (left to right): Prof. Torsten Nielsen, Dr. Adam Ramzy and Dr. Amanda Dancsok (with the University's ceremonial mace-bearer)



In December 2022, our program and one of our students, Luke MacLean, was featured in *Aspire: UBC Faculty of Medicine Donor Newsletter*.

See full article here: <https://give.ubc.ca/impact-stories/md-phd-program/>

Current MD/PhD student Luke MacLean comes from a biomedical engineering background and develops ultrasound-based navigation systems to improve clinical outcomes in orthopedics and neurosurgery. Luke believes the MD/PhD program's breadth makes it an ideal cause for donors wanting to make a difference.

*"I know everyone donates for their own reason—some of them from a very personal capacity, some wanting to support education—or contribute to health impact in the future. The MD/PhD program is uniquely positioned to check all three of those boxes for many donors," says Luke. "I believe it offers a well-rounded opportunity to give back that covers a broad range of philanthropy."*

The rigorous interdisciplinary MD/PhD program brings us the clinician scientists who will solve the greatest health challenges of our time.

December 2, 2022



UBC MD/PhD student Luke MacLean

## Comments and Suggestions

We welcome questions, comments and suggestions about our newsletters and our program.

Please send comments to the MD/PhD Program office at: [md.phd@ubc.ca](mailto:md.phd@ubc.ca)

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