



Annual Newsletter for the Department of Urologic Sciences

Report from the Department Head

I would like to take this opportunity to welcome you all to the newsletter for the Department of Urologic Sciences. The Department of Urologic Sciences (DUS), part of the UBC Faculty of Medicine, was founded on July 1, 2006. Within the DUS we strive to develop and deliver programmes of excellence in key areas of urology. With its energetic, passionate, and expert clinical faculty, the DUS is a leader in education, clinical care, and research.

The DUS continues to grow with now 28 full-time faculty: 11 Professors, 11 Associate Professors, and 6 Assistant Professors including a UBC Distinguished University Professor, a BC Leadership Chair in Prostate Cancer Research (awarded to Dr. Martin Gleave), several endowed chairs including Dr. Larry Goldenberg to the Stephen A. Jarislowsky Chair in Urologic Sciences at VGH and Dr. Peter Black has recently been named the Khosrowshahi Chair in Bladder Cancer Research. We also have 16 PhD research scientists. The DUS is also closely integrated with the [Vancouver Prostate Centre \(VPC\)](#), a UBC and VGH Centre of Excellence and since 2008, a national [Centre of Excellence for Commercialization and Research \(CECR\)](#). The DUS supports strong clinical and research leadership in its sections of oncology, pediatrics, functional, stone, transplantation, and Men's Health.

Our educational programs are strong and comprehensive. Our 15 residents in the UBC urology program come from medical schools across the country and are, in addition to outstanding clinical training with high volume surgery, exposed to a rich translational research environment within the VPC, offering cross-training in genomics, computer science, informatics, proteomics, pathology, tumour biology, oncology, pharmaceutical sciences, imaging, clinical trials, and drug development, key for training scientists of the future with multi-skill sets. Over 156 students or fellows have been trained over the past 5 years from around the world.



Department of Urologic
Sciences

Faculty of Medicine



The past 3 months has seen some terrific achievements in peer-reviewed funding, publications and grants. DUS faculty have been awarded many significant grants, including two Michael Smith Foundation for Health Research [Innovation to Commercialization \(I2C\)](#) grants to Dr. Chris Ong ([Development of a novel biotherapeutic fusion protein inhibitor for treatment of advanced prostate cancer](#)) and Dr. Caigan Du ([Development of a novel organ preservation solution in transplantation](#)). Dr. Alex Wyatt and his team were awarded a [Movember Discovery Grant](#) for their project, "Genomic truncation of the Androgen Receptor in poor-prognosis castration-resistant prostate cancer." while Dr. Amina Zoubeidi was awarded a [2017 PCF Challenge Award](#) entitled "Targeting BRN2 in Neuroendocrine Prostate Cancer". Finally Dr. Art Cherkasov was awarded a \$23M CFI titled Accelerated Drug Discovery Using Clinical Translation (ADDUCT), which will enhance computer-augmented drug design and development for prostate, bladder and renal cancer patients. Hearty congratulations to all for attracting these highly competitive grants!

Our clinical research continues to drive important publications and shape clinical practice: Dr. Peter Black's work in bladder cancer genomic signatures developed with GenomeDx will help subtype patients with muscle invasive bladder cancer into those more or less likely to benefit from neoadjuvant chemotherapy. Alex Wyatt's work in plasma ctDNA assays (published in JAMA Oncology and JNCI) define genomic alterations in liquid biopsies that will feasibly subtype CRPC patients to more precisely guide treatment, already serving a national CCTG umbrella trial.

Dr. Andrew MacNeily has also been elected CUA President for 2018-19. Please join me in congratulating these successes, and join me in welcoming our new trainees, recruits, and faculty. You can read more about our three new residents and our featured postdoctoral fellow further into this newsletter. I hope that you all have a wonderful year.

A handwritten signature in black ink, appearing to read 'MG', with a long horizontal flourish extending to the right.

Sincerely,

Martin Gleave, MD, FRCSC, FACS

British Columbia Leadership Chair

Distinguished Professor and Head, Department of Urologic Sciences, UBC

Director, Vancouver Prostate Centre



Academic Appointments:

Peter Black - Promoted to Full Professor

Faculty Appointments:

[Alex Kavanagh](#)

[Faraz Hach](#)

[Nathan Lack](#)

Clinical Faculty Promotion:

Omar Nazif - Clinical Assistant Professor

New Clinical Appointment:

Aaron Clark (Courtenay)

Linda Lee (Victoria)

Jeffrey Zorn (Courtenay)

Henry Tran (Vancouver)

Michael Metcalfe (Victoria)

Ian Wright (Maple Ridge)

Awards:

Larry Goldenberg - Hugh Hampton Young Award (AUA)

Elsbeth McDougall - President's Citation (AUA)

Martin Gleave - Richard D. Williams Award, AUA

Lynn Stothers - Peter Wall Institute for Advanced studies - Wall Scholar

Peter Black - Choosing Wisely Champion (AUA)

Peter Black - Top 10 Peer Reviewers for 2016 (CUAJ)

Elsbeth McDougall - Endourological Society 2017 Karl Storz LifeTime Achievement Award

Ben Chew - Endourological Society Industry Award for Innovations in Endourological Instrumentation



Meet the New Residents!

Samrad Ghavimi



Born in Iran, my family and I moved to Canada when I was 8 years old. It wasn't until Grade 10 Science when I truly enjoyed a topic for the first time—human anatomy and physiology. This was when I began thinking about a career in medicine.

After high school, I began my undergraduate degree in Science at UBC. With more exposure, be it via course work or volunteer activities, I knew that medicine was the path for me. When I was accepted into UBC Medicine, I was on my way to becoming the first doctor in my family!

Early on, I realized that I was drawn to surgical specialties. Funny enough, I wasn't familiar with the field of Urology. It wasn't until my father in law told me about his experience with a urologist that I learned of the field. After shadowing a few urologic procedures, I decided to get involved in research. After that, there was no going back. I was hooked by the diversity of the field, and the incredible people I'd met during the process. I'm truly honoured and excited to be a part of the UBC team, and I look forward to an incredible residency.

Drew Phillips



My name is Drew Phillips and I'm a BC boy through and through. I was born and raised in Port Alberni, BC and completed an undergraduate degree in Biochemistry at the University of Victoria. I worked for 1 year in a research lab at UVic investigating syphilis vaccine candidates before ultimately starting medical school in UBC's Southern Medical Program in Kelowna, BC. I feel privileged to be continuing my medical education as one of the new UBC Urology residents. I look forward to getting to know and working with everyone over the next 5 years.

Outside of the hospital I like to spend my time playing sports or board games with friends. I have recently been getting into multiday hiking, and recently returned from climbing Tanzania's Mt. Kilimanjaro – a 5,895m trek. Hopefully I'll be able to take advantage of some of the mainland's many beautiful mountains and trails during my time in Vancouver!

Louisa Ho

I was born and raised in Toronto, and completed my undergraduate degree in Physiology at the University of Toronto. Through my summer research in kidney transplantation, I was inspired by what a magnitude of difference a few hours of work in the OR could make, and this has driven me towards a surgical career.



I moved to Kingston for medical school at Queen's University, where I was fortunate to meet a very supportive group of urologists who helped cemented my interest in urology, and provided me with endless encouragement and guidance throughout my clerkship years. I had an incredible elective experience at VGH, and was impressed with how broadly proficient the residents were. I quickly felt like I was already part of the team, and I was very happy to find out I would be part of the DUS family.

Since moving to Vancouver, it has been a busy but exciting start to residency. I am very much looking forward to working with the group here at UBC in the coming years, and continuing to explore all that this beautiful province has to offer.

Clinical Fellows:

Jason Du



I was born in Taiwan and raised mostly in New Zealand. I attended the University of Auckland Medical School and completed my urology residency through the Royal Australasian College of Surgeons based in New Zealand. I developed a sub-specialty interest in Uro-oncology during training and became aware of the UBC Uro-oncology fellowship program through

a mentor who was a previous fellow here about twelve years ago.

I am excited about the opportunity to be working with and learning from a great, world-renowned faculty at UBC Urology and Vancouver Prostate Centre. Upon completion of fellowship, I will return home to Auckland but in the meantime, I will be looking to make the most of Vancouver, BC with my young family.

Werner J. Struss

I was born in Pretoria, spending my formative years in South Africa, accumulating in a undergraduate year at the University of Stellenbosch before my German

heritage lured me to explore further tertiary education in Europe. A combination of family tradition and intrigue lead me to settle in Hamburg where I completed my medical school training. Several electives abroad including the United Kingdom, Switzerland and my native South Africa lead me to appreciate the diversity in approach to medical management yet the universal desire of physicians, irrespective of the circumstances, to manage their patients to the best of their abilities. In fact, a memorable urology elective in a community hospital in Hamburg defined my decision to apply for residency training in this field. I completed my training in Hamburg at several specialised departments offering a very diverse spectrum of urologic disorders from oncology, reconstruction to pediatrics. During my training, oncology was of particular interest to me and this led me to search for a fellowship programme that offered insight into precision oncology. The Department of Urologic Sciences is truly world renowned in this regard with the possibility to manage oncologic disorders from bench to bedside. I have been privileged to explore research topics of interest to me, particularly genomic exploration of prostate and bladder cancer, with an inspirational and supportive team of researchers and clinician-scientists alike. In addition to this I have now joined the clinical team and aim to improve my surgical skill set over the coming year. Upon reflection, I am thrilled to have had these opportunities and coincidentally have called some of the most beautiful cities in the world (Cape Town, Hamburg and Vancouver) home!



Claudia Kesch

I grew up in the Bavarian alps, Germany where I also went to school and achieved my university entrance diploma. To study medicine, I moved to Marburg, a small student town right in the middle of Germany. Fascinated by the combination of clinical knowledge and technical skills I soon knew that I wanted to pursue a career in a surgical subspecialty. During my graduate training at the Philipps-University, Marburg I started to work on my doctoral thesis on bladder cancer, which ultimately awoke the desire to become a urologist.

I began my residency at the Department of Urology at the University Hospital Heidelberg where I also gained further research experience in urologic oncology, especially prostate cancer imaging. Always curious to



learn and looking for new challenges I did not have to think twice when the opportunity came up to adjourn my residency and become a fellow at the Department of Urologic Sciences, UBC. The DUS and the Vancouver Prostate Centre have an excellent reputation all over the world and I am proud and honored to be able to join the team for two years.

The hospitality and support from every single team member made it easy for me to settle in and I now already look back at 6 exciting and instructive month at the DUS. I really enjoy the high level work environment and hope to not only go back to Germany with new knowledge and ideas but also keep the scientific exchange and further cooperate with the DUS.

Spotlight:

Postdoctoral fellow **Alberto Contreras-Sanz**



Alberto Contreras-Sanz is a postdoctoral fellow in Dr Peter Black's laboratory at the Vancouver Prostate Centre. Originally from Spain, where he earned his degree in Pharmacy, Alberto decided to pursue a more research-oriented career and moved to Copenhagen (Denmark) for a master's program in research.

Hoping for less rain and more daylight hours, he then moved to the UK for his PhD in pharmacology at the School of Pharmacy (University College London). He then continued to work as a drug screening research scientist in the cystic fibrosis and cholera fields for the Novartis Foundation in the UK, a branch of the pharmaceutical company that researches on diseases of low and middle-income countries.

In late 2015, wanting to gain some insight into urological cancers, Alberto joined Dr Black's laboratory. Here, his research focuses on Notch signalling pathways in bladder cancer. He is also involved in the pre-clinical stage of novel therapeutics in collaboration with local and multinational pharmaceutical companies. When not in the lab, Alberto is often found exploring the beautiful Coast Mountains on skis and foot, or sailing and kayaking in the cold waters of the Salish Sea.

Other new postdoctoral fellows in the department include:

Singh	Kriti
Kevin	Tam
Zahid	Delwar
Evgenia	Dueva
Kenichiro	Ikeda
Yen-Yi	Lin
Fiona	Zhang
Takeshi	Sano

Kymora Scotland - Endourology Fellow



Kymora Scotland is the new endourology fellow at the Stone Center of the Department of Urologic Sciences here at UBC. Dr. Scotland was born on the Caribbean island of Dominica, moved to the US after completing high school to attend Hunter College of the City University of New York where she developed an interest in research

and medicine which that led her to Cornell University and the Tri-Institutional Cornell/Rockefeller/Sloan Kettering MD-PhD Program. There, she was successful in being awarded a Ruth L. Kirschstein trainee fellowship from the NIH. Her thesis work focused on murine embryonic stem cell differentiation and characterization of putative adult stem cells. Dr. Scotland then completed her urology residency at Thomas Jefferson University Hospital in Philadelphia where she developed an interest in endourology and minimally invasive surgery. Her clinical research at Jefferson focused on the endourologic management of stones and upper tract urothelial cancer as well as minimally invasive cancer treatment. Awards obtained while at Jefferson included the SUO best poster in 2016. Dr. Scotland has secured a 2017 Urology Care Foundation Fellowship funding her clinical training and investigations into ureteral peristalsis and stent associated infection here at UBC.

Up & Coming:



Dr. Nathan Lack

Dr. Nathan Lack, one of the VPC's former post-doctoral fellows, has returned to his geographic and academic roots. A Vancouver Coastal Health Research Institute (VCHRI)'s Rising Star in 2011 and a Michael Smith post-doctoral fellow, he has continued to shine across the Atlantic at the exceptionally competitive and highly regarded Koç University School of Medicine in Istanbul, Turkey as an Associate Professor.

Dr. Lack is particularly interested in better understanding the role of the Androgen Receptor (AR) in patients with aggressive or late-stage disease. Despite extensive research at the VPC and elsewhere, many questions still remain about how this important transcription factor works. Dr. Lack is determined to solve this mystery and better understand the function of the AR in order to develop more effective therapeutics to treat prostate cancer. At the VPC his knowledge and expertise in drug development is the perfect link between the computational modeling done by Dr. Artem Cherkasov and the in vivo pharmacology undertaken by Dr. Emma Guns.

BC-born and raised, and with an undergraduate degree from UBC in 2004, Dr. Lack spread his wings internationally with a PhD in Pharmacology from Oxford University in 2009. He returned to Vancouver and worked with the team as a post-doctoral fellow, and then spent the last five years in Turkey. During his time away he was busy- extensively publishing in such journals as Nature Immunology and PNAS, and building up a large research team. To support this work, his group has received several million dollars in funding from both national and international sources. Dr. Lack was also recently awarded the prestigious TÜBA-GEBIP award from the Turkish Academy of Sciences. This prize goes to the top young scientists in the country.



Dr. Faraz Hach

The Vancouver Prostate Centre was delighted to welcome Dr. Faraz Hach in his recently appointed role of Senior Research Scientist at the VPC. Dr. Hach's main focus is the field of bioinformatics, specifically computational genomics and biomolecular sequence analysis in the context of cancer research. His research involves designing unique, high performance algorithms for analyzing large amounts of data generated through sequencing of DNA. Recently, he has developed a computational tool for finding particular mutations from liquid biopsies in collaboration with the Drs. Collins and Sahinalp. He is also focused on developing computational methods to better understand the progression of cancer from tissue and liquid biopsy sequencing data.

Dr. Hach's research has been internationally recognized with number of awards and honors. These include the Ian Lawson Van Toch Memorial Award for an outstanding paper at the 20th Annual International Conference on Intelligent Systems for Molecular Biology and the Governor General's Gold Medal for the best doctoral thesis award from Simon Fraser University in 2014.

Key Publications:

An international AACR Dream Team study led by Drs. Alex Wyatt, Kim Chi, and Martin Gleave is first comparison of matched metastatic tissue biopsy and plasma circulating tumor DNA in metastatic prostate cancer. This paper, published in JNCI, reports that ctDNA profiling provides sufficient information regarding global genomic alterations of the advanced cancer and that a metastatic tissue biopsy is not required to determine the somatic status of key prostate cancer driver genes in progressing metastatic disease. These findings are a significant and potentially groundbreaking advance for a biomarker field hamstrung by the logistical challenge of obtaining metastatic tissue biopsies in routine clinical practice.

Neuroendocrine prostate cancer (NEPC) is a highly aggressive cancer that sometimes emerges in prostate cancer patients undergoing androgen deprivation therapy (ADT). Unfortunately ADT, which is common treatment for prostate cancer, had led to a correlating increase in cases of an aggressive variant called treatment-induced NEPC. Dr. Amina Zoubeidi has published a major discovery related to discovery of the protein driving the emergence of NEPC. This new information allowed her and her team to use the new genome editing CRISPR technology to turn off the gene producing that protein. They discovered that when it was turned off, the emergence of NEPC was prevented. Her work was published Cancer Discovery.

Drs. Kim Chi and Alex Wyatt surveyed men across BC with mCRPC and reported that patients with germline DNA repair defects respond poorly to androgen receptor-targeted therapy. Their findings were published in European Urology.

Drs. Yuzhuo Wang and Colin Collins described development of a stromal derived genomic signatures that can be used to predict the metastatic potential of primary prostate cancer. Should this new prognostic tool be validated by further clinical studies, it could become a tool to strengthen decisions regarding selection of active surveillance versus surgery and/or radiation therapy for prostate cancer patients. They published their work in European Urology.

The Best of the AACR Journals collection 2016 highlights the most-cited articles published in 2015 across the AACR journals. Three VPC scientists, Drs. Chi, Collins & Gleave, are included in this prestigious group for their articles "Androgen Receptor Gene Aberrations in Circulating Cell-Free DNA: Biomarkers of Therapeutic Resistance in Castration-Resistant Prostate Cancer" in Clinical Cancer Research (Chi and Collins) and "Anticancer Activity of a Novel Selective CYP17A1 Inhibitor in Preclinical Models of Castrate-Resistant Prostate Cancer" in Molecular Cancer Therapeutics (Gleave).

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