6th Annual Biomedical Engineering and Health Technology Showcase

November 18, 2022 | 10:00 am—3:30 pm PST

UVic Michele Pujol Room

University of Victoria Biomedical Engineering

University of Victoria Engineering and Computer Science

University of Victoria Research Partnerships & Knowledge Mobilization

University of Victoria Research & Innovation

WELCOME MESSAGE

Dear Attendees:

On behalf of the organizing team for this year's Biomedical Engineering Health and Technology Showcase, please accept our warm welcome and thanks for supporting this event!

The BME Program at UVic is in its 10th year, and to celebrate this important milestone we are showcasing both alumni and new directions for BME at UVic! Since its inception as an undergraduate program, BME has grown to offer a graduate program and credentials in emerging areas. In Fall 2022 we launched a new master's program in Biomedical Systems and at the same time offered the first micro-credential on Project Management focusing on biomedical devices. These initiatives broaden UVic BME's directions that poise our students for careers in BME and other related fields. As exemplary stories, we're showcasing two alumni in keynote addresses as examples of how training in BME can catalyze career directions in both engineering and related fields! Brianna Baart (BME 2019) from GuideStar Medical Devices will discuss the path to a career in medical technology, and Sarah Douglas (BME 2017) will tell the story of the path toward becoming a medical resident!

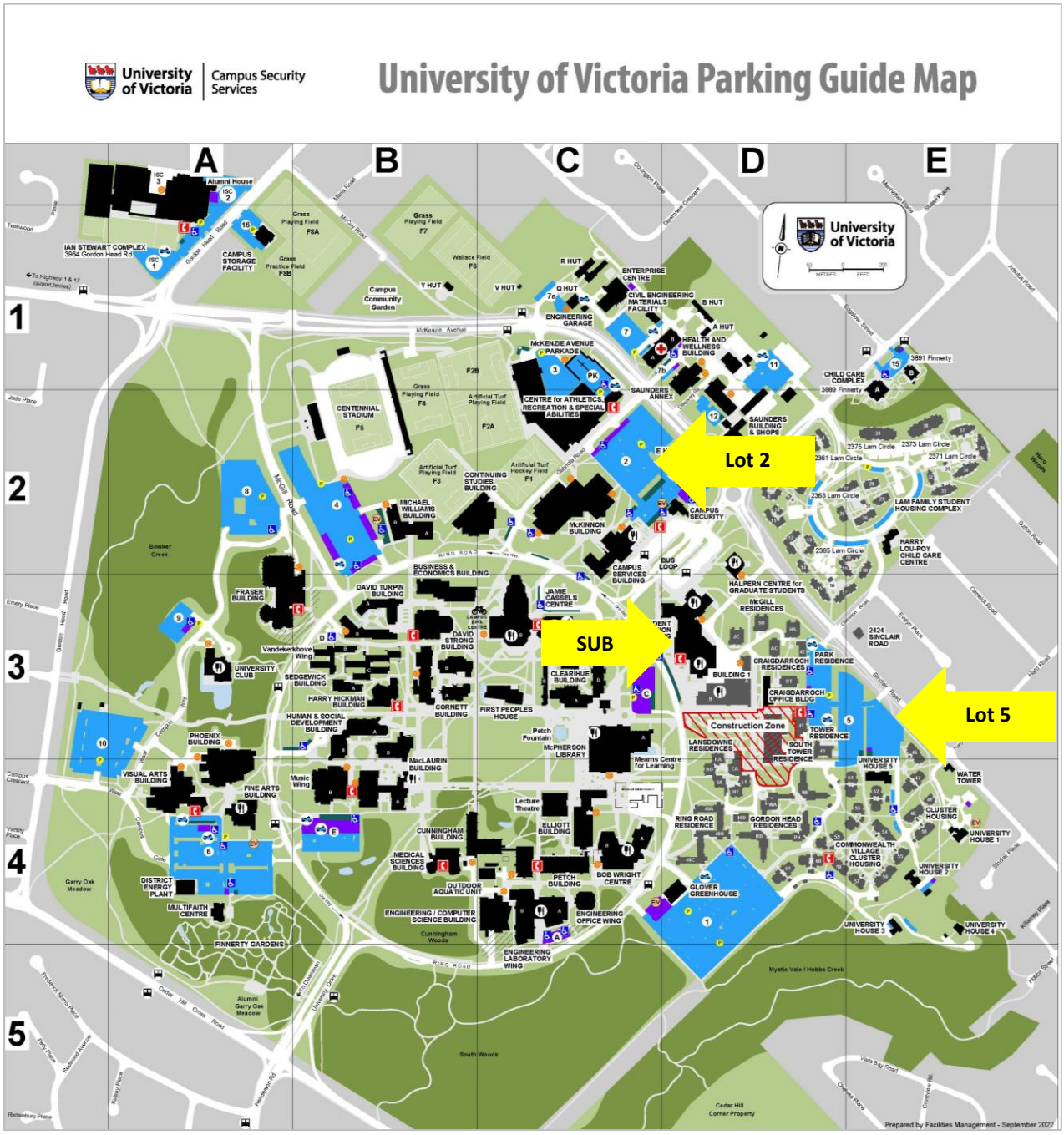
The BME Program at UVic benefits from a dedicated life sciences community that works to foster innovation, and Sam Mercer, President of the Vancouver Island Life Sciences will present on the new BioInnovation Hub that can help those with entrepreneurial goals get ideas out into the market! Building on knowledge translation, Drs. Marianne Black and Bosco Yu, new professors to UVic, will be presenting on innovative research and technologies focused on advancing health. In keeping with the knowledge translation theme, the Coast Capital Innovation Center will again host a pitch challenge with cash prizes!

We look forward to welcoming you on November 18th!

Christopher Dennison
Director of Biomedical Engineering
Faculty of Engineering and Computer Science
University of Victoria

MAP AND PARKING INFORMATION

Please refer to UVic Parking Services for a parking map and rates. We recommend parking in Lot 2 or 5 for proximity to the Student Union Building.



AGENDA

10:00	Welcome to the Territory
10:05	Welcome Remarks Dr. Christopher Dennison, Director of Biomedical Engineering, UVic
10:15	"The new BioInnovation Hub, and an outlook for the biomedical industry" Sam Mercer, President, Vancouver Island Life Sciences
10:50	Break
11:00	"Augmenting Health: Embracing Next Generation Technology for the Future of Medicine and Wellness" Dr Marianne Black, Assistant Professor, UVic Department of Mechanical Engineering
11:35	"Opportunities for using additive manufactured bio-inspired architectures for biomedical and injury prevention applications" Dr Bosco Yu, Assistant Professor, UVic Department of Mechanical Engineering
12:10	Lunch
1:00	"Co-op to Career in MedTech" Brianna Baart (BME '19), Engineering Project Manager, GuideStar Medical Devices

1:35	"Engineer to Doctor: my path and how the engineering mindset can benefit the future of healthcare" Sarah Douglas (BME '17), Resident, UBC Royal College of Physicians and Surgeons of Canada Emergency Medicine
2:30	BioInnovate Pitch Challenge Presented with Coast Capital Innovation Centre
3:30	Presentation of prizes & closing remarks Dr. Chris Dennison

Meet the Speakers

Dr. Chris Dennison is an Associate Professor in the Department of Mechanical Engineering and Director of Biomedical Engineering at UVic. Dr. Dennison's research is in the area of biomechanics and biomedical instrumentation and focuses on understanding mechanisms of traumatic injury in contexts spanning civilian life, sports and defence. The application areas for this work are protection devices including headgear and body armour. His group collaborates with professional sport leagues, protection equipment manufacturers, and defence scientists. Dr. Dennison is active in North American and International standards organizations that focus on engineered testing approaches for protective gear. Dr. Dennison is a member of the scientific review committee of the International Research Council on the Biomechanics of Injury. His group applies in vivo, ex vivo, in vitro and in silico approaches.

Sam Mercer is one of the co-founders and currently President of the non-profit volunteer Vancouver Island Life Sciences association, or VILS. He was a self-described "economic refugee" from Victoria, BC, and Canada, when graduating with a BSc Biochemistry from UVic in 1998 didn't hold a million relevant career opportunities. So, he spent 5 years each in the UK and Switzerland, working on the business side of the clinical trials industry, doing business development, proposals and contracts for global Contract Research Organizations, then "switching sides" and doing the opposite role for big pharma (Roche and Novartis in Basel), where he was outsourcing clinical trials, then doing academic alliances and IT sourcing, and negotiating well over $700 million in agreements in that time. Since big pharma and moving back to Victoria in 2014 he got more interested in intellectual property and licensing, and is on the Education Committee of LES, the Licensing Executives Society (which is also known to its members as the Liquor Enjoyment Society). Today he is a pretend lawyer, and an independent consultant to mostly small and medium pharma, helping them with their external agreements with CROs, vendors, and partners.

Dr. Marianne Black joined the Mechanical Engineering department at the University of Victoria in September 2022. Dr. Black's research is focused on developing assistive technology to aid individuals in managing musculoskeletal disorders, including the development of an augmented reality platform for guiding users through physical therapy. Prior to joining the faculty at UVic, Dr. Black completed a postdoctoral fellowship at Stanford University developing an augmented reality system for use in arthroscopic surgery, and also completed her PhD at Stanford developing novel techniques for early detection of osteoarthritis using MRI and CT. As a master's student in UBC's Engineers in Scrubs program, Dr. Black co-founded Arbutus Medical, which continues to make safe, sterile orthopaedic surgery tools for low resource settings.

Dr. Bosco Yu obtained his PhD at the University of Cambridge with a research focus on structural mechanics. He was a Croucher scholar and a fellow of the Cambridge Philosophical Society (a society for promoting scientific inquiry). Following a post-doc at the University of Toronto, he worked at McMaster University as an Assistant Professor. Dr. Yu joined the Mechanical Engineering Department at the University of Victoria in September 2022 as an Assistant Professor. Dr. Yu's research group ("Hybrid 3D") leverages the power of additive manufacturing to develop novel materials with nature-inspired architectures. Taking inspiration from both organic and inorganic structures, we seek to create architected materials that are optimized for specific design challenges in a variety of applications. Many of Dr. Yu's ongoing research projects are related to biomedical applications: the design of porous surgical implants to enhance bone integration and avoid stress shielding; the geometrical design of bioresorbable stents to reduce the risk of thrombosis; the design the architecture of 3D printed crushable materials for injury prevention applications.

Brianna Baart has a Bachelor of Engineering from the University of Victoria in Biomedical Engineering. She has a background in both the medical device and pharmaceuticals industries. She currently works for a start-up medical device company called GuideStar Medical Devices, where she was employee #2. Brianna has experience in project management, intellectual property, product development and regulatory affairs. She is the University of Victoria 2017-18 Co-op Student of the Year, recipient of the BC Tech Innovation Award and IEEE Gold Medal in Biomedical Engineering. She was also a member of the UVic women's varsity golf team, and still loves playing golf.

Sarah Douglas

I started engineering because I like to fix things and learn how they work. I am fascinated with critical thinking and finding new solutions to problems that impact society and the lives around us. My interest initially fell on developing prosthetics for injured animals when I was inspired as a young learner at a wildlife Recovery Center. This transitioned to a fascination with human physiology. I finished my biomedical engineering degree at the University of Victoria in 2017 which included co-ops in both electrical engineering and biomedical engineering. Concurrently I was playing on the University of Victoria women's soccer team. I made the choice to pursue medical school and graduated from the University of British Columbia Doctor of Medicine program in 2022. I am now in my first year of residency with the UBC Royal College of Physicians and Surgeons of Canada Emergency Medicine program based in Victoria. My academic interests are quite varied and range from biomechanical research in trauma, social research and quality improvement within marginalized populations including addictions medicine and Indigenous health. In addition to research interest, I have an interest in innovation and academic teaching where I've developed an extracurricular simulation club and have also started a CPR training program with the other medical program. Outside of my academic and work life I love to be with my family and friends and find time to exercise, lift weights or play soccer.

Trade Fair Presenters

Axolotl Biosciences

UVic BMED

CAMTEC/BioInnovation Hub

CanAssist

Coast Capital Innovation Centre

Island Health

Rainhouse

Redlen Technologies

StarFish Medical

Victoria Hand Project

VoxCell BioInnovation

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PROJECT MANAGEMENT FOR
Biomedical Device Development

University of Victoria
Biomedical Engineering

This micro-credential will provide you with knowledge and skills in the practical aspects of biomedical device development. Students will gain industry-relevant training in project planning and economic management, intellectual property and regulatory frameworks, and effective and inclusive communication.

In partnership with: Gustavson School of Business University of Victoria EXECUTIVE PROGRAMS

SBME UBC SCHOOL OF BIOMEDICAL ENGINEERING

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