Board of Governors Report  
May 26, 2016  
Joy Johnson, Vice-President, Research

Research News

• SFU features among the world’s elite institutions in 18 of the 42 subjects in the 2016 QS World University Rankings by Subject. It is ranked in the top 100 in the world in two subject areas, geography and archaeology. It ranks among the top 5 in Canada in archaeology (#4), engineering and technology (#5), and social policy and administration (#5).

• Valentina Savo of the Hakai Institute and Department of Archaeology, and a team of researchers from SFU, have published a meta-analysis in Nature Climate Change that uses local observations of climate change from Indigenous people around the world to fill gaps in quantitative data capturing temperature and rainfall trends. This research is a great example of how social science and traditional knowledge can enrich our understanding of complex, multi-faceted issues.

• Elicia Maine of the Beedie School has co-authored a paper in Nature Materials on strategies that scientist-entrepreneurs can use to reduce technology and market uncertainties and accelerate advanced material commercialization.

Research Grant Successes

• SFU kinesiology professor Andrew Blaber is heading one of four new experiments receiving federal funding to reduce health risks from space travel. He received a $371,000 grant from the Canadian Space Agency to study the interactions between cardiovascular and postural systems during spaceflight deconditioning, knowledge that could contribute to the understanding and management of physiological changes related to aging and inactivity.

• Two SFU researchers will receive a total of $1.4 million in funding from the Canadian Institutes of Health Research for collaborative eHealth projects with Canadian technology companies to assist seniors with complex care needs. Communications professor Ellen Balka will implement and evaluate an enhanced PharmaNet-based reporting platform called Pill Talk for adverse drug effects in British Columbia. Scott Lear of Health Sciences is working with the Heart and Stroke Foundation of Canada to roll out a new digital health application called Curatio for supporting heart disease patients through peer support.

• Two computing science professors will receive close to $1 million in funding from the Natural Science and Engineering Research Council of Canada for strategic partnerships connecting companies and governments with university researchers. Greg Mori is leading a team to develop novel computer vision algorithms for automating sports analytics, while Mohamed Hefeeda’s team is working on cloud-supported video streaming.

• The largest BC Knowledge Development Fund (BCKDF) grant ever awarded to SFU was announced by Minister Amrik Virk at a government event on March 29th at SFU’s Vancouver campus. The SFU-led Cyberinfrastructure: Compute Canada initiative received an $11.85-million grant from BCKDF as part of more than $13.9 million in newly announced research infrastructure grants to five SFU-led projects that will leverage an equal
amount of federal government funding. The other projects include GlycoScreen, which adds research capacity to the Canadian Glycomics Network in which SFU is a key partner; the GRIFFIN project, a gamma ray spectrometer located at TRIUMF; the Silicon Quantum Information Laboratory; and a high-res mass spectrometer for SFU’s High-Throughput Screening Facility. “This BCKDF funding will enable our researchers to be even more equipped for big data research—an area in which SFU is already a national leader—and to be more productive in activating research to fight disease and improve health outcomes for British Columbians,” remarked SFU President Petter.

Research Awards & Honours

- **Kieran Egan** has had a banner month, receiving both the $50,000 Cmolik Prize for the Enhancement of Public Education in B.C. and the Paz Buttedahl Career Achievement Award from CUFA BC. The latter award was presented at an awards dinner in Vancouver on April 14th, at which SFU faculty members took home two of the three awards. Dr. Egan was recognized for his “internationally influential work on curriculum development and education theory [that] continues to shape the work of teachers in classrooms around the world.” **Meghan Winters** of the Faculty of Health Sciences received the Early in Career Award for “influential contributions to public policy and community outreach on the impacts of built environments on people’s physical activity and health.”

- **Martin Andresen** of Criminology has received the 2016 Western Society of Criminology Fellows Award for important contributions to the field. His research analyzes individual crime types at the micro-spatial scale, knowledge that is relevant to crime prevention. His work uses police data at SFU’s Institute for Canadian Urban Research Studies (ICURS).

- Economics PhD candidate **Duman Bahrami-Rad** has been selected as one of Canada’s top 25 research Storytellers by the Social Sciences and Humanities Research Council. He will present his video about the policy impacts of research on the link between global corruption and favoritism before a panel of judges at the 2016 Congress in Calgary.

SFU Innovates Updates

- Earlier this year, **Scotts Canada** announced their sponsorship of the NSERC Industrial Research Chair in Multimodal Animal Communication Ecology, held by SFU biology professor **Gerhard Gries**. Under the terms of this agreement, Scotts is commercializing pest control technologies based on research findings emerging from the Gries’ lab. This includes the recent discovery of a new attractant to lure female brown rats, following last year’s discovery of an effective pheromone lure for bedbug traps.
• SFU Innovates sponsored the sixth annual SFU **Opportunity Fest** at SFU Surrey, a community event hosted by the Beedie School of Business. Close to 40 student competitors showcased their innovation and entrepreneurship for projects ranging from food waste solutions and an automated craft beer home brewing platform, to drone photography technology for oil and gas pipelines and a self-tuning hearing aid for people in remote areas and developing countries.

• Two entrepreneurs and Beedie School of Business alumni are among those recognized by the 2016 **BC Business’ 30 Under 30 Award**. **Bryan Gallagher**, now an adjunct professor at the Beedie School, wrote his thesis on the topic of Aboriginal entrepreneurship and was one of five finalists in the 2015 SSHRC Storytellers program. **Matias Marquez** founded a digital gift card company with the assistance of SFU Venture Connection during his undergraduate studies at SFU. **Buyatab** is now a leading global platform with 40 employees and major clients including Tim Hortons and Whole Foods, and is a finalist in the **BC Technology Industry Association (BCTIA) Technology Impact awards** in the “excellence in product innovation” category.

• **Elicia Maine** of the Beedie School of Business, Academic Director of the Science & Technology Commercialization program, has been shortlisted for “Person of the Year” in the BCTIA’s **2016 Technology Impact Awards**.

• **Majid Bahrami** of Mechatronic Systems Engineering has developed a pre-market prototype of a new low-cost system for generating clean drinkable water from the air. Called the Hybrid Atmospheric Water Generator (HAWgen), the green technology is being commercialized through his SFU Innovates’ spinout company, **Watergenics Inc.** The innovation was recently featured by **CMC Microsystems** as a success story in microsystems research, and is a finalist in the **BCTIA Technology Impact awards** in the “most promising pre-commercial technology” category. Bahrami has received media attention for this work from the *Vancouver Sun*, CBC, News 1130, MetroNews Canada, *24 Hours Vancouver*, and other outlets.

• **Alectos Therapeutics**, an SFU spinout company based on the glycobiology research of chemist **David Vocadlo**, has announced a new milestone in their collaboration with Merck to develop new treatments for neurodegenerative diseases. They have progressed to clinical testing of a first in class molecule for the treatment of tauopathies.

• According to a story in the **South Asian Link**, the first two students from India who are participating in the joint PhD program between SFU and **Indian Oil Corporation Ltd.** have finished a year of immersive fuel cell research in Mechatronic Systems Engineering professor **Erik Kjeang**’s lab. The program’s second round, which received more than 140 applications, will begin in May.

• PhD student **Ben Britton** founded **Ionomr** to commercialize an anion-exchange membrane for clean tech applications that emerged from his work in Steve Holdcroft’s chemistry lab. Britton is completing Beedie’s Graduate Certificate in Science and Technology Commercialization program. He was recently interviewed by the **Vancity Buzz** about his experiences as an SFU Innovates’ Venture Connection client.

• SFU researchers in **Carlo Menon**’s biomedical engineering lab have applied his earlier work on technology to rehabilitate stroke patients to create a novel **smart control system** for a
bionic hand. With Paralympic skier Danny Letain and partners Steeper Prosthetics in England and Barber Prosthetics in Vancouver, the team is working to refine this technology. Letain and the SFU team will be the only Canadian team to participate in the inaugural Cybathlon event in Zurich in October, an international competition for assistive robotic technology. They have launched a crowd-funding campaign to support their participation at this event, alongside 80 teams from more than 30 countries.

- The skin cancer screening tool developed by SFU alumna Maryam Sadeghi and commercialized through MetaOptima Technology Inc. is being piloted by the Surrey RCMP to enable their employees to monitor their skin health while working outdoors. The $179,000 contract is funded through the Build in Canada Innovation Program. MetaOptima grew out of SFU’s Venture Connection program. The company has expanded to a dozen full-time employees and has been recognized with numerous awards.