Board of Governors Report  
January 30, 2014  
B. Mario Pinto, Vice-President, Research

Research News

- This past December, Mario Pinto, Nimal Rajapakse and several SFU researchers visited India to further opportunities for collaboration in the area of clean energy. Meetings were held with India Oil, TATA Cleantech Capital, Ballard, Schneider Electric India, as well as representatives from the Consulate General of Canada and the BC Ministry of International Trade. The highlight of the trip was a workshop presented by SFU and IIT Bombay faculty on Advanced Materials and Systems for Clean Energy Technology. Following an industry panel presentation and discussion with representatives from Indian Oil, TATA Cleantech, and Ballard, the workshop participants developed collaborative research proposals in solar energy and fuel cells. During this visit, members of the SFU delegation also presented at the International Hydrogen & Fuel Cell Conference and the International Conference on Advances in Energy. They met with researchers at Larsen & Toubro, TATA Motors and the Institute for Chemical Technology in Mumbai; Agni College of Technology and Mahindra & Mahindra in Chennai; and Indian Oil’s R&D Center near Delhi to discuss research needs and interests.

- On January 8th, SFU’s Burnaby campus will host the national funding announcement for the Canada Foundation for Innovation’s John R. Evans Leaders Fund. Dr. D’Arcy is the featured researcher. Six SFU projects are part of this announcement, for a total of over $1 million in funding:
  - **Krishna Vijayaraghavan**, Mechatronic Systems Engineering, “Advanced Nonlinear Control Laboratory for Clean Energy Technology” ($60,526)
  - **Ryan D’Arcy**, Engineering Science, “Infrastructure for the development of critical care and point-of-care neurotechnologies” ($380,000)
  - **Uwe Glasser**, Computing Science, (with **Martin Andresen** and **Pat Brantingham**, Criminology), “Public Safety and Security secure-High Performance Computing Laboratory (sHPC Lab) ($200,000)
  - **Janet Marontate**, Communication, (with **Kate Hennessy**, SIAT), “Critical Ethnography and Digital Heritage Initiative” ($100,000)
  - **Damon Poburko**, BPK, “Epifluorescence microscopy and myography system for studies of neurovascular communication and hypertension” ($105,000)
  - **Matthew White**, BPK, “Human Physiology and Function in Extreme Environmental Climatic Chamber Conditions” ($157,000)
• Andrew Saxton, the Parliamentary Secretary to the Minister of Finance, on behalf of the Honourable Michelle Rempel, Minister of State for Western Economic Diversification, announced over $513,000 in federal funding for the Vancouver Institute for Visual Analytics (VIVA). VIVA is a joint SFU and University of British Columbia (UBC) research institute led by SFU professor of computing science Fred Popowich. The federal investment, together with additional contributions from IBM and Boeing Canada, facilitated by SFU Advancement, has enabled the purchase of visual analytics software and computing infrastructure to equip VIVA's laboratories at both SFU and UBC. SFU's Visual Analytics Research and Instructional Laboratory (VARILab) is located within the IRMACS Centre, which hosted the December 2nd announcement.

• On December 18th, the Honourable Michelle Rempel, Minister of State for Western Economic Diversification, announced over $4.3 million in funding to establish the Centre for Soft Materials at SFU’s 4D Labs, further expanding its capabilities. Byron Gates of Chemistry leads the project, which includes over $1.9 million in funding from the Automotive Fuel Cell Cooperation.

• City of Surrey Mayor Dianne Watts and VP Research Mario Pinto welcomed more than 100 guests to the December 3rd opening of the NeuroTech Lab at Surrey Memorial Hospital, where they had the opportunity to view demonstrations of brain monitoring, virtual reality simulation, a wearable robotic device for rehabilitation, and a surrogate spinal cord injury system. Led by SFU professor Ryan D’Arcy, the lab embeds university research and development into the real-world clinical environment of the hospital. It is part of Surrey’s Innovation Boulevard, a partnership between SFU, the Surrey Memorial Hospital Foundation and Fraser Health to link health institutions, universities, companies, and people to spark innovation in health care and improve patient outcomes.

• The Canada Foundation for Innovation (CFI) has launched the research facilities navigator (http://innovation.ca/en/navigator), a searchable directory of research labs and institutions in universities, colleges, and research hospitals across Canada that are open to working with business. SFU submitted twelve entries for the initial launch of the navigator.

• An international team of researchers led by SFU physicist Mike Thewalt and including three of his students have published an article in a November issue of Science that shows that they maintained a fragile quantum state at room temperature for 39 minutes. A significant improvement over the previous world record, this step forward toward the future development of practical quantum computers has attracted significant media buzz, including being selected as one of Physics World’s Top 10 Breakthroughs of 2013.

• Archaeology graduate student Marina Elliott (Mark Collard) was part of National Geographic’s Rising Star Expedition to explore caves in the Cradle of Humankind World Heritage Site near Johannesburg, South Africa. Ms. Elliot, the only Canadian member of the expedition, helped to unearth more than 1,200 ancient bones at the site, and was interviewed by Radio Canada International upon her return home.
Research Grant Successes

• Canada’s largest longitudinal research study on Canadian women living with HIV has begun, with Angela Kaida and Robert Hogg from SFU as two of the four principal investigators. Funded by the Canadian Institutes of Health Research (CIHR) and the Ontario HIV Treatment Network, the Canadian HIV Women’s Sexual & Reproductive Health Cohort Study (CHIWOS) seeks to (from their website) “put research into action in order to further social change and justice and to improve lives and care for women living with HIV in Canada.”

• Two SFU projects have received funding under NSERC’s latest Strategic Project Grant competition:
  o Farid Golnaraghi, Mechatronic Systems Engineering, “A New MEMS gyroscope design based on nonlinear coupling and internal resonance” ($374,100)
  o Daniel Leznoff, Chemistry, “Development of a Vapochromic Coordinator Polymer Materials as Sensors for Electrical Transformer Diagnostics” ($335,850)

Research Awards & Honours

• English professor emerita Sandra Djwa’s biography of P.K. Page, *Journey With No Maps*, for which she received research support from SFU and SSHRC, has won the 2013 Governor-General’s Award in non-fiction, as well as five other awards including the Charles Taylor Prize.

• SFU associate professor of criminology Martin Andresen has received the Julian M. Szeicz Award for Early Career Achievement from the Canadian Association of Geographers. A member of the Institute for Canadian Urban Research Studies (ICURS), Andresen’s research focuses on the geography of crime and spatial crime analysis. The award was granted (from CAG’s website), “In recognition of his dual contributions to the geographies of crime within cities and international trade that have employed rigorous statistical analyses and emphasized Canadian perspectives.”

• Two SFU doctoral students have received Vanier Graduate Scholarships, valued at $50,000 to help challenged populations: Jenny Shaw (Anthropology) is studying issues facing young immigrants, while Natalie Knight (English) is rewriting North American history from the perspective of Indigenous peoples. Two other SFU recipients of the 2013 Vanier scholarships are Ibrahim Numanagic (Computing Science) whose research is in the area of bioinformatics, and Ekateria Rhodes (REM) who is interested in sustainable energy management policy.

• Communication professor Yeuzhi Zhao has received two awards for her research and scholarship: the Edwin C. Baker Award from the International Communication Association for her research into media, market and democracy; and the Dallas Smythe Award from the Union for Democratic Communication for her critical media scholarship.
Innovation Office Updates

• On November 26th, the new VentureLabs® technology business accelerator, located adjacent to the Great Northern Way campus in Vancouver, was officially launched by Andrew Wilkinson, Minister of Technology, Innovation and Citizens’ Services. Over 100 representatives from government and the local technology community attended the event and were treated to a series of “elevator pitches” by the companies currently in residence.

The VentureLabs® consortium is led by SFU and includes the University of Victoria, the BC Institute of Technology, and Emily Carr University of Art + Design. It supports expanded collaboration between BC’s universities, government, industry and the local entrepreneurial and investment communities. VentureLabs® provides client companies with modern office space, infrastructure and mentorship from Executives-in-Residence who deliver the VentureLabs® Venture Acceleration Program in partnership with the BC Innovation Council and as a member of the BC Acceleration Network. The Province of British Columbia, through BCIC, has contributed $900,000 to VentureLabs® Venture Acceleration Program. To date, the VentureLabs® client companies have collectively raised more than $10.5 million in investment capital and generated 86 new jobs.

• SFU has submitted an application for Canadian Incubator and Accelerator Program (CAIP) funding, a new federal funding initiative, in partnership with Ryerson University and the University of Ontario Institute of Technology. If successful, it will provide increased funding for SFU’s incubation and acceleration programs to support more entrepreneurs and spinout companies in clean and digital technologies.

• SFU spinout company and VentureLabs® client company, Lungpacer Medical Inc., has received ethics approval for the first-in-human clinical trials of its ICU medical device and initiated a review process with Health Canada. The company has also arranged a US $3.0 million investment round and recruited two highly experienced medical device industry executives to join the company.

• VentureLabs® client SemiosBIO, a pest management company, has been selected as one of the top five winners of the Verizon Powerful Answers Award for 2013. They will participate in the Consumer Electronics Show in Las Vegas in January, where the cash prizes will be announced.

• The Snug Vest, a product from VentureLabs® client company Squeezease Therapy Inc., has been featured by the BC Innovation Council as a “success story”. The award-winning vest has been shown in clinical trials to reduce the stress hormone cortisol and to reduce tantrums in children with autism. It is currently in early market penetration stage.

• Maryam Sadeghi, founder of SFU Venture Connection® client company MetaOptima and lead of the Digital Health Hub within Surrey’s Innovation Boulevard, has been named SFU’s 2013 Entrepreneur of the Year.