Board of Governors Report
November 28, 2013
B. Mario Pinto, Vice-President, Research

Rankings

• **ReSearch Infosource** has released its annual Canada’s Top 50 Research Universities ranking by research income. SFU’s research income rose by 6 per cent to almost $96-million in FY2012 while Memorial University posted huge gains of over 150 per cent from a provincial investment, bumping both the University of Victoria and SFU down a spot to #19 and #20 respectively. For the 6th year in a row, SFU is first in publication impact among the comprehensive universities.

• SFU leapt 38 steps forward in the QS World University ranking to tie with Dalhousie for 244th in the world, 67th in North America, and 12th in Canada. It improved its standing over the previous year in measures of academic reputation (from 301 to 289), international students (from 174 to 106), and citations per faculty (from 183 to 139). In faculty areas, SFU ranks among the world’s top 250 institutions in Arts & Humanities (189), Natural Science (242), and Social Sciences and Management (167).

• According to the **Times Higher Education (THE)** World University rankings SFU’s overall grouping stayed the same at 226-250, placing 13th in Canada.

SFU Research Hits a Milestone in its Metamorphosis

• In FY2013, SFU’s research income penetrated the $100-million ceiling after experiencing more than 200 per cent growth over the past 10 years. Its faculty research intensity ($ per full-time faculty member) has also more than doubled in this period.

Research Grant Successes

• SFU researchers have collectively been awarded more than $3.5 million in grants from SSHRC in the last **Insight and Insight Development** competition. Twenty Insight grant applications were awarded for mature research projects, ranging from the obstacles to credit/risk sharing and investment in developing communities to research furthering the creation and testing of user interfaces that teach children hands-on problem solving skills. Eight researchers were awarded Insight Development grants to develop new research questions and approaches. Continuing SFU’s record of high success rates in SSHRC competitions, 34 per cent of its Insight applications were funded versus the national success rate of 21 per cent, and 38 per cent of its Insight Development applications versus the national success rate of 30 per cent.

• SFU archaeology professor **Mark Collard** and postdoctoral fellows **Jessica Munson** and **Jonathan Scholnick** are co-investigators on a new three-year UC-Davis-led $829,000 project funded by the National Science Foundation. “Cultural Evolution of Human Communication Systems” will apply new analytical techniques from the social sciences and evolutionary biology to Maya Hieroglyphic Database, yielding new insights into relationships between cultural & linguistic diversity, population dynamics, and human communication networks.
• The Canadian clean energy and automotive sectors will benefit from a new four-year research program that matches the fundamental research expertise of SFU with the technical knowledge of Ballard Power Systems. Automotive Partnerships Canada has invested almost $3.4 million toward the $6.5 million NXCT Fuel Cell Project to establish a unique fuel cell testing facility for the development of next generation fuel cell products. Erik Kjeang of Mechatronics Systems Engineering is the project’s principal investigator.

Research Awards & Honours

• The Intellectual Property Issues in Cultural Heritage project (IPinCH), led by SFU archaeology professor George Nicholas, has received Canada’s first SSHRC Partnership Award worth $50,000 in the new Impact Awards competition. IPinCH is an international collective representing nine Canadian and 19 international universities as well as 11 other organizations. It examines intellectual property issues and their implications for theory, policy, and practice.

• Dugan O’Neil, Bernd Stelzer, and Michel Vetterli are members of the international team recognized with the 2013 EPS prize for High-Energy Particle Physics for their discovery at CERN’s Large Hadron Collider of the Higgs boson. SFU has played an important role in this discovery, as Michel Vetterli leads the Canadian ATLAS Tier-1 Data Analysis Centre at TRIUMF, one of several international data centres where processing of the raw data generated by the particle detectors takes place. O’Neil and Stelzer have also made major contributions to the ATLAS project, as have several SFU postdoctoral fellows.

• Communications expert Peter Anderson has received the 2013 Lifetime Achievement Award from the Pacific Northwest Preparedness Society for his contributions to BC’s preparedness for disaster/extreme events, as well as his work training future professionals in the field.

• Faculty of Health Sciences Dean John O’Neil follows up his recent investiture as a Fellow of the Canadian Academy of Health Sciences with an election to the Board, as Vice-Chair, of the Michael Smith Foundation for Health Research.

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

• Two SFU professors have been recognized by the Association of Professional Engineers and Geoscientists of BC: Ash Parameswaran of Engineering Science has received the 2013 Meritorious Achievement Award for his lab-on-a-chip devices, while Diana Allen of Earth Sciences has received the C.J. Westerman Memorial Award for her work assisting developing countries in managing and protecting their groundwater resources and for increasing public understanding of hydrogeology.

• SFU microbiologist Fiona Brinkman has been appointed to the Board of Directors of Genome Canada.
Research News

- **Cenk Sahinalp** of Computing Science has advanced from a Tier 2 to a Tier 1 Canada Research Chair in Computational Genomics, and **Diane Gromala** of SIAT has received a renewal to her Tier 2 Chair in Computational Technologies for Transforming Pain.
- A new charter school designed around the principles of Imaginative Education (IE) invented by **Kieran Egan** is scheduled to open in San Diego in 2014. The Kieran Egan Legacy Charter School will join the Corbett Charter School in Oregon, which has been operating on IE principles since its opening in 2009.
- A new SFU Digital Health Hub has been launched within Innovation Boulevard at Surrey to drive health innovation through SFU’s partnerships with Fraser Health and the City of Surrey. It will be led by SFU entrepreneur **Maryam Sadeghi** of MetaOptima Technology Inc., a Venture Connection client company. The Innovation Boulevard initiative for health tech innovation is co-led by SFU’s **Ryan D’Arcy** and City of Surrey Mayor **Dianne Watts**.
- **Paul Cernak** and **Dipankar Sen** of MBB have published a paper in *Nature Chemistry* on the discovery of a ribozyme that utilizes vitamin B1 for a synthetic reaction that supports the role of vitamins in early metabolic processes in the primordial world.

Innovation Updates

- **Nanotech Security**, a public company based on SFU technology developed by **Bozena Kaminska** for anti-counterfeiting authentication called KolourOptik, has recruited ex-Blackberry executive Frenny Bawa as its Chief Commercial Officer. In a recent article in Cantech Letter, Bawa said, “what Nanotech offers is a genuinely disruptive technology in the $650-billion annual counterfeit market.”
- Indian M.Sc. student **Ram Meyyappan** was profiled by *SFU News* as one of six SFU alumni hired by SFU spinoff company **Lungpacer Medical**, which is further developing **Andy Hoffer**’s medical device for upcoming clinical trials.
- SFU Venture Connection client **MetaOptima Technology Inc.** has won the $40,000 Wavefront Wireless prize in the 2013 BCIC –New Ventures competition for its Molescope smartphone app enabling the early detection of skin cancer.
- **Guy Flavelle** is the newest member of SFU Venture Connection’s mentor-in-residence team, joining Jim Derbyshire, Stewart Marshall, Dave Thomas, and Hugh MacNaught.
- SFU Venture Connection has launched a new website, at VentureConnection.sfu.
- The **Impact Group’s** Report on Research Commercialization has ranked SFU within the top 10 in Canada in the following categories (based on FY2011 data):
  - Patent applications per $million of research expenditure - 10
  - Patents issued per $million of research expenditure - 4
  - Total licensing income - 9
  - Average licensing income per active license - 2
  - License income per $million of research expenditure - 3