Recent Research News

ReSearch Infosource Rankings
According to Canada’s Top 50 Research Universities List 2012 (based on FY2011 data), BC’s four universities witnessed an almost 6% growth in research income, compared with a 2% national gain. SFU’s research income grew by almost 3% to $90 million (a 260% growth from 2001), maintaining its position at #19. Among the six comprehensive universities, SFU is again ranked 1st in publication impact (a measure of the probability of being cited in academic journals), a position it has held since 2008—and it is ranked 4th in Canada on this measure.

Maclean’s University Rankings 2013
Highlights from the 2013 Maclean’s university rankings relating to faculty performance: SFU ranks 1st among the comprehensive universities in the average size and number of NSERC and CIHR grants per full-time faculty member, 2nd in SSHRC grants; five in 1000 full-time professors have won national awards in the past five years, the most awards per faculty among the Canadian comprehensives, with the exception of Waterloo at 5.2/1000.

CFI Leaders Opportunity Fund Results
Two SFU projects received funding under the Canada Foundation for Innovation’s Leaders Opportunity Fund program: Coastal Science and Management Research Program ($75,000, Jonathan Moore, BISC) and Communication and Data Mining in Social Media, Genomics, and Personalized Medicine ($90,000, Andrew Feenberg & Peter Chow-White, CMNS).

SSHRC Insight and Insight Development Grant Competition Results
Eighteen SFU-led projects will collectively receive ~$3.6M from the last SSHRC Insight grants competition. These include a $396K project headed by David Kaufman of the Faculty of Education and involving researchers from the University of Ottawa and UQAM called “Aging Well: How Digital Games Help,” and a $410K project headed by Suzanne de Castell with York University on bridging the claims-evidence gap in digital game-based learning research. John Nesbit and Phil Winne have received $379K for their project on self-regulated learning in an online environment, and Susan O’Neill has received $397K to work with Brock University and Laval University on artistic learning and youth arts engagement in the digital age. Donna Gerdts will receive $284K for her project on “A Hul’q’umi’num Salish Linguistic Legacy.” In addition, SFU researchers are participating in seven projects led by other institutions.

Eleven SFU-led projects have been funded through the Insight Development Grant competition, ranging from measuring the effects of the human genome project (June Francis, $31K) to grassroots multilingualism in Africa (Huamei Han, $36K).
Canada Research Chairs (CRC) Latest Funding Decisions
Mila Lazarova is SFU’s newest Canada Research Chair (Tier 2). She is an Associate Professor in the Beedie School of Business. Her research interests lie in the area of human resource management in the global context, and her chair is the “Canada Research Chair in Global Workforce Management.” Mark Collard’s Tier 2 CRC in Human Evolutionary Studies has been renewed for a further five-year term.

SFU Mechatronics Helps City of Surrey Reach Environmental Goals
SFU Mechatronics Systems Engineering (MSE) researchers Eric Kjeang and Kourosh Malek helped the City of Surrey make its decision to replace its diesel garbage trucks with alternative low-carbon emission vehicles, by conducting a life cycle analysis that found the change would save almost 25% in greenhouse gas emissions. Now the City is extending their collaboration with the MSE research team to analyze the environmental impact of their full fleet of vehicles, with the help of a new online life cycle analysis tool that will be developed with funding from PICS, MITACS, and the City of Surrey. The new tool will help predict the benefits of alternative fuel sources that are being developed under other collaborations between SFU and Surrey.

SFU Data Collection Site of Canadian Longitudinal Study on Aging Officially Opens
On October 4th, the SFU data collection site for the Canadian Longitudinal Study on Aging officially opened at Podium 2 on the Surrey campus. One of 11 data collection sites across Canada, the SFU site consists of a team led by Dr. Andrew Wister of the Department of Gerontology, who will test and interview about 1,500 participants every three years over 20 years. The site is another example of how SFU Surrey contributes to the wellbeing of South Fraser communities.

Sierra Wireless Mobile Communications Lab Opening Celebration
On November 28th, there will be an opening celebration event and announcement of the Sierra Wireless gift to the Sierra Wireless Mobile Communications Lab, headed by professor Rodney Vaughan. Sierra Wireless has donated $400K towards the antenna chamber in this lab; in addition, $600K has been provided by Sierra as a match to the Burnaby Mountain Endowment Fund for the establishment of an endowed chair in wireless communication. In addition to Sierra Wireless, the antenna chamber received funding from the Canada Foundation for Innovation ($400K), Western Economic Diversification Canada ($325K) and BC’s Knowledge Development Fund ($400K). It is the only lab available in Western Canada where companies have shared access for research, development and testing.

SFU Lab Nano-engineers World’s Smallest Book
SFU’s Nanoimaging Facility and publisher Robert Chaplin have created the world’s smallest book, certified by the Guinness World Records “Teeny Ted From Turnip Town.” The book is the result of collaboration between Chaplin and SFU physicist Karen Kavanagh and can only be read on a scanning electron microscope. This story brought attention to SFU from media outlets around the world, including The Sun in the UK.

Revision of SFU Ethics Policy R20.01
In 2011, a Senate-mandated review of R20.01 (Ethics Review of Research Involving Human Subjects) was initiated, which included the external review of SFU’s Research Ethics Board, the Office of Research Ethics, and policy R20.01. An extensive public consultation process on the proposed draft policy wrapped up on October 31st. The revised policy makes definite recommendations on research involving aboriginal individuals and communities. It will now be taken to SCUP & Senate for discussion and approval.
SFU – Fraser Health Research Day
The first SFU-Fraser Health Research Day was held on October 17th at the SFU Surrey campus, to highlight existing collaborations between SFU and Fraser Health and facilitate new partnerships. For example, Diane Gromala is working with Fraser Health to train doctors and nurses on the use of pain management technology, while Andy Hoffer is working with Fraser Health’s Critical Care Department on pre-clinical human trials of his Lungpacer Diaphragm Pacing System. Stephen Robinovitch is collaborating with Fraser Health’s Fabio Feldman, an SFU Ph.D. alumnus, to understand how and why the elderly fall and to explore new avenues for fall prevention. Their research, published in The Lancet, used video footage to determine that the most frequent cause of falls among this population is incorrect weight shifting.

SFU Researchers Part of Canada’s First Two Epigenomic Mapping Centres
Steven Jones, Martin Hirst, and Richard Moore from SFU, and researchers at the Michael Smith Genome Sciences Centre and UBC, will work at one of Canada’s first epigenomic mapping centres (the other centre in Montreal involves researchers at McGill). Funded by a $12M grant from CIHR, the two centres will study epigenome changes over a lifetime, which is important to the understanding of human health and disease. This is part of the broader international effort to map 1000 epigenomes.

Indigenous Initiatives Librarian Appointed
SFU has appointed Jenna Walsh from the Fraser Library at SFU Surrey as its new Indigenous Initiatives Librarian, effective December 1st. Jenna will provide liaison librarian services for the Departments of First Nations Studies, Archaeology, and Political Science, as well as a spectrum of indigenous units and initiatives across the university.

Recent Accomplishments: Awards & Honours

Horace S. Isbell Award of the American Chemical Society, Carbohydrate Division
David Vocadlo, Chemistry, Faculty of Science
Professor David Vocadlo has received the prestigious Horace S. Isabell Award from the ACS in 2013 for demonstrated excellence in and promise of continued quality of contribution to research in carbohydrate chemistry.

2012 Meritorious Achievement Award, Association of Professional Engineers & Geoscientists
Mirza Faisal Beg, Engineering Science, Faculty of Applied Sciences
Associate Professor and MSFHR Scholar Mirza Faisal Beg has been selected as the winner of the Meritorious Achievement Award, one of the President’s Awards of the Association of Professional Engineers and Geoscientists.

Updates: Innovation Activities

SFU Spinoff 4D Labs Featured in BC Business Magazine
SFU’s $41-million 4D Labs was featured in BC Business Magazine. The article mentions that the lab leases its resources to startups, and marries its technology with “business acumen.” Bozena Kaminska and Doug Blakeway (an SFU Entrepreneur-in-Residence) are quoted in the article.
**Venture Connection Updates**

This summer, SFU Venture Connection graduated two more clients from its incubator. **Catstatic** is comprised of three Centre for Digital Media graduates who create interactive 3D applications for mobile, web, and kiosk. **NuXD** is the creative design firm of two alumni from the School of Interactive Arts & Technology, and was a resident client at SFU Surrey and Business Centre Solutions. The latest recipient of the Venture Connection Business Centre Solutions Award is **Iconic State**, which specializes in websites, online marketing, and mobile solutions.

**SFU Spinoff Lungpacer Medical Wins its Sixth Award**

**Lungpacer Medical**, based on Andy Hoffer’s diaphragm pacing technology, has received the Silver Award at the international WBT Innovation Showcase, a showcase of international companies and technologies. This was one of three awards selected from 100 presented, and is the sixth award that Lungpacer has received to date. The company has been contacted by two well-regarded hospitals in Holland and France to collaborate on future clinical research.

**PhD Student Receives Honorable Mention in Innovation Challenge Competition**

Doctoral student **Maryam Sadeghi** has received an honourable mention and $1500 in NSERC’s 2012 Innovation Challenge Awards competition. A computing scientist, Maryam is in the process of registering a company to commercialize her medical imaging technology for the early prevention and diagnosis of skin cancer. In 2011, she initiated and led a team of graduate students from SFU and UBC to develop and launch Canada’s first UV app for melanoma prevention, called “UV Canada.”

**Beedie entrepreneur Jessica Fan’s Penyo Pal Wins Award**

Last year, **Jessica Fan** was selected as one of 36 students from across Canada to participate in “The Next 36” program, where she has received personal mentorship from some of Canada’s top business leaders and academics. With a $30,000 advance from the program, she has developed the Penyo Pal, an app that teaches children to speak Mandarin. Penyo Pan was voted best launch product at the Launch EDU conference – the only Canadian venture and the youngest company invited to present.

**SFU Innovation Office Mid-year Report**

The SFU Innovation Office has exceeded its semiannual targets with the creation of 25 action plans and the completion of 114 “action steps” between April and September. These are actions taken to accelerate the development of SFU entrepreneurs and startup companies, such as concept development and refinement, conducting market and competitive research, IP strategy, company formation, proof of concept, developing business and marketing plans, pitch training for financing, etc. These targets and the progress toward them are reported to the BC Innovation Council, which in turn reports to the Government of British Columbia on its expenditures and performance.

**SFU’s Participation in the Startup Canada National Tour**

The SFU Innovation Office co-hosted the Startup Canada Vancouver Town Hall event at the Segal Graduate School of Business along with SFU Beedie, BCIC, BCIT, ECUA+D, UBC, and the Discovery Foundation on September 18th. It was held as part of Canada’s first “national movement to enhance the nation’s competitiveness and prosperity by supporting and celebrating Canadian entrepreneurship,” engaging 25,000 Canadians in town hall and other events.