Recent Research News

**NSERC Collaborative Health Research Project Grants**
Two SFU researchers will lead collaborative projects funded by NSERC and CIHR’s Health Research Projects program:

- Engineering scientist **Carlo Menon** and co-applicants Lara Boyd and Jayne Garland from UBC will work with Abilities Neurological Rehabilitation, a small rehab clinic, to develop a novel method that combines emerging brain stimulation technologies with rehabilitation robotics in an effort to improve understanding of neural plasticity and facilitate rehabilitation of impaired arm function after stroke (~$360K).

- **Glen Tibbits**, CRC in Molecular Cardiac Physiology, will receive ~$594K for his collaborative project with **Marinko Sarunic** and **Faisal Beg** of SFU’s Engineering Science to develop a new tool for determining the etiology of a life-threatening condition that affects >20% of young children after open heart surgery. The instrument, which will employ two existing optical mapping technologies to visualize the heart’s electrical conduction pathways and the tissue that delineates these pathways, could inform treatment options and improve patient outcomes.

**SFU Researchers Engaged in Climate Change Research Through PICS**
The Pacific Institute for Climate Solutions (PICS) has funded 27 new research projects, ten of which involve SFU researchers as principal or co-investigators (**Mark Jaccard**, REM; **Chris Bataille**, REM; **Mark Roseland**, Centre for Sustainable Community Development; **Michael Howlett**, Pol Sci). The projects involving SFU researchers total ~$693K of the $1.8M in new PICS funding, and focus on the low carbon emissions economy, sustainable communities, social mobilization and resilient ecosystems.

**SFU Researchers Receive $4.7M from Terry Fox Research Institute for Clinical Trials**
**Miriam Rosin** of Biomedical Physiology and Kinesiology is the director of the oral cancer prevention program at the BC Cancer Agency. Over the past five years, her team has been testing a new hand-held fluorescence visualization device, developed by the BC Cancer Agency, for detecting early-stage oral cancer. They have seen promising results in the ability of the surgical tool to reduce the recurrence rate, and have just received a $4.7M grant from the Terry Fox Research Institute to embark on clinical trials of the device. The study will take place over two years and involve 400 patients at nine health centres across Canada. SFU health scientist **Kitty Corbett** is also participating in the study, to determine how to train doctors to use the device. News of the study was covered in the *Vancouver Sun*, as well as other Canadian news outlets.
**NSERC Discovery Accelerator Supplement (DAS) Grants**

Six SFU researchers were selected to receive $120,000 over three years through the NSERC Discovery Accelerator Supplement program, to assist with research that has a very high potential for impact relative to other applicants. These are Danny Leznoff of Chemistry, Mohamed Hefeeda of Computing Science, Adam Oberman of Mathematics, Lynn Quarmby of MBB, and Neil Watson of Psychology. They join nine other SFU researchers with active DAS grants in their second or third year.

**Grand Challenges Canada Rising Stars in Global Health Grant**

Kate Tairyan, a Senior Lecturer in Global and Public Health at the SFU Faculty of Health Sciences and the Director of Public Health for Health Sciences Online at the UBC School of Population and Public Health is one of 19 Canadians to receive a new $100K “Rising Stars in Global Health” grant from Grand Challenges Canada. Dr. Tairyan’s proposal is to create the world’s first free, globally available, high-quality health sciences university. According to their website at www.globaluni.info, the university will offer free master’s degrees and multiple medical residency training programs, geared toward trainees in developing countries with students remaining in their home environments, thereby building capacity. The trainings are currently being piloted in the Caribbean, China, Columbia, India, Kenya, South Africa, and Zambia.

**Children’s Health Policy Centre Leads Scientific Evaluation of Nurse–Family Partnership**

Charlotte Waddell of Health Sciences will head the scientific evaluation of a clinical trial of the Nurse–Family Partnership ($5M), a key part of BC’s new Health Start initiative that will be rolled out to all the Health Authorities in BC to provide intensive education and support to vulnerable first-time at-risk mothers in their homes. She will work together with Dr. Harriet MacMillan from the Offord Centre for Child Studies at McMaster University, and in collaboration with the BC Ministry of Health, the BC Ministry of Children and Family Development and BC’s Health Authorities.

**Komagata Maru Project**

The infamous "Komagata Maru” incident of 1914, which was seen as a direct challenge to Canada's exclusion laws, resulted in 376 would-be immigrants from India being turned away from Vancouver Harbour after a prolonged legal battle. Brian Owen, through the SFU Library, is heading a new project that will create a comprehensive digital resource about the Komagata Maru incident and how it has affected later Indo-Canadian culture and experience. Supported by a $350,000 grant from Citizenship and Immigration Canada through the Community Historical Recognition Program, the project will enable educators, students, researchers and all Canadians to learn about and contextualize this episode in our history.

**SFU and Government of Canada Strengthen Relationships with India**

On June 27th, Western Economic Diversification announced a $302,525 federal investment to support SFU in delivering the BC-India Innovation, Exchange and Mobility Initiative that will facilitate collaborative research between the two regions. Over two years, SFU students will be placed with Indian organizations, Indian professionals will visit BC, and sector-focused workshops will be hosted in both BC and India. The clean energy, health and life sciences, and new media/film sectors will be targeted.
Chronology of Chinese Canadian History Tabled at Canadian Senate
On June 15th, the Honourable Vivienne Poy tabled at Senate “A Brief Chronology of Chinese Canadian History: From Segregation to Integration”, citing it as a “multicultural educational resource [that] offers a potential model to other ethic communities”. The chronology was produced by the SFU David See-Chai Lam Centre for International Communication and authored by David Chuenyan Lai of the University of Victoria. UBC is also a partner, helping to make the project’s educational content available online later this year through the “Chinese Canadian Stories” website, so that the stories of Chinese Canadians can be shared internationally with students and researchers.

SFU Helps Surrey Set Sustainable Example
SFU Mechatronics has partnered with the City of Surrey in research on the pros and cons of low carbon alternatives to gas and diesel municipal fleet vehicles. Surrey has one of the top-rated green fleets in Canada. They are the only Canadian municipality to host two municipal hydrogen filling stations, and they are introducing alternative fuel vehicles into their fleet. Surrey City Council has just passed a new initiative requiring all service stations to provide at least one alternative fuel source.

Recent Accomplishments: Awards & Honours
SIAM Germund Dahlquist Prize
Steve Ruuth of Mathematics has been awarded the Germund Dahlquist prize by the Society for Industrial and Applied Mathematics. This major international recognition in the area of numerical analysis and scientific computing is awarded every two years, in recognition of outstanding contributions to the field. SFU is the only Canadian math department to have won this honor in the history of the prize. Dr. Ruuth is an applied mathematician whose work has had a profound impact in computational practice. He is currently the site director at the SFU location of the Pacific Institute for the Mathematical Sciences.

Max Donelan Speaks at TEDx
Max Donelan of Biomedical Physiology and Kinesiology recently presented his research on Human Energy Harvesting at TEDx, a program of local, self-organized events that bring people together to share a TED-like experience (TED is a nonprofit devoted to Ideas Worth Spreading). One of the features of TED is to make the best talks and performances from TED and TEDx events freely available to the world. Max’s video can be viewed here (and is also linked to the VPR website): http://www.youtube.com/watch?v=ritG7pIf2I

North House Wins Innovation Award
The SFU co-developed North House has received more kudos from Architecture Canada for its innovative ultra-green design, winning an award of excellence for innovation from Architecture Canada.

SIAT professors Lyn Bartram and Robert Woodbury and their grad students created the adaptive living interface for North House, giving its occupants real-time feedback on the home’s energy usage. The system is also used in West House, a sustainable laneway home that is now a living research lab.
Updates: Knowledge Transfer and Mobilization Activities

SFU and Coast Capital Savings: Partners for Nurturing BC Talent
BC-based Coast Capital Savings has a vested interest in the development of the province’s young entrepreneurs, so they have donated $750,000 to the SFU Venture Connection program. SFU Venture Connection supports and nurtures student entrepreneurs by linking them with experienced advisors and funding opportunities. It also accelerates early-stage student companies through the provision of mentorship and incubation resources, helping to create a diversified economy. Venture Connection is also supported by BCIC and the Dobson Foundation.

Belgian Delegation Visits SFU to Compare Technology Transfer Policies and Practices
On May 29th, a large delegation from Wallonia-Brussels, including representatives from the three major universities of the region, visited SFU. They met with President Petter and Associate Vice-President, Research Norbert Haunerland, as well as staff from the Innovation Office, before touring several laboratories. The main purpose of their visit was to compare policies of internationalization and especially technology transfer with Canadian universities. The visit was a success, and the delegates were pleased with the contacts they were able to make at SFU.

SFU’s Vancouver Greentech Exchange Joins Global Greentech Cluster Association
The SFU Vancouver Greentech Exchange is now a member of the Global Cleantech Cluster Association, a partnership of the top 20+ cleantech clusters around the world. While most countries with the exception of the US have only one cluster member, Canada now has three, in Vancouver, Toronto and Quebec.

SFU Students Earn Top Two Spots at BCNET
How would you like to watch a live Canucks game on tv with a panoramic 360-degree view of the action? SFU engineer Jie Liang and graduate student Andrew Au have developed “Veaver,” a multi-view interactive video software system that could one day make this a reality, as well as improve current surveillance video technology. Andrew won 1st place at the BCNET Digital Media Challenge Award for this work, partially funded by Nokia. A group of SFU Interactive Arts & Technology students took 2nd place, for a “Puppetier” glove that allows the user to control the hand of the wearer.

LabTricks Concept Wins 1st Place Prize
The team of graduate students from Molecular Biology and Biochemistry that created the educational website LabTricks.com took first prize in the SFU Business Concept Competition hosted by SFU Venture Connection. Their website contains self-produced video tutorials of science lab techniques that aren’t found in textbooks. Last fall their video Sequence Me won top prize at Gene Screen BC’s first film competition.
SFU Entrepreneur a Regional Champ
In 2008, SFU student Jordan Gutierrez founded an online bookstore to sell Spanish medical books. In 2010, he was selected as SFU’s Student Entrepreneur of the Year, earning him entry into SFU’s incubator program VentureLabs. Today, librelialeo.com.mx is Latin America’s biggest online medical bookstore with sales exceeding $1 million. In the competition organized by the Association of Canadian Entrepreneurs, Jordan represented the province (as BC’s 2011 Student Entrepreneur), and then region (as a Western Canada Regional Champion), before winning runner-up in the national competition.

SFU Venture Connection Client QuikPiq Releases iPhone app
Should you choose the vanilla cupcake with sprinkles, or the deep chocolate one? See the latest action flick or the tearjerker? QuikPiq is a new free iPhone app that allows you to share photo-polls with friends through your social network. Developed by SFU Business grad Ashish Gurung, communications grad Anoop Aulakh and Interactive Arts & Technology student Don Masakayan, QuikPiq was recently featured in the Vancouver Sun.

Three SFU Students Pedal New Green Venture
A group of five students, including three from SFU’s Sustainable Community Development program, have founded a unique, human-powered cargo delivery service that is ideal for Vancouver’s downtown core. Using specially designed cargo tricycles, Shift Delivery Co-op will provide a zero-emission delivery service for companies wanting to reduce their environmental impact. The business is the result of a social-enterprise course at SFU.

SFU Alumni Startup Wins Spot at Discovery Parks’ Generator Centre
V7 Entertainment, a Venture Connection client launched by students from the Masters of Digital Media program at the Centre for Digital Media, is one of eight new startups selected to earn nine months of free rent in the Discovery Parks’ Generator Centre. The students developed a game engine that enables animations to be rendered in real time and put directly on TV, resulting in substantial cost- and time-savings.