Simon Fraser University (SFU) and BC Cancer Agency Collaborate on Research

In October, the BC Cancer Agency and SFU celebrated the formal launch of an important partnership to combat cancer. The two organizations signed a research and intellectual property affiliation agreement to foster ongoing collaboration and innovation. Through the agreement, the BC Cancer Agency will be able to draw on SFU's strengths in kinesiology, software development and electrical engineering, while SFU will have greater opportunities for training in medical and oncology disciplines.

“This marks an important step in furthering health research at SFU. It builds on existing research connections and holds the promise of greater collaborations between our researchers and those at the BC Cancer Agency and its partners,” notes Dr. Bruce Clayman, Vice-President, Research, SFU.

Surrey Campus Research Activity

By Terry Lavender

At Simon Fraser University (SFU) Surrey, research wears an interdisciplinary face. Computer scientists work with dance theorists, business administration professors collaborate with graphic designers, and graduate and undergraduate students play prominent roles in research projects. Business and government partners are also heavily involved.

The collaborative culture at SFU Surrey arises out of the structure of the program at the campus - a program that combines interactive arts and information technology with elements of management and technology, and adds e-learning as well. The students in the program have to take courses from both streams, along with collaborative courses in communication, team dynamics, and learning and information.

The very architectural layout of the campus encourages collaboration. Faculty members don't have offices; instead their desks are arranged in an open layout, allowing easy, informal discussion and brainstorming among faculty, graduate students and research assistants.

Three research projects in particular illustrate the collaborative and interdisciplinary nature of research at the Surrey campus: the Managing e-Loyalty Through Experience project headed by Dr. Dianne Cyr, Dr. Griff Richard's POOL initiative, and Ms. Thecla Schiphorst and Dr. Julie Tolmie's Token Space project.
The Canada Foundation for Innovation (CFI) has become a major funder of Canadian research infrastructure. I would like to update readers on some important CFI-related items:

We have now received the approval of matching funding from my office. The largest award by far is for IRMaCS, Interdisciplinary Research in the Mathematical and Computational Sciences. Dr. Peter Borwein of our Mathematics Department is the IRMaCS Project Leader. CFI and BCKDF funding of $4.7 million each contributes to a total project cost of more than $11.7 million. The project consists of computing power and networking, and the extension to the Applied Sciences Building needed to house the equipment and researchers. Detailed planning for the addition of a tenth floor to that building is underway, with construction scheduled to begin later this year. Also of interest is the completion of funding for three projects at Simon Fraser University (SFU) Surrey; work is now underway on these projects.

I appointed Dr. Colin Jones as Director of CFI Strategic Planning last summer. He is working with Dr. Sara Swenson, SFU’s Institutional CFI Coordinator, to assist project leaders in developing the strongest possible applications for the 2003 CFI Innovation Fund competition. While Dr. Swenson works full time in this position, the Centre for Systems Science has appointed a temporary grants facilitator. Dr. Jones is also the primary BCKDF contact between SFU and the provincial Ministry of Advanced Education.

The deadline for completed applications to the CFI Innovation Fund is May 30, 2003. There are ten applications under development at SFU, comprising over $110 million in total project costs. SFU projects span a wide range and include expansion and upgrading of our Animal Care Facility, a new Materials Science Research Centre and an interactive Performance Studio. SFU is also collaborating with a number of other universities on another $29 million of support for SFU research. The preparation of applications receives external support (over $120,000 to date) from Western Economic Diversification and the Science Council of British Columbia, with partial matching funding from my office.

Managing e-Loyalty Through Experience

Management and Technology Associate Professor Dr. Dianne Cyr and her team of researchers have been awarded a Social Sciences and Humanities Research Council (SSHRC) grant to study how consumer loyalty on the internet relates to how internet experience is designed. The other members of the research team - all at SFU Surrey - are Mr. Jim Budd, Mr. Russell Taylor, Dr. John Bowes and Ms. Thecla Shiporst. The grant, one of the first to be awarded under SSHRC’s Initiative on the New Economy, is worth $286,000 over three years.

E-business is a new frontier for buying and selling in the New Economy, according to Dr. Cyr. “To date, little attention has been paid to how trust and e-loyalty are developed in e-business contexts, especially with reference to cross-cultural differences,” she says. “Consumer trust and loyalty have long histories as vital elements of building successful businesses. This research aims to move beyond traditional commerce theory and applications to look at conditions unique to building loyalty and trust in online environments. Trust and loyalty are complex ideas. The goal of the research is not to fully redefine these concepts, but to examine specific elements of trust unique to e-business, and to recommend practices that enhance business success.”

Portal for OnLine Objects in Learning (POOL)

The POOL project was a collaboration of several educational, private and public sector organizations to create resources for groups that produce learning content for on-line delivery. The three-year, $1.6 million project ended in September 2002.

Learning content objects range from the simple - such as text documents - to the complex - such as simulation applets and multimedia case studies. The POOL project was designed to facilitate the management, storage and retrieval of these objects for organizations involved in higher education, workplace training and continuing education.

SFU Surrey researchers involved in the project were Dr. Griff Richards (Project Manager), Dr. Tom Calvert, Dr. Marek Hatala and Dr. John Nesbit, along with several undergraduate and graduate students. Their work won the 2002 Educational Technology "Bright and Shiny" Innovation Award from the Centre for Curriculum, Transfer and Technology.

Dr. Richards defines learning objects as “definable, reusable chunks of digital content and process elements used for learning and instruction.” The problem, he says, is managing, finding and gluing objects together so they run. There is also a lot of duplication and wasted effort as different individuals and organizations develop learning objects that may already exist elsewhere. POOL was begun in order to address these problems. The goal was to make it easier for e-learning content developers to find and share learning objects.

With the conclusion of POOL, the next step will be eduSource, a project that will create a testbed of linked and interoperable learning object repositories across Canada and will facilitate further development of the related tools, systems, protocols and practices.

Funding was provided by CANARIE, Canada’s advanced Internet development organization. Other organizations involved were the New Media Innovation Centre, the TeleLearning Network Inc., the BC Centre for Curriculum, Transfer and Technology, the University of New Brunswick Electronic Text Centre, the Open Learning Agency, the New Brunswick Distance Education Network, TELEStraining Inc., IBM Canada Pacific Development Centre and MaxLink Communications.

Token Space

Token Space, a collaboration among SFU, the University of British Columbia (UBC), and Tactex Controls Inc. of Victoria, explores the use of Smart Fabric, an advanced optical fabric, in the domain of wearable/portal computational devices.

Tactex’s technology involves a fabric that is able to sense and measure pressure at multiple points of contact. Originally developed for the Canadian Space Agency, it consists of an array of fibre optic sensors embedded in a thin,
WestLink Intern in the UILO

In October, the University/Industry Liaison Office (UILO) welcomed Mr. Charles Abel to the office. Charles will spend a total of seven months here - the final of three assignments he received under the auspices of the WestLink Internship program.

WestLink is a not-for-profit network formed to facilitate communication, collaboration and technology development and commercialization in Western Canada. WestLink's twenty-three members include western Canadian universities, colleges, and affiliated research institutes. The WestLink Internship program is aimed at building a pool of people who understand both business and technology commercialization. Interns commit to a two-year term during which they spend eight months at a UILO, eight months in a high-tech firm, and eight months with a venture capital firm. Charles spent one term with a local start-up, Advanced Integrated Microsystems, followed by a term at Qwest Emerging Biotech Fund before joining the UILO at Simon Fraser University (SFU).

Mr. Abel works closely with the UILO's Technology Managers to assess technologies, prepare market summaries, manage related patent files, and assist with licensing opportunities. Recently, Dr. Hogan Yu of SFU's Chemistry Department, was awarded Prototype Development/Proof of Principle funds to further his development of a novel testing method for electrical characterization of solid-state materials. Teri Lydiard, the UILO Technology Manager of the project, made use of Charles' skills to seek potential industrial collaborators and licensees for this technology.

"Successful early stage technology commercialization based on University innovation requires individuals with a balance of scientific and technical knowledge, combined with a broad understanding of business practices and communication abilities to bridge the gap between the business and academic environments," says UILO Director Michael Volker. "The WestLink Innovation Internship is an opportunity to develop these skills by working directly with experienced resource people in the venture capital community, university-industry liaison offices, and high technology corporations. We're delighted to have someone with Charles' background and abilities work as part of our team."

"There is a critical shortage of individuals who have the combination of business and technical knowledge to commercialize technology," says Charles Abel. "WestLink had the vision to create something to fill that gap. For me, it has been an outstanding opportunity to learn and, most importantly, network with individuals who are leading the next generation of technology-based companies that will transform business in this country. I am very excited to be back at SFU, as I was involved in helping an SFU researcher commercialize his technology while completing my Executive MBA here."

SFU's participation in the WestLink Internship program is an activity supported by an award from the Intellectual Property Management program of the three national granting councils.

Thecla Schiphorst, SFU Surrey Researcher

"Surrey" continued from previous page

foam rubber-like material. The touch sensitivity and performance of the fabric is similar to that of human skin. Token Space is the software element of the research - a symbolic, configurable, navigation application.

However, there are limitations - the fabric is too rigid, and the active area is too small, according to SFU Surrey Associate Professor Thecla Schiphorst. Along with colleagues Dr. Julie Tolmie of SFU Surrey and Dr. Sidney Fels from UBC, Schiphorst is trying to solve these problems. If the team is successful, future versions of Smart Fabric could be integrated into clothing, equipment vests, wetsuits or space suits. Specifically, they are working on software aspects of navigation using gesture-based control in multidimensional data space. Says Schiphorst, "The combination of Token Space with the wearable sensor surface could result in a fundamentally new approach to computer input devices." She envisions the wearable device being embedded in clothing or personal digital assistants and being used in communication, gaming, entertainment, medical telemetry, geology or hydrology. For example, a doctor in Vancouver wearing a Tactex smart fabric glove could perform surgery on a patient in a remote community. Similarly, a dancer in New York could perform with her partner across the continent, each perfectly aware of the other's position and movements thanks to the sensors embedded in the smart fabric.

Funding for this research is being provided by a two-year $70,000 contract with Tactex and the BC Advanced Systems Institute.
January 2003 Funding Links

Below are some 2003 funding deadlines you may wish to consider. Please note that the Office of Research Services routinely receives and forwards funding opportunity news to our list members (i.e., nserc-list@sfu.ca, sshrc-list@sfu.ca, cihr-list@sfu.ca). In addition, you should check our Web site (www.sfu.ca/ors) and follow the links from “External Grants” to “Funding Opportunity Databases” for more information.

Canadian Institutes of Health Research (CIHR)
www.cihr-irsc.gc.ca/services/funding/apply/index_e.shtml
Registration Deadline: February 1, 2003
Application Deadline: March 1, 2003
Competitions: Operating, equipment, and maintenance grants all require registration in advance of the full application deadline. Please note that the CIHR no longer allows late registrations. This is particularly important for those seeking renewal of a current operating grant. Failure to register may result in an interruption of at least six months in research funding, even if you are successful in the next competition.

Hospital for Sick Children Foundation
Innovative Investigations Grants (Spring cycle)
www.sickkids.on.ca/foundation/grants.asp
Deadline: March 3, 2003
The Letter of Intent deadline is March 3, 2003. If you are successful at this phase, you will be invited to submit a full application for April 30, 2003. There is also a second Letter of Intent deadline on September 2, 2003.

Natural Sciences and Engineering Research Council
- NSERC/Canada Council for the Arts New Media Initiative
  www.nserc.ca/guide/b1a_e.htm
  Deadline: March 1, 2003
  This NSERC/Canada Council for the Arts joint initiative provides a mechanism to support the collaboration between artists and scientists or engineers.
- Strategic Projects (including Genomics Projects)
  www.nserc.ca/guide/b1_e.htm (Strategic Projects)
  www.nserc.ca/guide/a2_e.htm (Genomics)
  Deadline: April 15, 2003
  Targeted areas include biosciences, environment and sustainable development, information and communications technologies, value-added products and processes, and new directions. In addition, Genomics is not integrated into the Strategic Projects Program.

New Appointments

In August 2002, Dr. Bruce Clayman, Vice-President, Research appointed Ms. Valerie Murdoch as his Administrative Assistant. She succeeds Barb Ralph, who is now Simon Fraser University’s (SFU) Ethics Officer. Ms. Murdoch’s primary responsibilities are handling our office’s financial and personnel matters, as well as tasks related to SFU’s Discovery Park. She can be reached at 604.291.4370 or at murdoch@sfu.ca.

Ms. Renée Lepp has been appointed to the new part-time position of Awards Facilitator. Ms. Lepp’s goal is to identify relevant external award programs and SFU faculty, staff and student nominees deserving recognition for their accomplishments. She will also assist with developing and submitting strong nominations and applications. Contact her at 604.268.6818 or renee_lepp@sfu.ca.

Are you applying for ethical approval of your research?

New electronic forms are now on-line.

Simon Fraser University faculty members, students, postdoctoral students and staff who wish to conduct research involving living human subjects, or research involving human remains, cadavers, tissues, biological fluids, embryos, or fetuses, must now apply for ethical approval by using Web-based forms created by the Office of Research Ethics. The procedures for submitting electronic forms are available at www.sfu.ca/~dore.

For information about the Office of Research Ethics, please visit www.sfu.ca/vp-research/ethics/index.htm.

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