iCORE
ALBERTA INFORMATICS
CIRCLE OF RESEARCH EXCELLENCE

newsletter

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iCORE graduate student survey shows funding and faculty play key roles

The iCORE Graduate Student Scholarship program began in 2000-01 and has been tremendously successful in attracting Canada's best graduate students to Alberta. Before iCORE, in 1999-2000, Alberta attracted 11.3 percent of all of the NSERC scholarship holders in computer science and electrical and computer engineering. By 2002-03, Alberta attracted 24.1 percent of these students.

24% of Canada's best graduate students in computer science and electrical and computer engineering now come to Alberta.

What motivates the iCORE scholarship holders and what are their plans for the future? In the summer of 2003, iCORE conducted its first comprehensive survey of its graduate student scholarship awardees to better understand their reasons for studying in Alberta.

The survey explored why the students chose to undertake their research and studies in Alberta and what they plan to do in the future.

The survey was sent to the 196 students who received iCORE scholarships between May 2000 and January 2003. Of these, 148 responded to the survey – a response rate of 76 percent. The majority of these are current MSc and PhD students, as the current status of respondents shows:

PhD students	41%
MSc or MEng students	39%
Graduated MSc or MEng students	11%
Graduated PhD students	6%
Postdoctoral students	2%
Other	1%

iCORE's immediate impact is on university research, but it also aims to have an impact on the economy of Alberta. Graduate students can provide the strong cadre of knowledge-based employees who will support and lead the knowledge-based economy in Alberta. Perhaps the most important result of the survey shows that 65 percent of iCORE graduate students intend on staying in Alberta after graduation.

65% of iCORE scholarship holders intend on staying in Alberta after graduation.

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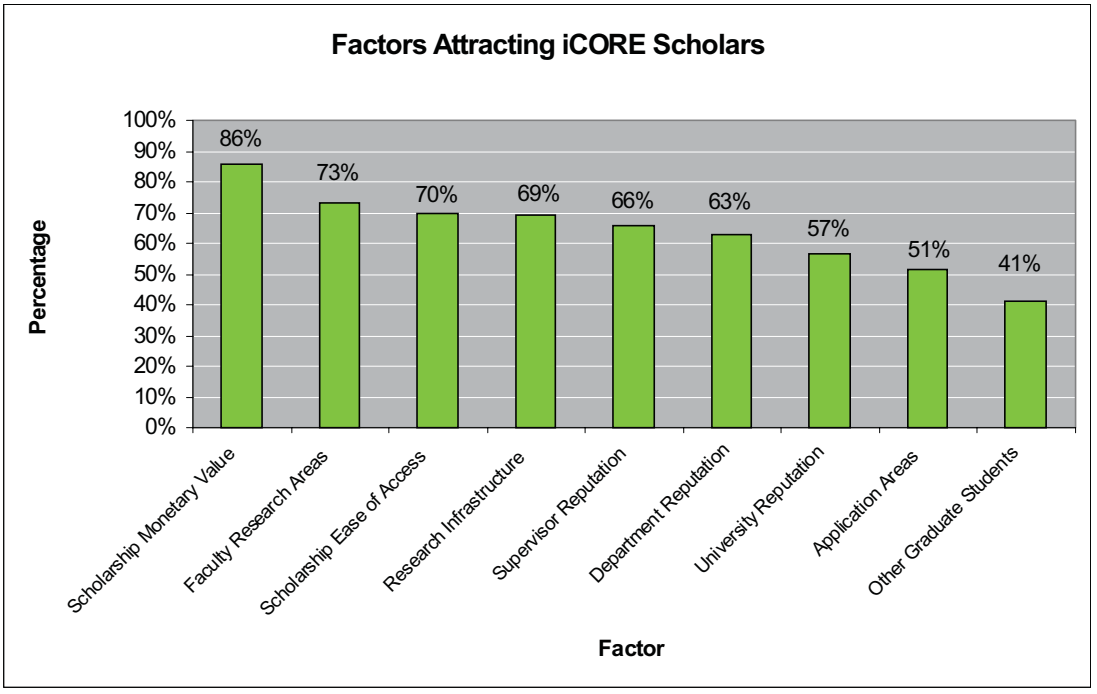

Figure 1

iCORE seeks increase in funding in 2006 to maintain momentum

iCORE's 2003 Strategic Plan makes the case that, in the midst of intense competition for research dollars, informatics is an area of research, development and commercialization that warrants special attention. Informatics is an enabler of success in all of Alberta's economic sectors, in particular, in energy, agriculture, forestry, health, education, and the environment.

The plan plots a course for sustaining the momentum that has been achieved, because the indicators are that this momentum will lead to achieving the critical mass in ICT that is the province's aim. However, the plan very clearly lays out that additional funding is needed to sustain momentum and that there is significant risk for letting this momentum falter.

STRATEGIC PLAN 2003

The iCORE 2003-2010 Strategic Plan outlines the steps to sustain that momentum. It proposes building on programs that have been demonstrably successful. Specifically:

- Sustained focus with the potential for one-time renewals in our Chair and Professor Establishment (**CPE**) program, particularly in areas that support cluster formation.
- Increased outreach to industry through the Industrial Chair Establishment (**ICE**) program to accelerate technology commercialization and further increase the leverage of iCORE funding from federal and industry sources. This outreach will focus on informatics areas central to applications of high importance to Alberta, particularly in energy and the life sciences.
- Moderate growth in support for iCORE's spectacularly successful Graduate Student Scholarship (**GSS**) program.

NOVEMBER 6 LAUNCH

Three universities join for pan-Alberta interactive iCORE event

iCORE will be hosting its biggest launch ever this fall at a November 6 event held in conjunction with the Universities of Alberta, Calgary and Lethbridge.

The major interactive three-city event celebrates the strength and excellence of Alberta's growing ICT research community, with announcement of awards to:

NEW RESEARCHERS

- Dr Rich Sutton, iCORE Chair
  Reinforcement Learning and Artificial Intelligence (from USA)
- Dr Barry Sanders, iCORE Professor
  Quantum Information Science (from Australia)
- Dr Jan Bosch, iCORE Visiting Professor
  Software Variability Management (from The Netherlands)
- Dr Ian Witten, iCORE Visiting Professor
  Digital Libraries (from New Zealand)
- Dr Kamil Zigangirov, iCORE Visiting Professor
  Turbo Coding (from Sweden)

EVENT DETAILS

Thursday, November 6, 2003
9 to 10:30 AM at three locations:
Telus Centre 238, University of Alberta
Biosciences 525, University of Calgary
PE 256, University of Lethbridge

SPECIAL GUESTS

The Hon. Victor Doerksen, Minister of Innovation and Science joins the three university presidents Dr Bill Cade, President, U of L; Dr Rod Fraser, President, U of A; and Dr Harvey Weingarten, President U of C; in a ceremony with Dr Bill Bridger, President, Alberta Ingenuity; and Dr Brian Unger, President, iCORE.

Notices of awards: Focus on geomatics

This past year, Dr Gérard Lachapelle, CRC/iCORE Chair in Wireless Location was elected Fellow of the Royal Society of Canada, Fellow of the U.S.-based Institute of Navigation, Fellow of the Canadian Academy of Engineering, and Honorary Professor from the University of Wuhan in China.

Geomatics engineering students also won four Best Paper awards at the GPS 2003 International conference. They were Kai-Wei Chiang, Zhizhao Liu, Changlin Ma and Giovanni Pugliano.

Bestselling author Simon Singh visits Alberta as guest of iCORE Chair

Well-known UK science writer and producer Simon Singh, author of *The Code Book* (a history of cryptograhy) and *Fermat's Enigma*, came to Calgary to deliver a public lecture as part of the October 10 launch of the Centre for Information Security and Cryptography. The launch and surrounding events were designed to raise the profile of the cryptography research under way and make connections with industry partners who might work with researchers at the Centre.

The event was initiated by iCORE Chair in Algorithmic Number Theory and Cryptography, Hugh Williams, and his team member Dr Renate Scheidler.

For more information visit http://www.cisac.math.ucalgary.ca

JUNE 6 - 11, 2004

Date set for all-iCORE evening in Banff as part of Summit

The preliminary schedule for the 2004 iCORE Banff Summit will see three clusters meeting in Alberta over the course of four days, with all iCORE research teams and guests coming together for an all-iCORE special presentation and evening event on Tuesday June 8. General Chair of the program is Graham Jullien.

Sunday June 6	
Noon	Wireless team retreats start
4 pm	Check-in for wireless groups
6-9 pm	Working dinner/ team retreats
Monday June 7	
9 - 4 pm	Wireless sessions all day
4 pm	Wireless keynote
5:30 pm	Reception and dinner
Tuesday June 8	
9-noon	Wireless session Wireless teams check-out but stay for evening events
1 - 4 pm	Nanoscale session
3:30 pm	Nanoscale/quantum/AI teams check-in
4 pm	Special summit presentation with guest speaker
5:30 – 10 pm	All iCORE gala Reception, posters, dinner and entertainment
Wednesday June 9	
9 am - noon	Nanoscale session
1:30 - 4 pm	Intelligent software systems session
4 pm	Machine intelligence keynote
5:30	Reception and dinner
Thursday June 10	
9 am - 5 pm	ICT Research Advisory Committee meeting
6-9 pm	Dinner reception for board and IRAC
Friday June 11	
9 am - noon	iCORE board meeting

Industry partners for software engineering research sought

The Laboratory for Software Engineering Decision Support at the University of Calgary is seeking industry partners for collaboration on software engineering decision support research.

iCORE Professor in Software Engineering Decision Support, Guenther Ruhe, is undertaking an advertising campaign to reach out to the Alberta software industry. He and his team of 15 researchers will work with selected industry partners.

Who qualifies?

Any organization that:

- is developing or maintaining software
- has strong needs to improve maturity of their software projects
- understands software engineering decision-making capabilities are of crucial concern for business success
- is open to mutually beneficial collaboration between industry and academia

Current offerings

- focus on early stages of software development
- release planning tool for incremental development
- support tool for requirements negotiations
- support for requirements-centric selection of components-off-the-shelf (COTS) software products

Please contact Dr Guenther Ruhe, iCORE Professor, at ruhe@cpsc.ucalgary.ca, with a one-page brief on the company and its software engineering challenge.

Essay challenge for grades 7 to 9

What does research mean to you?

iCORE is one of the sponsors of an essay challenge that will take place during Science and Technology week this year, from October 10 – 19.

According to a recent Environics poll, **95 percent of Albertans think research** conducted at universities and within industry **is important or very important** to their quality of life. This essay contest is designed to get people thinking about careers in research.

The contest is aimed at students in Grades 7, 8 and 9 students, anywhere in Alberta. Students will answer one of two questions about the impact of research on everyday lives.

Final deadline for entries is October 17 and winners will be announced on December 4 as part of the 10th anniversary celebrations of Netera Alliance.

For more information, www.netera.ca.

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Graduate student survey results

We asked them about what drew them to Alberta, and the role played by factors such as the value of the scholarship, ease of access to the scholarship, research areas, research infrastructure, and the reputation of the university, department and supervisor. The percentage of factors rated important or extremely important in influencing the iCORE scholarship recipients is shown in Figure 1.

In answering whether iCORE influenced their decision to pursue their studies in Alberta, 67% said yes, definitely.

We asked students where they see themselves in five years.

67% of iCORE scholarship holders indicated that iCORE influenced their decision to pursue studies in Alberta.

44%	working in industry
36%	an academic position
14%	a student or post-doc
6%	an entrepreneur

Many respondents said in the comments section that they planned to pursue post-doctoral studies or other experiences outside of Alberta and then to return to Alberta for an academic or industry career.

The survey results suggest that iCORE's Graduate Student Scholarship program is very influential in attracting the best ICT students to Alberta and that a majority of these students intend on staying in Alberta. iCORE's impact on the numbers of students attracted to Alberta is remarkable. These students are contributing to the critical mass of world-class ICT research that is being undertaken in Alberta now, and many of these students will remain in Alberta to contribute to our local knowledge-based economy in the future.

iCORE advisory committee member receives prestigious award

ACM (Association for Computing Machinery) recognized James A. Gosling for original contributions and implementation of the Java programming language. Gosling received the ACM Software System Award, which carries a $10,000 prize, at ACM's annual Awards Banquet on June 7. The Software System Award honors an institution or individual for developing a software system that has had lasting influence, reflected in contributions to concepts, commercial acceptance, or both.

"Java technology is the foundation for Web and networked services," said Nigel Horspool, chair of the computer science department at the University of Victoria, British Columbia, who headed ACM's Software System Award committee.

Gosling earned his Ph.D. at Carnegie Mellon University and his B.Sc. from the University of Calgary. He has been with Sun Microsystems since 1984.

Fall 2003 WestGrid Orientation Sessions

Researchers across Alberta and BC are invited to attend information sessions on the innovative computing infrastructure that is being purchased and installed to support research as part of the WestGrid project. The grid-enabled resources are scheduled to be operating by November. The orientation sessions will describe the resources available, their potential uses, and access and support information. Everyone welcome.

The Alberta sessions are:

CALGARY and LETHBRIDGE
Tuesday, October 21
University of Calgary, Biosciences 525B Cyberport
and University of Lethbridge, PE 256 (videolink)
3:00 pm - 4:30 pm—Orientation session
4:30 pm - 6:00 pm—Wine and cheese reception

EDMONTON
Wednesday, October 22
University of Alberta, Telus Centre 236
3:00 pm - 4:30 pm—Orientation session
4:30 pm - 6:00 pm—Wine and cheese reception

For more information visit www.westgrid.ca
RSVP to Charlene at bleay@netera.ca or (403) 220-6778. Please specify location

The iCORE Lectures

The iCORE Lectures present world leaders in information and communications technology (ICT) research. Each lecture is presented by videolink in three locations: University of Alberta, University of Calgary, University of Lethbridge.

2003-04 Schedule

Sept 24
IAN WITTEN
Browsing Around a Digital Library
Live Location: PE256, University of Lethbridge
Calgary: Biosciences 587
Edmonton: Telus Centre Auditorium

October 15
KAMIL ZIGANGIROV
On the Theory of Turbo Coding
Live location: Biosciences 587, University of Calgary
Edmonton: Telus Centre Auditorium
Lethbridge: PE 256

November 5
JAN BOSCH
Software Product Families: Maturity and Variability
Live location: Biosciences 587, University of Calgary
Edmonton: Telus Centre Tiered Classroom
Lethbridge: PE 256

January 28
ROBERT WOLKOW
Laying a Foundation for Molecular Devices
Live location: Biosciences 587, University of Calgary
Edmonton: Telus Centre Tiered Classroom
Lethbridge: PE 256

February 25
RICH SUTTON
Reinforcement Learning and Artificial Intelligence
Live location: Biosciences 587, University of Calgary
Edmonton: Telus Centre Tiered Classroom
Lethbridge: PE 256

March 24
BARRY SANDERS
Quantum Informatics
Live location: Telus Centre Tiered Classroom, University of Alberta
Calgary: Biosciences 587
Lethbridge: PE2 256

Reception at 5 pm in live location.

WEB SCHEDULE
Lectures available for desktop viewing within 48 hours of live presentation at www.icore.ca.

Lectures are free
Everyone welcome

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President's report

We are at the halfway mark: 15 of the targeted 30 research chair and professor teams are in place.

Along with the momentum of iCORE attracting new chairs, professors and graduate students, we are seeing remarkable achievements within the teams of iCORE researchers. Witness the profusion of roles among iCORE Chairs and Professors: organizing conferences, writing significant publications and books, building their research teams, and interacting with other academic groups, industry and government stakeholders.

This dynamism is defining an ever-expanding circle of research excellence, and earning a world-class reputation for Alberta in several target cluster areas, specifically, networks and wireless communications; nanoscale and quantum informatics; and intelligent software systems. This is precisely the objective for which iCORE was created. The plan is working in spades, thanks primarily to the high standards and exceptional energy of the iCORE research teams.

Although everything is working so well, we are anything but complacent about the future. We are moving forward with a strong vision for building on the current momentum in order to increase the research, development and commercialization of informatics in Alberta, and realize the goals for the ICT sector in our province.

For more details, request a copy of the iCORE 2003 Strategic Plan from the secretariat at 403-210-5340 or wong@icore.ca.

Brian Unger, President and CEO

Secretariat news

We welcome Lilly Wong to the iCORE secretariat staff. Lilly is replacing Betty Ann Snyder, who has moved to Victoria. Lilly can be reached at 403-210-5340 or wong@icore.ca.

iCORE new patron of ASTechs

iCORE was approved as a patron of the Alberta Science and Technology Foundation this year and will be presenting an award at the annual ASTech gala, to be held this year in Calgary on Friday November 7. iCORE will be presenting the award for Excellence in Science and Technology Public Awareness.

An iCORE researcher has been nominated for an award this year: Dr Michael Brett, iCORE Professor of the Nanoscale Physics Engineering Initiative has been nominated for the Outstanding Leadership in Alberta Technology Award.

Two of the nominees in the Leaders of Tomorrow category are also iCORE researchers. Tim Poon is on the research team of iCORE Chair Dr Norm Beaulieu, and Konrad Walus is on the research team of iCORE Chair Dr Graham Jullien.

T-shirts available

Short sleeve (navy blue or black with iCORE logo) $18

To order, send cheque or money order to iCORE, 3608-33 St NW Calgary, Alberta T2L 2A6. Specify colour and size (S, M, L, XL, XXL). Cost includes shipping and handling.