Queen's
School of Computing
A WORLD OF OPPORTUNITIES >>>

GRADUATE STUDIES

Queen's
UNIVERSITY

A TRADITION OF EXCELLENCE

THE SCHOOL OF COMPUTING OFFERS AN EXCITING RESEARCH ENVIRONMENT. OUR GRADUATES EASILY SURMOUNT THE CHALLENGES THEY FACE IN THE FUTURE.

A MESSAGE FROM THE DIRECTOR OF THE SCHOOL OF COMPUTING

The Queen's School of Computing offers a graduate program that is unique in its quality, diversity, innovation and reach. Our faculty and students are engaged in research projects that span the spectrum of traditional computer science, while at the same time exploring areas never visited before. Here, a team is designing wireless networks of tiny sensors located deep below the surface of the ocean, whose purpose is to study that largely unknown world. Another group is developing techniques to increase the accuracy and reduce the discomfort of medical procedures. Some of us are discovering properties of certain computers that are radically different from the ones we have today, in the sense that a bit is the spin of an atom, or a register is a strand of DNA. Others are building organic interfaces for humans to communicate with computers. We are finding methods to make databases more secure, software more reliable and computers more intelligent. This brochure will tell you more about who we are and what we do.

I invite you to join us. You will find a School reputed for its academic excellence and the wonderful atmosphere it enjoys. That you will be challenged is my guarantee. Achieving your full creative potential, however, will be entirely up to you. I look forward to seeing you in Kingston.

Selim Akl

SCHOOL OF COMPUTING RESEARCH

OUR GRADUATES RANK AMONG THE BEST IN CANADA. THEY EXPAND THE HORIZONS OF SCIENCE & TECHNOLOGY BEYOND CURRENT KNOWLEDGE.

The School of Computing is actively engaged in research on a broad range of topics, with an eminent research record. Research areas include: Information Systems, Human-Machine learning, Software Engineering, Design and Analysis of Algorithms, Computational Linguistics, Communication Networks, Database Systems, Theoretical Computer Science, Computational Geometry and Graph Theory, Biomedical Computing, Perception and Robotics, Artificial Intelligence, Parallel Systems and Programming Languages and Systems.

HUMAN MEDIA LAB
Our mandate is to develop disruptive technologies that are viable 10 to 20 years from now

The Human Media Lab is Canada's premier media laboratory. They are currently working on the design of Organic User Interfaces (Oui!), an exciting new paradigm that allows computers to have any shape or form. HML's research has been showcased on the Discovery Channel and featured numerous times in the press.

SMART INFORMATION MANAGEMENT LABORATORY
Ripping aside the veil of phony normalcy

The Smart Information Management Laboratory is in the mining business – mining billions of bits of data for evidence of terrorism, fraud, corporate crime, perjured testimony and even political spin. Using sophisticated computerized screening programs, they've begun ripping aside the veil of phony normalcy with which terrorists, crooks and liars try to camouflage their real intentions in emails and phone calls. They've already racked up some successes in the corporate and political spheres, and have promising leads in sniffing out hints of terrorist intent.

MEDICAL COMPUTING

Have you ever asked yourself "where do they perform these computerized and robotic surgeries that everyone talks about? Who designs these extremely intelligent medical devices?" Here at the School of Computing you will find some of the answers. In Medical Image Analysis, Medical Computing and Medical Informatics laboratories, graduate students develop innovative techniques and algorithms for computer-assisted surgeries under the supervision of world leaders in the field. Just a few steps away from the School, in Kingston General Hospital, these algorithms are applied in a 21st century style operation room (O.R./2010). Researchers at Queen's have pioneered some of the world's "FIRST" ever projects specially in computerized

THE ADVANCEMENTS IN COMPUTATIONAL BIOLOGY AND MEDICAL IMAGING HAVE ENABLED THE VISUALIZATION AND DETECTION OF CANCER.

orthopedic surgery. They are also developing computerized methods to help oncologists see hidden cancer tumors in medical images. There are opportunities for you in bioinformatics as well. Whether you are interested in finding out how genes interact and control our lives, or in demystifying the secrets about protein structures, or in biomedical literature mining, you will find a laboratory and a group of world-famous researchers here at the School of Computing to welcome you!

UNCONVENTIONAL COMPUTING GROUP

If technology continued to abide by Moore's Law, then the continually shrinking size of circuitry packed onto silicon chips would eventually reach a point where individual elements would be no larger than a few atoms. That is why the Unconventional Computing Group at Queen's are designing quantum computers. Quantum computers will emerge as the superior computational devices at the very least, and perhaps one day make today's conventional computer obsolete.

EQUIS LAB

Computer game development has become a significant industry in Canada, now home to dozens of game development studios, including the two largest studios in the world. In the Engineering Interactive Systems Laboratory, we are researching Collaborative Gaming Technology, the tools and techniques underlying the development of multiplayer games. Our projects include gaming middleware, tools for rapidly prototyping highly interactive games, and the design of games involving physical exercise.
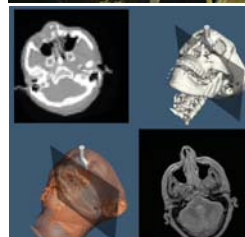
TELECOM RESEARCH

Imagine a world without wires. Imagine entire cities with full wireless access. Imagine you can seamlessly communicate while commuting. That's what the future of wireless network communications is. This is the Telecommunications Research Lab's dream. See you there!

For more information, contact

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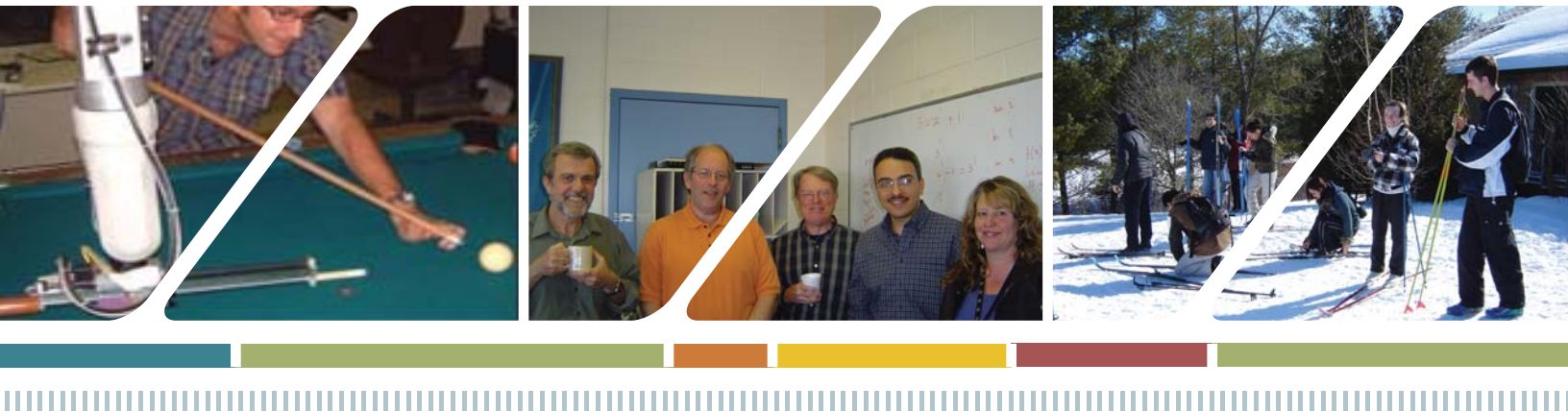
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