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As many are aware, I have been appointed as the new Director of the Queens School of Computing (QSC). This is an honor and responsibility, especially at this time where Computing is booming, where we had record numbers of applicants from high School (close to 3000), and admitted 170 first-year students. Indeed, computing is at the heart of everything our society does, from business to health care, from education to transportation, from communications to entertainment. The importance of computing for the future of our societies has been recognized by politicians, industry leaders, and business executives worldwide.

As part of my “responsibilities”, I found that it has been customary that the director writes a welcome message in the Newsletter. In my first message, I thought I would talk about plans and vision for our School. I will be lying if I said that I have brilliant plans that are going to turn everything around and that our affairs are going to be rosy. However, I know that we have wonderful alumni, faculty, staff and students who can deliver.

We are bringing back the School Innovation Council composed of a select group of QSC alumni. The purpose of the Council will be to review the School’s programs and initiatives, and advise on potential improvements or new directions appropriate to better serve our students and graduates. The council members will work closely with a new Strategic Planning Committee whose mandate is to assess the current state of the School including our graduate and undergraduate programs, and make recommendations of where we want to be in 5, 10 or 20 years from now. Please send your suggestions and comments to SPC@cs.queensu.ca.

Queens has made excellence in Data Analytics an integral part of its research strategic plan. At the core of Data Analytics are algorithmic techniques taught and developed here at the QSC. The QSC is currently engaged in several initiatives related to Data Analytics from new course offerings to new program developments and research directions. Follow the School web pages for news and details.

These initiatives would not have been possible without the solid foundation the School is standing on. So, on behalf of all members of the School, a big THANK YOU to Dr. Selim Akl, the outgoing Director, for his excellent service to the School over the past 10 YEARS. His devotion and dedication to School are unparalleled. Selim took the School through the tough times to where we are at now (certainly making my start easier).
On behalf of COMPSA, it is with the greatest pleasure that I would like to say a huge hello! Summer has flown by, and the new school year brings many exciting changes and opportunities for undergraduate Computing students. We will be welcoming one of our largest classes this fall, and we are thrilled at the diverse set of individuals and skills that are entering this school!

This year COMPSA is focusing on strengthening community relations, creating tangible opportunities for Computing students, and improving student life. We have restructured COMPSA Council, offering many new positions for students and diverse ways that students can get involved. We are working to create events to allow students to socialize and build connections in both formal and informal settings. In terms of community relations, we are putting in place a buddy program to help transfer and exchange students in computing. COMPSA is also working to create an alumni speaker program, we will be working to help prepare students for future careers, by hosting resume workshops and by helping students meet mentors and speakers with relevance to their interests.

During the summer, the Tech Committee had been busy getting ready to welcome the incoming class of 2021. Incoming students were given a chance to cheer, dance and learn about the traditions and opportunities that are tied to being a Queen’s student. They have faced the nurses in an intense dance-off, painted coveralls, and fought bravely in the battle to win the Comp Sci Cup.

The year, students will be continuing attending RKY Camp, a non-profit organization that provides summer camp programming to children for all backgrounds, as part of a charity event during Orientation Week. This strengthens bonds between the students, as well as the bonds with the community at large.

I am incredibly honored to be working with such an amazing team of people this year. We hope to see everyone at our events and we look forward to a fantastic year.

Alex Wojaczek
COMPSA President

Emese Somogyvari
GCS President
The month of August saw MPP Sophie Kiwala, Kingston Mayor Bryan Paterson, incoming dean of the Faculty of Arts and Science Barbara Crow visit the School to learn more about the innovative research that happens in our research labs.

MPP Sophie Kiwala and a COGECO film crew were in the School’s Perk Lab on August 10, to shoot an episode for the TV series "Conversations with Sophie"; quoting Ms. Kiwala, “a show featuring some of Kingston’s most inspiring people.”

The film concentrates on NaviKnife, a collaborative project between the School of Computing’s Perk Lab and the Department of Surgery. NaviKnife is a novel surgical navigation technology, invented, patented and clinically tested at Queen’s. Much like a miniature GPS device, NaviKnife allows surgeons to visualize breast tumors and the position of the surgical tool in real-time with the use of electromagnetic position tracking. NaviKnife aims to eliminate surgical failures due to incomplete resection of the tumor while also reducing the amount of breast tissue resected thus enhancing cosmetic outcome and eliminating the need for reconstruction surgery.

The film features a hands-on demo of NaviKnife and interviews with some of its principal developers, including Drs. Gabor Fichtinger, Andras Lasso and Tamas Ungi of the School of Computing and Drs. John Rudan and C. Jay Engel of the Department of Surgery. The film is expected to air in early October.
On the same day, Kingston Mayor Bryan Paterson took part in a campus tour that included visits to the Perk Lab and Human Media Lab.

Finally, on August 16, incoming dean of the Faculty of Arts and Science Barbara Crow, along with Associate Dean Nick Mosey, visited the School for a tour of the Perk, Medical Informatics, Human Media, and EQUIS labs.

“I appreciated the breadth of your areas of study and commitment to Computing,” Crow said. “I was very impressed with the Labs and how articulate the students were about their participation in research projects.”

Jim Cordy Receives Prize for Excellence in Research

Every year the Office of the Vice Principal of Research awards major research contributions - either recent or recently recognized - from a Queen's researcher. This year, our very own Jim Cordy was one of the lucky recipients.

From the Vice Principal’s website: “Celebrating major research contributions either completed or recognized in recent years, the Queen’s University Prizes for Excellence in Research are the highest form of research excellence recognition from Queen's.”

The award comes with a $5000 prize and is given to researchers across each of five categories: Humanities, Social Sciences, Natural Sciences, Health Sciences, and Engineering. Recipients are also invited to give a featured lecture.

The Gazette writes:

Dr. James Cordy’s research has led to the development of methods and tools that make the management of today’s large software code bases possible. His work has been used to safely make systematic modifications to large code bases – notably used by Canadian banks to solve the Year 2000 (Y2K) problem – and for identifying trouble spots in other complex programs, such as those behind the development of autonomous vehicles. In his lecture This Means That: Programming by Transformation, Dr. Cordy will dive deeper into the development and management of complex computer programs.

You can read a full bio of Dr Cordy in the Spring/Summer issue of (e)AFFECT.
Q’Nial, the language interpreter developed at Queen’s University for the Nested Interactive Array Language, Nial is now available in a revised version that supports both 32-bit and 64-bit architectures. The open source code can be used to build versions for both Unix and Windows operating system.

Nial is a very high level, general purpose, language based on a formal model of Array theory, developed by Michael Jenkins and Trenchard More, that influenced the development of APL2. Q’Nial is a C based interpreter with efficient, tuned, implementations of basic array operations.

As such it supports computations of large data sets that can be numeric or symbolic data. The programming style is highly functional but can be used in an interactive way to experiment on data and build functions incrementally. It combines concepts from APL, Lisp and functional programming and supports Algol-like control structures.

The implementation is competitive with other array languages such as J and APL as well as other interpreted languages with array libraries (Python/ Numpy, Lua/Torch).

Nial has been used for rapid prototyping in areas as diverse as insurance underwriting, question/answering systems, composing music in a specific style, and a variety of artificial intelligence applications.

The repository is located at: http://www.github.com/danlm/QNial7. This repository includes binaries for OSX, Linux, Windows, and Raspbian that can be downloaded and used directly.

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**Version 7 released on Github**

The Summer issue of the Queen’s Alumni Review prominently featured the School of Computing throughout their technology issue.

The issue contains a number of stories by and about people in the School and the work they do.

Wendy Powley talks about her passion for computing and how she is using that to empower women in the field. Undergraduates Annabel Kramer, Karina Kim, Jessica Dassanayake, and Melissa Mangos talk about the Sudo initiative and how they are helping women in the Kingston community learn to code (Daisy Barrette, Cara Falcon, Callum Tomkins-Flanagan, Emily Crawford, Omar Toutounji, and Shubhi Sharma are also part of this initiative). Former Director Selim Akl talks about natural computing, the idea that the key to understanding Nature boils down to the bit and not cells, molecules or atoms. Finally, the cover story features Roel Vertegaal talking about the Human Media Lab and the innovative research that they do.

For these stories and more, check out the whole issue on the Alumni Review website.

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**Computing Takes Centre Stage in Queen’s Alumni Review**
Hundreds of interested faculty, students, and staff gathered at the Biosciences Complex on Thursday April 6th for the Queen's School of Computing’s annual Creative Computing Showcase. The event highlighted the work of the School’s undergraduate and graduate students with hands-on demos, presentations, and posters from a selection of our courses, with topics including Game Design and Game Technology, Computing and the Creative Arts, 4th year projects, and more. Congratulations and thanks to the organizers and participants.
This past year saw many staff and faculty changes at the School. Long time faculty member Jim Rodger retired from teaching. In happier news, we received two new faculty positions. Our first new hire was Farhana Zulkernine, who was already overseeing the Cognitive Science program and continues her work in data analytics. Our second hire, joining us this fall, was Joshua Dunfield who comes to us from the University of British Columbia.

On the staff side, administrative secretary Lynda Moulton retired in May after decades of service to the School. She leaves the position to Carly Napier who came to us from Career Services. In addition, undergraduate program assistant Irene Lafleche retired from the position in June (see page 9). She leaves us in the capable hands of Karen Knight, who trained with Irene prior to her retirement. Karen came to us from the Smith School of Business and served as senior secretary in the main office on the 5th floor before taking this new position, even pulling double duty as she trained. The senior secretary position has now been filled by Erin Gunsinger.

Tech staff also saw many changes this year. Long time senior systems specialist Gary Powley retired; Ben Hall now fills the position of senior business analyst in his stead. Ben’s former position was then filled by recent PhD graduate Doug Martin (Ed’s note: Hi!), who covered the position part-time (while completing his thesis) for Ben when he was on parental leave. Dave Dove left his role as digital systems manager to focus on teaching. Queen’s Engineering alumnus Aaron Visser, who previously worked in the Human Media Lab, now joins the team as Systems Analyst.

We wish a very happy retirement for those that have left us and a warm welcome those joining us!
On June 30th, Irene LaFleche bid the School of Computing farewell. Irene started in the Department of Computing and Information Science in 1981 as a casual administrator. She was then hired as the receptionist and shortly afterwards took on the job of Graduate Program Assistant. After 15 years in this role, she became the assistant to the Head towards the end of Dr. Levison’s term and continued in this role during the Headship of Dr. Meijer and Dr. Glasgow. During this time, she also served informally as the “go-to” person for undergraduate students. As our numbers grew, the position of Undergraduate Assistant was formed and Irene was the perfect person to fill this role. Irene has served as Undergraduate Assistant for 14 years, supporting, advising, counseling, nurturing and encouraging each and every student who crossed her path.

Irene was the heart and soul of the School. Her infectious laugh brightened many a day. She never missed an opportunity to tell others about our amazing department and the people that make it wonderful, thus making the School of Computing the envy of all others on campus. We all - students, staff and faculty - became her family and she became ours. We will miss Irene (and her hugs) dearly but we thank her for her 36 years of service and wish her happiness in her retirement.

A message from Irene:

I truly don’t know how or where to begin because I can’t think of any words that could accurately express to you how much you all mean to me! You have been my family and have always made me feel loved and supported. Over my 36 years in the School, I have made life-long friends and I have collected a lifetime of memories! We have been through hard times, happy times, chaotic times and tragic times! We have always been a team and we have always respected and cared about each other, which is probably why most of us have been here so long. :) So saying “goodbye” is not an option for me – instead I will wish you all a lifetime filled with love and laughter and dreams come true!

Ride the Wind,
Irene :)
This past year saw two key people, Selim Akl and Irene Lefleche, leave us after many many years of service. To honour all that they have contributed to the School over the years, we presented them with a special Lifetime Distinguished Service award. Congratulations, and enjoy your newfound time off!
Other Recognition

- Dr. Gabor Fichtinger and Dr. C. J. Engel (Surgery) received a CIHR Collaborative Health Research Projects grant.
- Undergraduate researchers Rachael House and Anna Ilina were the recipients of Ontario-Baden-Württemberg Summer Research Program scholarships.
- Dr. Hossam Hassanein was elevated to IEEE Fellow.
- Dr. Ahmed Hassan received a Special Recognition Award for Influential Research.
- Dr. Randy Ellis was awarded the August-Wilhelm Scheer Visiting Professorship at Technical University of Munich.
- Parvin Mousavi was elected to Royal Society of Canada’s College of New Scholars, Artists and Scientists.
Many thanks to our Alumni and Friends

We appreciate the following alumni, faculty, staff, and friends who directed their Queen’s University gifts to the School of Computing. Listed below are our benefactors over the past ten months. These donations are making a difference! Annual Giving can help us attract outstanding students and continue our outreach program.

We are very grateful to have supportive alumni and friends who are inspired to make a difference at Queen’s. Your support is instrumental in upholding our long-standing tradition of excellence. The School of Computing delivers an outstanding university experience, both inside and outside the classroom. We continue to attract exemplary students and world-class faculty and researchers. Thank you for making a difference through your generosity and support.

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Ms Meg Gemmill
Mr Ge Deng
Mr Richard McCrae
Mr William Silver
Mrs Susan Silver
Ms Megan Sprague
Mr John Van Schouwen
Mr Derek Walker
Mr Yonghua You

And of course, thanks to our many anonymous donors!

(A partial list of donors was made available to us. Apologies if you donated and are not on the list. We appreciate your contribution!)

To make your gift today, please visit www.givetoqueens.ca/computing

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The School of Computing delivers an outstanding university experience, both inside and outside the classroom. We continue to attract exemplary students and world-class faculty and researchers. Thank you for making a difference through your generosity and support.

- $3,000/year pays for a Teaching Assistant, which helps both our undergraduate and graduate students directly.
- $1,000/year helps COMPSA run their amazing orientation program each September.
- $500/year allows us to upgrade a computer.

50th Anniversary Celebration

The School’s 50th anniversary is coming up in 2019 and we want your memories about your time here over the past 50 years.

Send us your photos, your funny stories, anything you have or remember about your experience at Queen’s. Whether you’re a former undergrad or grad student, faculty, staff, or even just a friend, we want to hear from you!

Send anything you have to memories@cs.queensu.ca and make sure to label photographs as best as you can.

JOIN US AT THE FOLLOWING UPCOMING EVENTS:
- Fall Preview - Nov 4, Nov 18, Biosciences Atrium
- March Break Open House - Mar 10
- Creative Computing - Apr 5, Biosciences Atrium

For more events, go to: www.cs.queensu.ca/calendar

SCHOOL OF COMPUTING DISTINGUISHED SEMINAR SERIES:
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