

science



Dean's Round-up: April 2019

Faculty Highlights



This year's **York Forum, Cybersecurity in the Age of Espionage**, held on April 3 at the Toronto Reference Library, was a successful and engaging event with former FBI undercover operative and cyber security expert **Eric O'Neill**. Science Communicator in Residence, **Dan Falk**, moderated the event, while Osgoode Adjunct Prof. **Kristin Ali** and **Patrick Ingram** (Math & Stats) were the evening's panellists. [Read more.](#)



Amro Zayed (Biology) talked about "[Busy Bees: The Secret Obsession of Nature's Neatniks](#)" at the CRAM Toronto event, which took place at York U on April 5, hosted by CBC's Metro Morning host Matt Galloway. Toronto's other universities also hosted events as part of the first-ever collaborative festival, featuring a series of talks. CRAM was billed as the first free learning festival of its kind in Canada.



The Faculty of Science supported and contributed to this year's **York Region Science and Technology Fair** on April 13 with a YRSTF travel award, which allowed a gold medal winner to attend this year's Canada Wide Science Fair in Fredericton, NB. **Robert Tsushima** (Biology) was on the organizing committee and several science faculty, grad and undergrad students, and staff volunteered to serve as judges and assist in the Adventure Circuit, providing science fair students the opportunity to see the Keele Campus, as well as see and do science experiments. The Faculty also provided awards for the Helix Summer Science Institute and Sci-X Summer Camp.



PhD student **Sladjana Slavkovic**, supervised by **Philip Johnson** (Chemistry), received a presentation award for her talk at the Aptamers Meeting in Oxford, UK.

Congratulations

The first phase of a large-scale research project, "Microinsurance as a key driver of social innovation and sustainable economic development," led by **Ida**

Ferrara (Economics), **Ed Furman** (Math and Stats) and **Tsvetanka Karagyozova** (Economics), all from the Risk and Insurance Studies Centre, secured funding from the Casualty Actuarial Society, the Royal Bank of Canada, and York University. They will develop and administer a random survey instrument in Ontario in the summer of 2019 to identify a potential niche for inclusive insurance (like microinsurance) by assessing gaps between the risks faced by low-income individuals and the risk-mitigation mechanisms available to them. The project will better-inform conjectures about whether microinsurance-like financial products can play central roles in enabling social innovation and, particularly, in advancing the United Nations' developmental goals in developing and developed countries.

Chris Lortie's (Biology) grad students **Malory Owen**, **Mario Zuliani**, and **Nargol Ghazian** successfully secured their own research funding. Zuliani and Ghazian each received \$6,000 in Mitacs funding to study climate and plant-animal interactions in deserts, and Owen received the Paul Jorgensen Bird Research Grant from the Anza-Borrego Foundation to study cacti and birds. [Read more.](#)

The **Association of Graduate Students in the Biological Sciences (AGSBS)** held its **45th Annual Biology Symposium** on April 5. Congratulations to the poster session winners. In first place was **Malory Owen** (Christopher Lortie's lab), second spot went to **Eleni Fegaras** (Arthur Forer's lab) and third place to **Theanuga Chandrapalan** (Raymond Kwong's lab).

Other News

The Modeling Food-borne Infection and Food Safety workshop took place April 1 to 3 and covered topics at the interface of mathematical science, public policy and regulation relevant to infectious disease prevention and control. **Jianhong Wu** (Math & Stats), along with **Zachary McCarthy**, **Daniel Munther** and **Ashrafur Rahman**, organized the event, which brought speakers from Canada and the United States, including **Christopher Caputo** (Chemistry) and **Jane Heffernan** (Math & Stats). [Read more.](#)

Alex Mills (Biology) delivered the talk, "Using GPS-technology to study bird-migration," at the Toronto Ornithological Club on April 8.

On April 10, **Ilijas Farah** (Math and Stats) gave a [departmental colloquium](#) at the University of Vienna and on April 15 he gave a departmental colloquium at the University of Pisa on the same topic: “Some necessary uses of set theory in mathematics.”

Hélène Mialet (Science & Technology Studies) delivered the talk, “Type 1 Diabetes and Homeostasis,” at the Brain and Creativity Institute at the University of Southern California and “The Transformation of the Human,” at an event organized by the USC Dornsife Center for Science, Technology and Public Life, and the Berggruen Institute. She gave the talk, “Becoming the Other: The Body in Translation,” at a Colloquium on the Transformation of the Human at the Berggruen Institute. In addition, she gave a talk to mainly screen writers and producer on “Speed Dating for the Mind,” organized by the Berggruen Institute, the Science Entertainment Exchange and Creative Artists Agency in Los Angeles.

Research Highlights

Research by **Thomas Baumgartner** (Chemistry) and **Chris Caputo** (Chemistry) on a new Lewis Acid test, “[A Simple and Effective Method of Determining Lewis Acidity by Using Fluorescence](#),” was published in the journal *Chem*. The researchers invented a new fluorescence-based method for accurately determining the strength of a range of Lewis acids, which could one day be used to help purify pharmaceutical drugs, improve industrial processes and explore next-generation technologies. [Read more](#).

Rob McLaren (Chemistry) was a co-author on a recent publication in *Nature Communications* documenting the quantification of total CO₂ emissions from Canadian Oil Sands facilities in the Athabasca oil sands region of Alberta: “[Measured Canadian oil sands CO₂ emissions are higher than estimates made using internationally recommended methods](#).” This followed a paper in *Atmospheric Chemistry and Physics* with first author and grad student **Sabour Baray**: “[Quantification of methane sources in the Athabasca Oil Sands Region of Alberta by aircraft mass balance](#).”

Jacob Lucero, a new York Science Fellow with **Christopher Lortie** (Biology) had his first paper published, “[The dark side of facilitation: native shrubs facilitate exotic annuals more strongly than native annuals](#),” in the premiere

open access journal, *Neobiota*, for the study of invasive species globally. Lucero and colleagues at YorkU and internationally examined a long-term dataset in a critical desert region in North America at Carrizo National Monument. Importantly, the *Star Wars* reference highlights that in managing and protecting ecosystems trade-offs and ecological context are crucial considerations.

Alex Filazzola, a recent PhD student, published a paper with **Christopher Lortie's** (Biology) and grad student **Amanda Liczner** in PLoSOne: [Shrubs indirectly increase desert seedbanks through facilitation of the plant community](#).

Media

Paul Delaney (Physics and Astronomy) was interviewed by AM640 Morning Show and CTV News about the [first image of the Black Hole](#) on April 10. He was also on the AM640 Kelly Cutrara show talking about Mars quakes on April 25 and on the AM640 Morning Show on April 30 to discuss the Earth Defense Conference and NEAs.

Christopher Lortie (Biology) was interviewed by the BBC for the article "[Why stretching might not make you a better runner](#)."

Upcoming Events

May 11: Science Rendezvous is once again gearing up for another successful event with DNA bracelets, giant scrabble, water piano, a fire tornado and more. It will take place on Main Street in Markham (132 Robinson St.), from 10am to 3pm.

May 13: The conference, **50 Years of Set Theory in Toronto**, will introduce and/or survey contemporary work in the areas currently investigated by Seminar members. The conference will take place at the Fields Institute in Toronto, and is supported by the Fields, NSF and NSERC. For more information, including registration, fees and abstract submission, visit the [conference website](#).

May 13: The Association for Women in Mathematics student chapter at York University is hosting a free **Celebration of Women in Mathematics** at The Fields Institute, Stewart Library, from 9:30am to 1pm. The gallery presentation

of achievements made by women in mathematics is honour of Maryam Mirzakhani's birthday. A brilliant mathematician, Mirzakhani was recently honored as the first woman to receive a Fields medal. Register here: <https://www.eventbrite.ca/e/celebrating-women-in-mathematics-registration-59197309747>

June 13 to 16: The General Assembly for the Royal Astronomical Society of Canada will be held at York University. Check here for the schedule and more information: <https://www.rasc.ca/ga2019>
