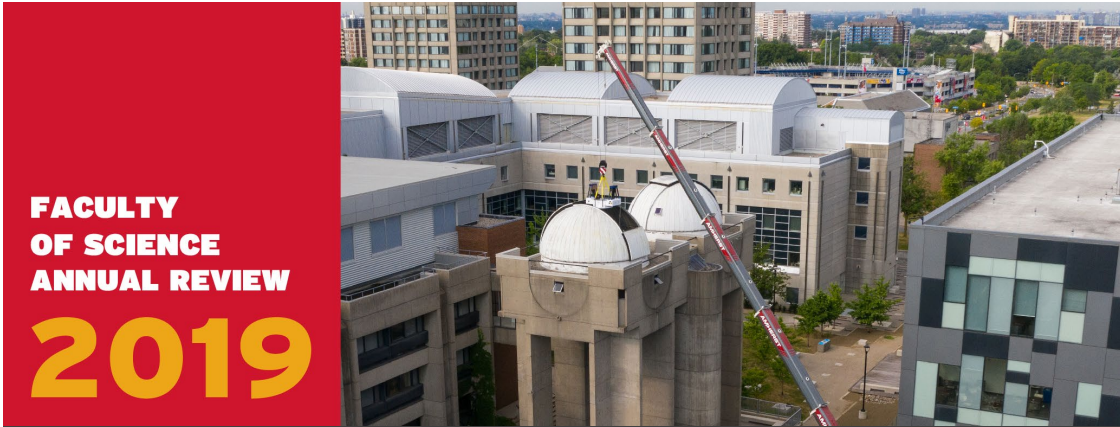


Dean's Round-up: May 2020

Faculty Highlights



**FACULTY
OF SCIENCE
ANNUAL REVIEW
2019**

The Faculty of Science has published its 2019 Annual Review. Read the report for highlights of our top moments last year, including the installation of the one-metre telescope at the Observatory, the creation of our Neuroscience program, and more. [Read more](#)

Congratulations

Twenty researchers in the Faculty of Science received NSERC Discovery Grants totaling \$4.16 million. Of note, **Jennifer Chen** (Chemistry) and **Amro Zayed** (Biology) received the Discovery Accelerator Supplement valued at \$120,000 over three years. The recipients in Science include **Mark Bayfield, Dasantila Golemi-Kotra, Scott Kelly, Nikola Kovicich, Jean-Paul Paluzzi, Chun Peng, Sapna Sharma, Karl White, Amro Zayed, Jennifer Chen, Trevor VandenBoer, Edward Furman, Neal Madras, Nassim Bozorgnia, Anantharaman Kumarakrishnan, Ozzy Mermut, Sean Tulin, Laurence Packer, Claire David and Deborah Harris.**

Jennifer Chen (Chemistry) and **Vivian Saridakis** (Biology) received new funding from York University to pursue research projects dedicated to Canada's fight against COVID-19. Read the

[media release](#).

Georg Zoidl (Biology) is a co-PI on a New Frontiers in Research Fund - Exploration program grant totaling \$250,000 for the project "A Fully-Implantable mm-Scale Neuro-Stimulator for Temporally-Precise Single-Cell-Resolution Optogenetics."

Joel Zylberberg (Physics & Astronomy) is a co-PI on a New Frontiers in Research Fund - Exploration program grant totaling \$250,000 for the project "Training AI systems with brain activation patterns of human experts during vision-based tasks."

Master's student **Malory Owen** and supervisor **Christopher Lortie** (Biology) secured an AIF Category IV: Open Access Teaching and Learning Grant to develop a set of interviews and materials supporting "Climate Justice in Toronto: Meet the Activists."

Other News

The **Allan I. Carswell Observatory** implemented different formats for [online outreach](#), including Online Public Viewing and livestream YouTube Public Viewing. It also hosted the first ever fully online Canadian Astronomical Society conference, with **Paul Delaney**, **Michael De Robertis**, **Elaina Hyde** and student **June Parsons** (Physics & Astronomy) on the organizing committee. In addition, the following presented posters at the conference: **Michael Bietenholz**, **Paul Delaney**, **Elaina Hyde**, **Patrick Hall**, **Nelson Nunes**, and student **Sunna Withers**.

The **Centre for Disease Modelling** at York U and Chinese Society for Mathematical Biology launched a weekly distinguished lecture series, "Mathematics and COVID-19" on Saturday nights at 8:30pm. Seminar details are posted on the Centre's [website](#).

The **Centre for Disease Modelling** at York U and Nanjing University of Information Science and Technology organized the 2020 International Symposium on Biological Mathematics and Medical Applications, April 18-May 16, 2020. **Huaiping Zhu** (Mathematics & Statistics) was co-chair for the symposium. Additionally, **Jane Heffernan** (Mathematics & Statistics) presented "Models of Healthcare Demand and Personal Protective Equipment".

The [Biodiversity Heritage Library Blog](#) profiled **Dawn Bazely** (Biology) and her work to promote women in STEM. It also highlighted a chapter she co-authored titled "Women, Citizen Science and Botanical Knowledge in Ontario, 1870-1920" in the forthcoming *Women, Men and Plants in 19th Century Canada: New Resources, New Perspectives* (McGill-Queen's Press).

Jane Heffernan (Mathematics & Statistics) is on the COVID-19 National Dashboard with Health Canada. The Dashboard will be used to inform jurisdictions and the federal government on personal protective equipment (i.e., gowns, gloves, masks, face shields) supply and demand.

Christopher Lortie (Biology) presented “Myths, monsters, and outliers in creativity research today” at the international Neuroscience and Creativity Summit (online) on May 27.

Adam Muzzin (Physics & Astronomy) was profiled in a [May-4 video](#) produced by York University about the science of Star Wars.

Sandra Rehan (Biology) and her research on social behavior in bees was profiled in [yFile](#).

Amro Zayed, Laurence Packer, and Sandra Rehan (Biology) were panelists for the [Buzz on Bees](#) event hosted by the Faculty of Science and Faculty of Environmental and Urban Change.

On behalf of the Laboratory for Industrial and Applied Mathematics (LIAM) De-Escalation Working Group, postdoc **Kyeongah Nah** (LIAM, Mathematics & Statistics) presented “Optimal timings for contact increasing subject to health system capacity in a phased social distancing de-escalation strategy to reopen economy post COVID-19 pandemic” for the External Panel of the Public Health Agency of Canada's Modelling group. The LIAM De-escalation Working Group is designing an optimal social distancing de-escalation strategy for Ontario and Canada. The project involves the integration of LIAM's COVID-19 models with **Michael Chen's** (Mathematics & Statistics) expertise in dynamical optimization.

Research Highlights

Postdoc **Nicola Bragazzi** and supervisor **Jianhong Wu** (Mathematics & Statistics) published [How Big Data and Artificial Intelligence Can Help Better Manage the COVID-19 Pandemic](#) in the *International Journal of Environmental Research and Public Health*. It was included in the official [database](#) of the Pan American Health Organization.

Sapna Sharma (Biology) co-authored [Scientists' Warning to Humanity: Rapid degradation of the world's large lakes](#) in the *Journal of Great Lakes Research*, and [Effects of nonnative species on the stability of riverine fish communities](#) in *Ecography*.

Jianhong Wu (Mathematics & Statistics) and his team published [De-Escalation by Reversing the Escalation with a Stronger Synergistic Package of Contact Tracing, Quarantine, Isolation and Personal Protection: Feasibility of Preventing a COVID-19 Rebound in Ontario, Canada, as a](#)

[Case Study](#) in *Biology*. Read the [media release](#) from York University.

Cora Young (Chemistry) published [Ice Core Record of Persistent Short-Chain Fluorinated Alkyl Acids: Evidence of the Impact From Global Environmental Regulations](#) in *Geophysical Research Letters*. Read the [media release](#) from York University.

Huaiping Zhu (Mathematics & Statistics) and his team published [The Ontario Climate Data Portal, a user-friendly portal of Ontario-specific climate projections](#) in Nature's *Scientific Data*. Read the [story](#) on the York Science website.

Postdoc **Leo Alcorn** (supervised by Adam Muzzin, Physics & Astronomy) co-authored [A giant galaxy in the young Universe with a massive ring](#) in *Nature Astronomy*. Read the [media release](#) from York University.

Former PhD student **Alex Filazzola** and supervisor **Christopher Lortie** (Biology) published [Species-specificity challenges the predictability of facilitation along a regional desert gradient](#) in the *Journal of Vegetation Science*.

Former MSc student **Aryan Lajevardi** and supervisor **Jean-Paul Paluzzi** (Biology) published [Receptor Characterization and Functional Activity of Pyrokinins on the Hindgut in the Adult Mosquito, *Aedes aegypti*](#) in *Frontiers in Physiology*.

Media

Research by **Thomas Baumgartner** (Chemistry) on creating organic batteries was covered by [The Weather Network](#).

Paul Delaney (Physics & Astronomy) spoke about planetary conjunction with [CTV News](#); the Sunspot cycle, SpaceX launch and Proxima Centauri b with *AM1010*; and the SpaceX launch with *CTV News*, *Global TV*, and *AM640*.

Dasantila Golemi-Kotra (Biology) spoke to several media outlets about mask hygiene during the pandemic, including [The Globe and Mail](#), *CTV News* ([web](#) and [TV](#)), *CBC Radio*, [The Canadian Press](#) (article appeared on major media sites), and more. For the *Toronto Star*, she also participated in a [Q&A](#) about how to stay safe during the pandemic, and spoke about [riding in elevators](#) and keeping your [home](#) free of COVID-19.

Helene Mialet's (Science & Technology Studies) book *Hawking Incorporated* was discussed and

cited in [Le Monde](#).

Research findings by **Cora Young** (Chemistry) on CFC alternatives accumulating in the Arctic received widespread media coverage. She spoke to a number of media outlets, including [BBC](#), [IFLScience](#), and [Chemical & Engineering News](#). The research was also covered by CBC Radio's [Quirks & Quarks](#) and [The Canadian Press](#).

Jianhong Wu (Mathematics & Statistics) spoke to [The Globe and Mail](#) and [NOW](#) about his research on preventing epidemic rebound during the re-opening of Ontario.

PhD student **Spencer Monckton** (supervised by **Laurence Packer**, Biology) authored [Our fear of giant hornets is oversized — and threatens native insects](#) for *The Conversation*.