

Dean's Round-up: February 2022



The Faculty of Science was featured in York University's [Innovatus](#), a newsletter devoted to teaching and learning innovation. The issue highlighted some of our exciting projects and initiatives, including our inaugural Pedagogical Innovation Chair in Science Education, a research and exchange program for astrophysics students, the Faculty's summer transition program and a project to help first-year students enhance their study skills.

This March Break, the **Science Engagement Programs** team is launching a new format using [virtual workshops](#), open to kids enrolled in grades 3 to 8.

On the UN International Day of Women and Girls in Science, we hosted a [Women in Science](#) event featuring a keynote talk by **Vivian Saridakis** (Biology, AD Research & Graduate Education) and panels of professors and students in Science who shared their perspectives.

Pedagogy and Curriculum Help is Available! Do you have questions about dynamic pedagogy, curriculum ideas, adding flexibility to labs, or adding flexibility to courses? Educational Development Specialist **Ashley Nahornick** is here to answer your questions. She can also review your e-class, provide ideas, and answer your questions. Reach out at ashleynk@yorku.ca

CONGRATULATIONS

Bridget Stutchbury (Biology) received the 2022 Jamie Smith Memorial Mentoring Award from the Society of Canadian Ornithologists.

Amro Zayed (Biology) received a grant from [CFI JELF](#) of more than \$200,000 for the project "Research apiary to study honeybee behaviour, genetics and health."

Trevor VandenBoer and **Cora Young** (Chemistry) received a grant from Environment and Climate Change Canada for the project "Understanding the composition, sources, and risks of airborne PFAS in Canada." The grant is valued at \$180,000 over three years.

Kevin McGregor (Mathematics & Statistics) submitted a successful application for a CANSSI Distinguished Postdoctoral Fellowship faculty proposal, in collaboration with Maxime Turgeon and Saman Muthukumarana (University of Manitoba). He was also a successful applicant of the 2022 IMPACTT (Integrated Microbiome Platforms for Advancing Causation Testing and Translation) Mentorship Program.

An image from a recent manuscript by Research Associate **Tetsuaki Miyake** and **John McDermott** (Biology) was featured on the front cover of [The FEBS Journal](#).

Research by **Elizabeth Clare** (Biology) and her team on using eDNA to measure biodiversity was featured on the front cover of [Current Biology](#).

Jude Kong (Mathematics & Statistics) was profiled in the [#PeopleofYU](#) campaign for his work in disease modelling and mentorship of students.

MORE NEWS

The Faculty of Science signed Memorandums of Understanding with two universities in China:

- Nantong University – to develop an articulation agreement in Biomedical Science and Statistics that would allow students to complete their first two years at Nantong and then transfer to York to complete their degree

- Guilin University of Electronic Technology – to develop a Sino-Canada Cooperation program for Data Science. The program is an institutional partnership-based student recruitment initiative.

The **Allan I. Carswell Observatory**, directed by **Elaina Hyde** (Physics & Astronomy), collaborated RCI Science and Space Place Canada to host “Celestial Pursuit!” Panelists included Dr. Sara Mazrouei, Dr. Jess McIver, Dr. Hilding Neilson, and Dr. Parandis Tajbakhsh and more 100 people participated live on the observatory YouTube channel.

The **Risk and Insurance Studies Centre** (RISC), directed by **Ed Furman** (Mathematics & Statistics), held an award ceremony for the inaugural cohort of RISC's Hybrid Academia-Industry via Virtual Engagement (HAIvVE) Interns. At the event, the interns (York University students from all Faculties) presented creative solutions to real world problems in climate risk, strategic management, consumer research, nowcasting, and demographic projections, and a winner was selected. The event opens a sequence of other RISC's events under the umbrella of York's Climate Change Month.

Jude Kong (Mathematics & Statistics), director of the Africa-Canada AI & Data Innovation Consortium, co-organized and moderated a Black History month webinar entitled "STEM and Black Wellness in Canada" with The Harriet Tubman Institute, as well as the webinar "Discovering COVID-19 Inequalities and Systemic Vulnerabilities: The role of Artificial Intelligence" in partnership with CIFAL York University. He also presented "Comparing public sentiments toward COVID-19 vaccines across Canadian cities: Analysis of comments on Reddit" at the University of Alberta, and presented his work on the impact of social economics and environmental factors on the dynamics of COVID-19 at the Artificial Intelligence for Pandemics Centre at the University of Queensland (Australia).

Woldegebriel Assefa Woldegerima (Mathematics & Statistics) presented “Estimating Time-dependent Parameters and Unmeasurable Variables Based on Observer Construction Method for Cholera Model with Threshold Immunity” at the 13th Conference on Dynamical Systems Applied to Biology and Natural Sciences (Spain). He also presented “Mathematics in Nature” for the Ask a Mathematician program organized by the Fields Academy.

Dasantila Golemi-Kotra and **Elizabeth Clare** (Biology) were featured in a [video](#) produced by York University on the International Day of Women and Girls

in Science.

Jianhong Wu (Mathematics & Statistics) and his COVID-19 mathematical modelling research was featured in [YFile](#).

Chris Caputo's (Chemistry) research on semi-permanent tattoo's, in collaboration with Toronto-based startup Inkbox (recently acquired by Bic), was profiled in [yFile](#).

NMR Specialist **Howard Hunter** hosted the 2022 virtual meeting of Nuclear Magnetic Resonance (NMR) Facility Managers and Specialists from Ontario, Quebec and Manitoba. This annual meeting provides a forum for the discussion of new developments in NMR spectroscopy, the exchange of ideas and the shared resolution of common challenges encountered in research NMR facilities.

Professor Emeritus **Paul Delaney** (Physics & Astronomy) presented “The Majestic Aurora” at the Hamilton and New Brunswick chapters of the Royal Astronomical Society of Canada. He also authored the editorial [Stepping into Tomorrow](#) in *Revue YOUR Review*.

Three biomedical science students (**Jesse Winger**, **Simranjot Nahom Sidhu**, and **Sammak Moghaddam Arghavan**) represented the Faculty of Science in York University's [Go Global SDGs in Action Student Challenge](#) program.

RESEARCH HIGHLIGHTS

Kaleb A Lowe, Wolf Zinke, Joshua D Cosman, and **Jeffrey D Schall** (Biology) published [Frontal Eye Fields in Macaque Monkeys: Prefrontal and Premotor Contributions to Visually Guided Saccades](#) in *Cerebral Cortex*.

Jorge Bruno and **Paul Szeptycki** (Mathematics & Statistics) published [The tree alternative conjecture under the topological minor relation](#) in the *Electronic Journal of Combinatorics*.

Santi Spadaro and **Paul Szeptycki** (Mathematics & Statistics) published [A regular not weakly discretely generated P-space](#) in *Acta Mathematica Hungarica*.

Anthony Nixon, Bernd Schulze, and Professor Emeritus **Walter Whiteley** (Mathematics & Statistics) published [Rigidity through a Projective Lens](#) in *Applied Sciences*.

Ryan K. Schott (Biology), Leah Perez, Matthew A. Kwiatkowski, Vance Imhoff, and Jennifer M. Gumm published [Evolutionary analyses of visual opsin genes in frogs and toads: Diversity, duplication, and positive selection](#) in *Ecology and Evolution*.

Kate N. Thomas, David J. Gower, Jeffrey W. Streicher, Rayna C. Bell, Matthew K. Fujita, **Ryan K. Schott** (Biology), H. Christoph Liedtke, Célio F. B. Haddad, C. Guilherme Becker, Christian L. Cox, Renato A. Martins, and Ron H. Douglas published [Ecology drives patterns of spectral transmission in the ocular lenses of frogs and salamanders](#) in *Functional Ecology*.

PhD student **Pei Yuan**, Postdoc **Elena Aruffo**, Evgenia Gatov, PhD student **Yi Tan**, PhD student **Qi Li**, Nick Ogden, Sarah Collier, Bouchra Nasri, **Iain Moyles** and **Huaiping Zhu** (Mathematics & Statistics) published [School and community reopening during the COVID-19 pandemic: a mathematical modelling study](#) in *Royal Society Open Science*.

Ian McConachie, Gillian Wilson, Ben Forrest, York Visiting Professor **Z. Cemile Marsan**, **Adam Muzzin** (Physics & Astronomy), M. C. Cooper, Marianna Annunziatella, Danilo Marchesini, Jeffrey C. C. Chan, Percy Gomez, Mohamed H. Abdullah, Paolo Saracco, and Julie Nantais published [Spectroscopic Confirmation of a Protocluster at \$z = 3.37\$ with a High Fraction of Quiescent Galaxies](#) in *The Astrophysical Journal*. [Read the press release from York](#).

Postdoc **Pei Yuan**, Postdoc **Elena Aruffo**, PhD student **Yi Tan**, PhD student **Liu Yang**, Nicholas Ogden, Samantha Akingbola, Sarah Collier, and **Huaiping Zhu** (Mathematics & Statistics) published “Projections of the transmission of the Omicron variant for Toronto, Ontario And Canada, using surveillance data following recent changes in testing policies” as a Special Report in the Public Health Agency of Canada Modelling Group Report.

MEDIA

Jesse Rogerson (Natural Science) spoke to the [Excalibur](#) about extraterrestrial life.

Professor Emeritus **Paul Delaney** (Physics & Astronomy) spoke to *AM640*, *CJBQ* and *AM1010* on a number of topics including ISS de-orbit plans, the James Webb Telescope, space tourism, Mars sample return, Perseverance, space junk, the Chinese "tug" satellite, and long duration spaceflight.

Research by **Elizabeth Clare** (Biology) on eDNA continued to receive media coverage by outlets including [Discover](#), [NPR](#) and [Mongabay](#).

Research by **Trevor VandenBoer** (Chemistry) on the quality of indoor air in our homes was profiled in [The York University Magazine](#).

Research by **Sapna Sharma** (Biology) on the impact of climate change on lake temperatures and ice was featured in the [Toronto Star](#) and [The Narwhal](#).

[The York University Magazine](#) featured mathematical modelling research by postdoc **Suzan Farhang Sardroodi** (Mathematics & Statistics) to identify strategies for circumventing logistical constraints related to COVID-19 vaccines.

EVENTS

Mar 15: *OMNI-RÉUNIS Lecture: Reflections on Modelling for Infectious Diseases in the Framework of a One Health*, presented by Dr. Karine Chalvet-Monfray. 11:45 am on Zoom. [Register](#)

Mar 24: *Aligning Mentoring Expectations in Science Research*, presented by Dr. Erin Dolan (University of Georgia). 12pm-1pm on [Zoom](#).

Mar 31: *Faculty of Science Honours & Awards Ceremony*, 3 pm on Zoom. Invitations will be sent by email.

Apr 28: Dr. Ron Lancaster (OISE University of Toronto) will lead a hands-on session about inclusive teaching through completing a mathematics education laboratory, 10:30am-12pm on [Zoom](#).

INTERNATIONAL PARTNER INSTITUTION PROFILE

The Faculty of Science has established multiple partnerships with various international institutions. In order to better inform the York Science community of these international partner institutions, we will provide a brief profile of each of them in our Dean's Round-up.



Guilin University of Electronic Technology

Guilin University of Electronic Technology (GUET) was founded in 1960 and is a key public university of Guangxi. It has four campuses and 17 colleges that offer 70 bachelor programs, 18 master programs and four PhD programs. It has more than 2,900 teachers and staff, and about 40,600 students enrolled. GUET also recruits foreign students and offers the Chinese Government Scholarship, Silk Road Scholarship, Special Scholarships for Chinese And American Students and Guangxi Government Full Scholarship for ASEAN Students. Presently, there are 1,300 international students from over 54 countries and regions studying in GUET.

GUET and the Faculty of Science at York University signed a Memorandum of Understanding for the development of a Sino-Canada Cooperation program for Data Science.

