

Dean's Round-Up: November 2022

FACULTY HIGHLIGHTS



As part of our [Community 2022](#) initiative, we hosted a full roster of events, including a Guided Faculty Tour, Lunch with the Dean, IT Roundtable, York Science Social, and a Research Services Seminar. The IT Roundtable facilitated a productive first meeting between faculty members and colleagues in the University Services Centre, University IT, and Facilities, and a number of issues were resolved. A summary of findings and recommendations from this event will be circulated in the coming weeks. Thank you to all who have participated in our Community 2022 events to date. To RSVP for upcoming events, please visit our [calendar](#).



Jianhong Wu (Mathematics & Statistics), **Sandra Rehan** (Biology) and **Sapna Sharma** (Biology) were honoured at the Royal Society of Canada's Celebration of Excellence and Engagement, November 23-26. Wu was inducted as a Fellow to the Academy of Science, and Rehan and Sharma were inducted as College members.



INNOVATUS

YORK UNIVERSITY TEACHING & LEARNING

The November issue of yFile's [Innovatus](#) focused on teaching and learning innovations in the Faculty of Science. The newsletter highlighted the new [Data Science](#) program; new course offerings by the [Department of Science, Technology & Society](#); the [2+2/2+3 Undergraduate International Collaboration Education Programs](#); and the transformed NATS course [Mysteries of Everyday Materials](#) taught by **Stephanie Domenikos** (Science, Technology & Society).

Our community members are invited to join [Connecting YU](#), a platform where York University students, alumni, faculty, staff and community partners can build connections and discover mentorship opportunities. Sign in and **join the Faculty of Science Group**. The platform is private and information is not shared outside of York. [Watch the welcome video](#).

CONGRATULATIONS

Three of our professors received new or renewed Canada Research Chairs:

- **Chris Caputo** (Chemistry), renewed Canada Research Chair in Main-Group Catalysis and Sustainable Chemistry (Tier 2)
- **Kohitij Kar** (Biology), new Canada Research Chair in Visual Neuroscience (Tier 2)
- **Raymond Kwong** (Biology), renewed Canada Research Chair in Environmental Toxicology (Tier 2)

Graduate student **Taylor Cosby** (Chemistry, supervised by Chris Caputo) won a best presentation prize at the 53rd [Inorganic Discussion Weekend](#) at Brock University.

MORE NEWS

Correction to item that appeared in October 2022 Dean's Round-Up:

On Halloween, the Allan I. Carswell Observatory hosted a "Herschel 200th Anniversary: Astronomy, Music, Extraterrestrials" lecture and concert event in collaboration with AMPD, followed by a haunted telescope tour. **Parandis Tajbakhsh** (NATS) planned and coordinated the concert event, and delivered the lecture. The programming at the Observatory, including a tour, photo booth and viewing session of Uranus, was planned and headed by Observatory Director **Elaina Hyde** (Physics & Astronomy).

The Faculty's Office of International Collaborations and Partnerships (OICP) launched the first "York Science International Education Month" to motivate Science students to learn about global opportunities for studying and experiential education. The initiative included:

- a presentation by Director of International Collaborations and Partnerships **Hugo Chen, Stephen Watson** (Mathematics & Statistics) and **Steven Wang** (Mathematics & Statistics) about the new Data Science program to prospective students from partner institutions in China;
- **Global Leaders of York Science** (GLYS) applicants volunteered at the 2022 Sustainable on the Go Virtual Conference;
- **OICP** and **GLYS** participated in the Global Learning Fair organized by York;
- **Chen** and **Li** represented York Science at Canadian Bureau for International Education Annual Conference in Toronto (Li was acknowledged for her contributions as a co-lead of the International Network of Tomorrow's Leaders in 2022);

Led by **Amenda Chow** and **Pamela Sargent** (Mathematics & Statistics), the **Department of Mathematics & Statistics** and the Centre for Indigenous Knowledges and Languages hosted Professor Edward Doolittle (First Nations University of Canada) for a two-day visit, during which he presented a talk about indigenous math, visited with indigenous and non-indigenous members of the York community, visited the Department's experimental math space, and attended a department tea social to celebrate his visit.

As a member of the Scientific Planning Committee, **Conor Douglas** (Science, Technology & Society) co-convened the panel "What's the endgame for cancer immunotherapy in Canada?" at the Summit for Cancer Immunotherapy in Montreal. He also presented "Sustainable, Cost-Effective Access to Specialized Therapies: Made-in-Canada Alternative" as part of the panel "Innovative pathways to optimize access to innovative medicines: What is Canada Doing Well and How Can We Improve?" at the fall conference of the Canadian Organization for Rare Disorders.

Jane Heffernan (Mathematics & Statistics) was a plenary speaker at the First California State University Mathematical Conference, and spoke about the growth of Disease Modelling in Canada at the launch of a new Mathematics Centre in Hungary. She also presented at the Royal Society of Canada's Annual Meeting; her talk was chosen to be a part of the Academy of Science's speaker café. Additionally, Heffernan's group has been contracted to contribute modelling results to the new Ontario Public Health Emergencies Science Advisory Committee.

Robin Kingsburgh (NATS) presented "The importance of a multidisciplinary approach to teaching colour" as part of a round table session on 21st Century Colour Literacy, in conjunction with the Cumulus Working Group on Contemporary Art. This was part of the Cumulus Association conference on Design for Adaptation, held in Detroit.

Jihyeon Jessie Yang (Mathematics & Statistics) presented "Counting and the Universe" for grade four students as a part of the Ask a Mathematician program at the Fields Institute.

Mike Zabrocki (Mathematics & Statistics) gave two presentations for the Ask a Mathematician program to grade seven and eight classes about how Bitcoin and cryptocurrencies work.

The 2022 Canada-China Symposium on Modeling, Prevention and Control of Zoonoses, organized by the Canadian Center for Disease Modeling at York University, took place Nov 11-16. The following members of Mathematics & Statistics were involved: **Huaiping Zhu** was co-chair; **Jane Heffernan** was the organizing committee member; postdoc **Pei Yuan** (Mathematics & Statistics) and program manager **Natasha Ketter** were supporting committee members; and **Jude Kong**, **Iain Moyles**, and **Woldegebriel Assefa Woldegerima** (Mathematics & Statistics) presented invited talks. Read the [yFile story](#).

RESEARCH HIGHLIGHTS

PhD student **Andrea A. Angelucci**, postdoc **Leigh R. Crilley**, Rob Richardson, Thalassa S. E. Valkenburg, Paul S. Monks, James M. Roberts, Roberto Sommariva and **Trevor C. VandenBoer** (Chemistry) published [Elevated levels of chloramines and chlorine detected near an indoor sports complex in *Environmental Science: Processes & Impacts*](#).

Jingyi Cao (Mathematics & Statistics) and Virginia R. Young published [Approximating the classical risk process by stable Lévy motion in the *Scandinavian Actuarial Journal*](#).

Jingyi Cao (Mathematics & Statistics), Dongchen Li, Virginia R. Young and Bin Zou published [Stackelberg differential game for insurance under model ambiguity: general divergence in the *Scandinavian Actuarial Journal*](#).

Huaiping Zhu (Mathematics & Statistics), postdoc **Ziwan Deng** and Jinliang Liu (Lassonde) published [Climate Trends in the Great Lakes Region and Surrounding Area over the Past 40 Years in the *Journal of Earth Science & Climatic Change*](#).

PhD student **Kyra Kerkhofs**, Jyoti Garg, Étienne Fafard-Couture, Sherif Abou Elela, Michelle S. Scott, **Ronald E. Pearlman** and **Mark A. Bayfield** (Biology) published [Altered tRNA processing is linked to a distinct and unusual La protein in *Tetrahymena thermophila* in *Nature Communications*](#).

Former postdoc **Alexander Moravek**, **Trevor C. VandenBoer**, Zachary Finewax, Demetrios Pagonis, Benjamin A. Nault, Wyatt L. Brown, Douglas A. Day, Anne V. Handschy, Harald Stark, Paul Ziemann, Jose L. Jimenez, Joost A. de Gouw, and **Cora J. Young** (Chemistry) published [Reactive Chlorine Emissions from Cleaning and Reactive Nitrogen Chemistry in an Indoor Athletic Facility in *Environmental Science & Technology*](#).

Postdoc **Vasily G. Panferov**, postdoc **Nikita A. Ivanov**, Tony Mazzulli, Davor Brinc, Vathany Kulasingam, and **Sergey N. Krylov** (Chemistry) published [Electrophoresis-Assisted Multilayer Assembly of Nanoparticles for Sensitive Lateral Flow Immunoassay in *Angewandte Chemie International Edition*](#).

William J. Pietro (Chemistry) and **Ozzy Mermut** (Physics & Astronomy) published [A SiPM-Enabled Portable Delayed Fluorescence Photon Counting Device: Climatic Plant Stress Biosensing in *Biosensors*](#). **READ THE PRESS RELEASE FROM YORK UNIVERSITY.**

Robert Reynolds and **Allan Stauffer** (Mathematics & Statistics) published [Is Catalan's Constant Rational? in *Mathematics*](#). Reynolds also published [Extended Moreno-García cosine products in *AIMS Mathematics*](#).

Amartya T. Mitra, Molly C. Womack, David J. Gower, Jeffrey W. Streicher, Brett Clark, Rayna C. Bell, **Ryan K. Schott** (Biology), Matthew K. Fujita and Kate N. Thomas published Ocular lens morphology is influenced by ecology and metamorphosis in frogs and toads in *Proceedings of the Royal Society B*.

Stephanie E. Hampton, **Sapna Sharma**, Matthew R. Brousil, and postdoctoral visitor **Alessandro Filazzola** (Biology) published Winter and summer storms modify chlorophyll relationships with nutrients in seasonally ice-covered lakes in *Ecosphere*.

Postdoc **Pei Yuan**, graduate student **Yi Tan**, graduate student **Liu Yang**, postdoc **Elena Aruffo**, Nicholas H. Ogden, Jacques Bélair, Julien Arino, **Jane Heffernan**, James Watmough, Hélène Carabin and **Huaiping Zhu** (Mathematics & Statistics) published Modeling vaccination and control strategies for outbreaks of monkeypox at gatherings in *Frontiers in Public Health*.

Rosa Orellana, Franco Saliola, Anne Schilling and **Mike Zabrocki** (Mathematics & Statistics) published Plethysm and the algebra of uniform block permutations in *Algebraic Combinatorics*.

For a full list of publications from the Faculty of Science, see our [website](#).

MEDIA

Elaina Hyde (Physics & Astronomy) was interviewed by *CBC Radio* about the total lunar eclipse, and *AM900* about a recent asteroid event.

Robin Kingsburgh (NATS) was interviewed for TVO's *Know Brainers* series for the episode The truth about colour- is it even real?

Patricia Lakin-Thomas (Biology) spoke to *CFAX*, *Classical 96.3*, *Zoomer Radio*, *AM980* and *AM640* about daylight savings time and human biological clocks, and how these clocks are affected when time changes occur.

CityNews featured new research by **Ozzy Mermut** (Physics & Astronomy) and **William Pietro** (Chemistry) that involved creating a new portable device that can detect a glow emitted by plants to measure their health. Undergraduate biophysics student **Karina Kofman** was also interviewed by the newscast. Mermut also spoke to *Newstalk 1010*, *Newstalk 800*, and *AM800* about the project.

Jesse Rogerson (Science, Technology & Society) was interviewed by *CTV News* about the total lunar eclipse and also spoke with *Newstalk1010* about a number of astronomical events in November such as meteor showers, the lunar eclipse, Uranus at opposition, and the Artemis 1 mission to the moon.

Sarah Rugheimer (Physics & Astronomy) spoke to *CBC Radio* about the total lunar eclipse, *Newstalk 800* about the Great Filter theory, and *CTV News*, *Newstalk 1010*, and *AM640* about the Artemis I mission to the moon.

Andrew Skelton (Mathematics & Statistics) spoke to *CBC News* about York's online summer transition classes to help incoming first-year students develop and practice the skills needed to succeed at university.

EVENTS

Dec 16: [Holiday Reception](#)

Jan 30: [Honours & Awards Ceremony](#)

For a full list of events, visit our [Community 2022 website](#).

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.



International University – Viet Nam National University Ho Chi Minh City

International University (IU), one of seven member universities of Vietnam National University HCMC, was established in December 2003. As an interdisciplinary university, it is the first public university in Vietnam that uses English as the primary language in teaching and researching. The university conducts all its administrative, academic, and research activities in Thu Duc university village, a 77-hectare joint land endowment between Ho Chi Minh City and Binh Duong Province.

IU and its partner universities currently offer undergraduate and graduate accredited programs. The focus has been on offering academic majors that are aligned with the growing demand for human resources in such fields as economics, management, science, and technology. IU's overall model adheres to the international standards in developing syllabi or curricula in collaboration with several top universities in the United States, Europe, and Asia.