science | YORK U

Dean's Round-up: July 2022

SECOND ANNUAL
FACULTY OF SCIENCE

Academic Integrity Awareness Week

August 29 - September 1, 2022

Faculty members, instructors, and staff are invited to a week of highlighting people, workshops, and support to showcase academic integrity and learning in the Faculty of Science. The focus of this year's academic integrity week is increasing awareness. [Learn more and register](#)

CONGRATULATIONS

Jane Heffernan (Mathematics & Statistics) was elected a Fellow of the Society for Mathematical Biology.

Kohitij Kar (Biology) received a $40,000 unrestricted gift from Google to support his work related to "Developing a common framework to explain the decisions made by primate and machine vision systems."

Students **Mahakprit Kaur** (Science), **Taylor Cargill** (Science), **Kevin Hui** (Lassonde) and **Minh Vu** (Lassonde), all working in **Jude Kong**'s lab (Mathematics & Statistics), placed in the top three in the STEM Fellowship Inter-University Big Data Challenge, an inquiry-driven experiential learning program focused on data science skills. Read the [yFile story](#).

Robin Kingsburgh (Division of Natural Science) was awarded a research leave in 2022-23 for the project "Developing Colour Literacy Educational Tools," an educational initiative to build a bridge between art and science for 21st century colour education, while addressing common misconceptions and misinformation about colour.

Sarah Rugheimer (Physics & Astronomy) was appointed the new Allan I. Carswell Chair for the Public Understanding of Astronomy.

Dean **Rui Wang** was elected president of Canadian Council of Deans of Science.

Recent former trainees at the **Laboratory for Industrial and Applied Mathematics**, directed by **Jianhong Wu** (Mathematics & Statistics), have moved on to new roles, including former postdoc **Francesca Scarabel**, who will become a lecturer at the University of Leeds; postdoc **Jummy Funke David**, who will join the CDC National Center for Chronic Disease Prevention and Health Promotion, Division of Heart Disease and Stroke Prevention, as a modelling fellow; and former PhD student **Mahnaz Alavinejad**, who joined the Health Data Science branch of the Ministry of Health as a methodologist for COVID-19.

MORE NEWS

The Faculty of Science received more than $137,000 in new gifts from donors to support student scholarships and learning. The gifts will primarily support undergraduate and graduate students during their studies at York University.

The **Global Leaders of York Science** (GLYS) organized the workshop "SDGs and Sustainability as science students", presented by Charles Hopkins, UNESCO Chair in Reorienting Education towards Sustainability and Katrin Kohl, Executive Coordinator to the UNESCO Chair. GLYS members and several current science students and staff participated in the discussion.

Robert Burns (Professor Emeritus, Mathematics & Statistics) and **Iouldouz Raguimov** (Mathematics & Statistics) translated from Russian into English one of the monographs of Raguimov's PhD supervisor, Nikita N. Moiseev. The book is titled "How Far It Is to Tomorrow...".

Ilijas Farah (Mathematics & Statistics) presented one of two tutorials at the [Model Theory and Applications](#) meeting (Cetraro, Italy) and co-organized a special session on set theory with Dana Bartosova (University of Florida) at the [Logic Colloquium 2022](#) meeting. His former PhD student **Andrea Vaccaro** was also invited to give a plenary talk at the latter meeting.

Asia Ivić Weiss (Mathematics & Statistics) presented a public lecture entitled "Geometry & Art – A Personal Perspective" at the University of Alaska Fairbanks.

Jude Kong (Mathematics & Statistics) was a keynote speaker at the Black in Mathematics Association workshop on grant writing and access, and at the AYA Mentoring and Tutoring Program Summer 2022 Meeting. He was a panelist for a discussion on "Breaking barriers in STEM and building bridges with Africa!" at the Nobellum Innovation 2022. He also organized a one-month workshop at the SummerUP Mathematics program to inspire students in Grades 10, 11 and 12 students from Black Communities, and co-organized a workshop at a Camp for Black Youth to introduce students in grades 7-10 to Data science.

Randy Lewis (Physics & Astronomy) was the inaugural speaker for [The Physics Hour](#), a seminar series organized by the Canadian Association of Physicists' Student Advisory Council for undergraduate students interested in learning about research in a different area of physics. He spoke on "Using quantum computers to simulate elementary particles."

Kim Maltman (Professor Emeritus, Mathematics & Statistics) gave two presentations at the 41st International Conference on High Energy Physics in Bologna, Italy (one with international collaborators Philippe de Forcrand and Anthony Francis, and **Randy Lewis** of Physics & Astronomy, the other with international collatorators Diogo Boito, Maarten Golterman and Santiago Peris).

Kevin McGregor (Mathematics & Statistics) presented an invited talk, "Microbial Diversity Estimation and Hill Number Calculation using the Hierarchical Pitman-Yor Process," at the International Chinese Statistical Association - Canada Chapter in Banff, Alberta. He was also appointed Chair of the New Investigators Committee for the Statistical Society of Canada.

Kelly Ramsay (Mathematics & Statistics) presented "The Privacy-Accuracy Trade-off for Multivariate Medians" at the [Workshop on Differential Privacy and Statistical Data Analysis](#) at the Fields Institute.

Work by **Robert Reynolds** and **Allan Stauffer** (Mathematics & Statistics) was added to the [Errata for Tables of Integrals, Series, and Products (8th edition)](#) by I. S. Gradshteyn and M. Ryzhik.

Paul Szeptycki (Mathematics & Statistics) presented a contributing talk at the Prague Symposium on General Topology and its Relation to Modern Analysis and Algebra, along with former postdocs **Jorge Bruno** and **Wieslaw Kubis**. Former PhD student **Michael Hrusak** and former postdoc **Rodrigo Hernandez** also gave plenary talks at the symposium.

Walter Tholen (Mathematics & Statistics) was a lecturer for the Summer School preceding the [Conference on Topology, Algebra and Categories in Logic](#) (Portugal); he presented a four-part minicourse for graduate students and researchers, entitled "From metric spaces to quantale-enriched categories."

Augustine Wong (Mathematics & Statistics) presented an invited lecture, entitled "A higher order likelihood-based statistical inference procedure for a vector parameter of interest" at the ICSA Conference.

Huaiping Zhu (Mathematics & Statistics) and postdoc **Pei Yuan**, along with Gail Wolkowicz (McMaster University), co-organized a mini-symposium on bifurcations and dynamics in biological systems at the 2022 Canadian Applied and Industrial Mathematics Society Annual Meeting. The symposium had 38 invited speakers.

RESEARCH HIGHLIGHTS

Postdoc **Elena Aruffo,** postdoc **Pei Yuan**, PhD student **Yi Tan**, Evgenia Gatov, **Iain Moyles** (Mathematics & Statistics), **Jacques Bélair**, **James Watmough**, Sarah Collier, **Julien Arino** and **Huaiping Zhu** (Mathematics & Statistics) published [Mathematical modelling of vaccination rollout and NPIs lifting on COVID-19 transmission with VOC: a case study in Toronto, Canada](#) in *BMC Public Health*.

Naim Mahroum, Noy Lavine, Aviran Ohayon, Ravend Seida, Abdulkarim Alwani, Mahmoud Alrais, Magdi Zoubi and **Nicola Luigi Bragazzi** (Mathematics & Statistics) published [COVID-19 Vaccination and the Rate of Immune and Autoimmune Adverse Events Following Immunization: Insights](#)

[from a Narrative Literature Review](#) in *Frontiers in Immunology*. **READ THE [PRESS RELEASE](#) FROM YORK UNIVERSITY.**

Jingyi Cao (Mathematics & Statistics), Dongchen Li, Virginia R.Young, and Bin Zoud published [Stackelberg differential game for insurance under model ambiguity](#) in *Insurance: Mathematics and Economics*.

Robert Reynolds and **Allan Stauffer** (Mathematics & Statistics) published [Extended Ohtsuka–Vălean Sums](#) and [Closed-Form Derivations of Infinite Sums and Products Involving Trigonometric Functions](#) in *Symmetry*.

R Iestyn Woolway, **Sapna Sharma** (Biology), and John P Smol published [Lakes in hot water: the impacts of a changing climate on aquatic ecosystems](#) in *BioScience*. **READ THE [PRESS RELEASE](#) FROM YORK UNIVERSITY.**

Alfio Giarlotta, Angelo Petralia, and **Stephen Watson** (Mathematics & Statistics) published [Bounded Rationality is Rare](#) in the *Journal of Economic Theory*.

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

MEDIA

Research by **Elizabeth Clare** (Biology) on eDNA and measuring biodiversity was highlighted in a story by *[National Geographic](#)*. She was also interviewed about her research for the ABC podcast *[Future Tense](#)*.

Paul Delaney (Professor Emeritus, Physics & Astronomy) conducted interviews about the James Webb Space Telescope and other astronomy events with numerous media outlets, including *CTV News*, *CP24*, *Global TV*, *AM1010*, *AM640*, and many other radio programs.

Ozzy Mermut (Physics & Astronomy) was interviewed for an episode of *[Podcast or Perish](#)*. She spoke about her research on how light can be used to diagnose and treat vision diseases.

Jesse Rogerson (Science, Technology & Society) spoke to *CP24* and

SiriusXM about the new images taken by the James Webb Space Telescope.

Research by **Sapna Sharma** (Biology) on the impact of climate change on lakes received wide media coverage, including by *The Canadian Press*, which was re-published by numerous news outlets, including *The Star*, *The Globe and Mail*, *National Post* and many more.

EVENTS

August 18: Summer Undergraduate Research Conference. Sandra Faire and Ivan Fecan Theatre + CIBC Lobby, Accolade East Building, 8:30am-3:30pm.

August 29-September 1: Academic Integrity Awareness Week, 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.

**School of Science
Jiangnan University**

Jiangnan University

Jiangnan University is situated in Wuxi, China. The university's roots go back to 1902 when its predecessor, San Jiang Normal School, began its first term. In 1958, Jiangnan University began its independent existence as Wuxi Institute of Light Industry, which later merged with two other colleges in 2001, and was renamed Jiangnan University by the Ministry of Education. The university consists of 18 schools and is home to about 3,400 staff and faculty members, more than 20,600 full-time undergraduates, 10,940 postgraduates and 670 international students.

The School of Science has seven departments (Information and Computation Science, Optoelectronics Information Science and Engineering, Applied Mathematics, Applied Physics, Mathematics, Physics Experiment Center, and Laboratory Center) with 149 faculty members and 125 full-time teachers. It offers two

undergraduate programs majoring in Information and Computing Science, and Optoelectronics Information Science and Engineering, two master's degrees in Mathematics and Optical Engineering, and one doctoral degree in Food Optical Intelligent Detection Technology. It has several provincial and municipal teaching and research platforms, such as the Jiangsu University Physics Experiment Teaching Exemplary Center and the Jiangsu Light Industry Optoelectronic Engineering And Research Center.