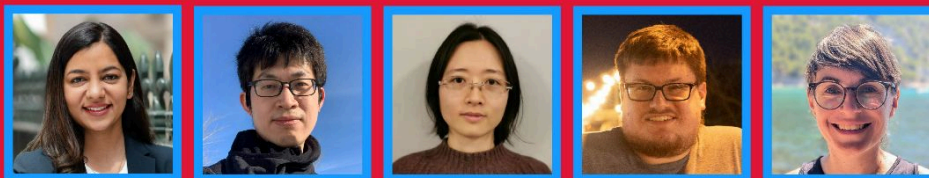


Dean's Round-up: September 2024

FACULTY HIGHLIGHTS

Welcome to our new faculty members



As part of YFile's [New Faces](#) feature issue, we welcomed our five new full-time, permanent faculty members for 2024-25: **Divya Sharma** (Mathematics & Statistics), **Yi Liu** (Mathematics & Statistics), **Tianyu Guan** (Mathematics & Statistics), **Bruce Howard** (Physics & Astronomy) and **Stephanie Jones** (Chemistry).



In time for Gravity Day (September 8), a York University [media release](#) highlighted the history of Newton tree descendants at York University, including two recent ones that were planted at York in spring 2024. **Cody Storry** (Physics & Astronomy) spearheaded the grafting and planting of the new additions.

CONGRATULATIONS

University Professor **Dawn Bazely** (Biology) was named the recipient of the 2024-25 [Fulbright](#) Canada Distinguished Visiting Professorship at Yale University.

Elizabeth Clare (Biology) was elected to the [Royal Society of Canada](#) College of New Scholars, Artists and Scientists.

Bill Kim (Chemistry) and **Logan Donaldson** (Biology) received [new infrastructure funding](#) from the Canada Foundation for Innovation John R. Evans Leaders Fund. Kim received \$100,000 for the project “Methods to Create Mutations in Cells to Understand and Treat Disease,” and Donaldson received \$155,000 for the project “An Advanced Platform for Biomolecular NMR Spectroscopy.”

PhD student **Sarah Machado-Marques** (Mathematics & Statistics) was awarded a [CIRN Trainee Scholarship](#), which funds the next generation of vaccine researchers.

Two Chemistry graduate students won student presentation awards at the annual meeting of the Environment Division of the Canadian Society for Chemistry:

- **Irina Nistorescu** (MSc student, VandenBoer Group) presented “Measurement of Gas-Phase Perfluoroalkyl Carboxylic Acids (PFCAs) Using Passive Air Samplers.”
- **Lisa Azzarello** (PhD student, Young Group) presented “Volatility and molecular weight of brown carbon aerosol from controlled biomass burning at the Fire

Sciences Laboratory.”

Alumnus **Scott D. Tanner** (BSc '76, PhD '80) received a [York University Alumni Award](#) in the Outstanding Achievement category.

MORE NEWS

Faculty members and students from the Faculty of Science presented at the York University [Teaching in Focus Conference](#) September 26-27:

- Undergraduate student **Alex Tarana** (Biology) and recent graduate **Ailin Heidari** (Biology) presented “How Do Role Models Influence the Sense of Belonging for Science Students?” on behalf of the members of a joint team from York University and University of Toronto Scarborough. York team members also include graduate student **Nick Bragagnolo** (Chemistry), and undergraduates **Azbah Wasim** (Biology) and **Aminah Raza Khan** (Mathematics).
- Recent graduate **Claire Del Zotto** (Biology) presented her work with **Zahra Salemwalla** (Biology), “Does an authentic approach to teaching genetics reduce deterministic thinking in undergraduate biology students?” The project was supervised by **Tanya Da Sylva** and **Tamara Kelly** (Biology).
- **Nicole Nivillac** (Biology) presented “Experiences Using the “Friends without Pens” Strategy to Reduce Test Anxiety.”
- **Gloria Orchard** and graduate student **Bartolomeo Candelma** (Physics & Astronomy) presented “Active Learning Strategies in the 1st Year Physics Laboratories at York University.”
- Graduate student **Adrianno Vettesse** (Biology), Rishima Bhatia, Leo Heck, Stephanie Quail, and **Charlotte de Araujo** (Biology) presented “The Availability and Utilization of Open Educational Resources (OERs) in Biochemistry and Biology Courses.”
- **Mark Vicari** (Biology) presented “Evolution of a First Year Biology Course: Incorporating Flexibility to Promote Inclusion and Equity” on behalf of a team that included former Biology undergraduates **Svati Balaji**, **Jackie DaSilva**, **Asha Abdi**; undergraduates **Mimi Skosowski** (Biology) and **Valentina Rozario** (Math); as well as **Tanya Da Sylva**, **Lisa Robertson**, **Birgit Schwarz**, and **Tamara Kelly** (Biology).
- Educational Development Specialist **Ashley Nahornick** and **Tamara Kelly** (Biology) presented their AIF project “Advancing Inclusion in Science Labs,” which they are completing with collaborators **Paula Wilson** (Biology), Ainsley Latour, **Nicole Nivillac** (Biology), **Mark Vicari** (Biology), **Christopher Jang** (Biology), **Ozzy Mermut** (Physics & Astronomy), **Gloria Orchard** (Physics & Astronomy), **Sarah Rugheimer** (Physics & Astronomy), and Jessi Nelson.
- **Paula Wilson** and **Tamara Kelly** (Biology) presented “Leveraging a Community of Scholars to Measure and Improve the Sense of Belonging for All Students in Canadian STEM Classrooms.”

The Faculty's **Office of International Collaborations and Partnerships**, in collaboration with Ace Acumen Heights, launched its inaugural 12-week York Science Elite Pathway after-school program on September 19. This program engages local international high school students by offering focused workshops in Biology, Mathematics, Chemistry, Data Science, Statistics, and Physics.

Mark Bayfield (Biology) co-authored an editorial for the [Canada Science Policy Centre](#) (English) and [Le Devoir](#) (French) to promote the organization RNA Canada ARN, a new non-profit led by more than 300 Canadian professors and principle investigators with the mission of advocating for RNA research in Canada. Bayfield is the Chair of their Outreach Committee.

Amenda Chow (Mathematics & Statistics) presented “Exploring Study Skills for Inside and Outside of the Classroom” at the University of Toronto Math Department on September 23. The talk was a part of their graduate teaching lunch series aimed at graduate students who are interested in teaching mathematics.

Tatiana Krikella, a [2024 CANSSI Distinguished Postdoctoral Fellow](#) co-supervised by **Jane Heffernan** and **Hanna Jankowski** (Mathematics & Statistics), began her fellowship at York, focused on “Multi-scale Estimation Methods for Infectious Disease Management.”

Science International Recruiting Coordinator **Mingming Li** represented York Science at the NOIC Academy Opening Ceremony on September 27. NOIC Academy, located in Markham, Ontario, is a key pathway partner with an international student population of approximately 400. The school offers the Ontario Secondary School Diploma (OSSD) and the International Baccalaureate Diploma Programme (IBDP).

Robin Metcalfe (NATS) and graduate students [Sunna Withers](#) and [Anna Skrinnik](#) (Physics & Astronomy) participated as Astronomers in Residence in a joint program hosted by the **Allan I. Carswell Observatory** and Killarney Parks.

Ozzy Mermut (Physics & Astronomy) led education and outreach efforts at local public high schools this fall to educate students on what biophysics and biomedical physics are as areas of study, research and application, and potential careers in those fields. She led sessions at WL Mackenzie CI, Northview Heights, CW Jefferys Collegiate, Westview Centennial Secondary School, and Downsview Park – which included 60-minute presentations to grade 11 and 12 physics students, followed by 30-minute Q&A sessions.

Divya Sharma (Mathematics & Statistics) presented an invited talk entitled “Machine Learning Approaches in Musculoskeletal Research: Challenges, Applications, and Future Scope” at the Collaborative Specialization in Musculoskeletal Science Seminar, University of Toronto, on September 18; and an invited talk entitled “The Promise of Machine Learning in Osteoarthritis Research” at the Biostatistics Knowledge Translation Workshop, hosted by the Biostatistics Core, University Health Network, on September 20.

Walter Tholen (Mathematics & Statistics) presented the opening talk at the conference on

[Category Theory and Categorical Algebra](#), held September 9-10 at the University of Milan. The talk was titled “The normal decomposition of a morphism in categories without zeros.”

Jennifer van Wijngaarden (Chemistry) was a keynote speaker at the 27th [International Conference on High Resolution Molecular Spectroscopy](#) held at the University of Bologna, Italy on Sept 2-6. The talk was entitled “Microwave and far-IR spectroscopy of novel species produced via high-voltage electric discharge sources.”

RESEARCH HIGHLIGHTS

PhD student **Marishia A. Agard**, Meet Zandawala, and **Jean-Paul V. Paluzzi** (Biology) published [Another fly diuretic hormone: tachykinins increase fluid and ion transport by adult *Drosophila melanogaster* Malpighian ‘renal’ tubules](#) in the *Journal of Experimental Biology*.

Postdoc **Joshua Culpepper** (Biology), Ellinor Jakobsson, Gesa A. Weyhenmeyer, Stephanie E. Hampton, Ulrike Obertegger, postdoc **Kirill Shchapov**, R. Iestyn Woolway and **Sapna Sharma** (Biology) published [Lake ice quality in a warming world](#) in *Nature Reviews Earth and Environment*. [READ THE PRESS RELEASE FROM YORK UNIVERSITY](#).

Fiona McCarthy, Dalila Pîrvu, J. Colin Hill, Junwu Huang, **Matthew C. Johnson** (Physics & Astronomy), and Keir K. Rogers published [Dark Photon Limits from Patchy Dark Screening of the Cosmic Microwave Background](#) in *Physical Review Letters*. This article was chosen as an Editor’s Suggestion.

PhD student **Sarah I. Machado-Marques** and **Iain R. Moyles** (Mathematics & Statistics) published [Adolescent vaping behaviours: Exploring the dynamics of a social contagion model](#) in *Mathematical Biosciences*, as part of the special issue Mathematics of Human Behavior and Disease Dynamics.

Chikun Li, Baisuo Jin and **Yuehua Wu** (Mathematics & Statistics) published [Outlier Detection via a Minimum Ridge Covariance Determinant Estimator](#) in *Statistica Sinica*.

PhD student **RenXi Ye**, former PhD student **Teles C. Furlani**, Andrew P. Folkerson, Scott A. Mabury, **Trevor C. VandenBoer** (Chemistry), and **Cora J. Young** (Chemistry) published [A method to measure total gaseous fluorine](#) in *Environmental Science & Technology Letters*.

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

MEDIA

Professor Emeritus **Paul Delaney** (Physics & Astronomy) spoke to *CP24* and *CTV News* about SpaceX beginning its first private spacewalk mission, and Comet C/2023 A3.

Elaina Hyde (Physics & Astronomy) was interviewed by *City News* about space junk hitting Earth and finding ways to safely deorbit space junk; *AM640* and the [Toronto Star](#) about the partial lunar eclipse and supermoon; and [The Hamilton Spectator](#) about the fall equinox.

Patricia Lakin-Thomas (Biology) spoke to *CBC Radio* about how our bodies respond to the shift in seasons.

Jesse Rogerson (NATS) was interviewed by *610 CKTB* about black holes and how pictures of them are taken, and *CBC Radio* about a near-Earth asteroid that briefly entered Earth's orbit.

Sarah Rugheimer (Physics & Astronomy) spoke to *CTV News* about Boeing Starliner re-entry, Polaris Dawn and the Space X launch; to *AM640* and *AM980* about Polaris Dawn; and to *Newstalk 1010* about an unidentified object shot down over the Yukon.

A research paper by **Sapna Sharma** (Biology) and her team that reported degrading lake ice quality was covered by media including [CTV News](#), [CBC Radio](#), [CP24](#) and more.

EVENTS

November 2: [Fall Campus Day](#)

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.



Hainan University

Hainan University (HNU) in China is a comprehensive university jointly developed by the Ministry of Education and the Hainan Provincial People's Government. With 42,000 full-time students, 31 secondary schools, and 69 undergraduate programs, the university offers programs in a broad range of disciplines, including philosophy, economics, law, science, agriculture, engineering, and more. Notably, eight of HNU's programs, including Plant and Animal Science, Chemistry, and Engineering, rank in the top 1% globally according to the Essential Science Indicators (ESI). The university's faculty includes over 2,700 full-time members, including academics from the Chinese Academy of Sciences and other international fellows.

HNU has established partnerships with 242 universities across 43 countries. The university's "One College, One University" action plan and Sino-foreign cooperative programs have attracted nearly 3,000 students, enhancing HNU's global outreach.

In May 2022, the Faculty of Science at York University, in collaboration with Caspire Education Group and two local partners from Hainan province, officially signed a Memorandum of Understanding to establish the York Science Hainan Learning Centre. This initiative aims to promote international education opportunities and strengthen academic collaboration in the region.
