FACULTY HIGHLIGHTS

A study on lake ice, warming temperatures, and winter drownings led by Sapna Sharma (Biology) put FSc researchers in the spotlight, with coverage in the New York Times, Washington Post, Scientific American, BBC, Reuters, Forbes, and many other outlets across the US and Canada. The story generated millions of impressions, with the Faculty of Science mentioned prominently in many outlets. For an expanded list of coverage, see the “media” section, below.

An international collaboration focused on controlling COVID-19 in Africa, led by Jude Kong (Mathematics & Statistics), will receive more than $1.2 million in funding from the International Development and Research Centre (IDRC). Researchers from York are joining with organizations across Africa to predict the spread of COVID-19 and provide modelling that will help policymakers manage the virus. Jianhong Wu (Mathematics & Statistics) is also a key collaborator on this project.
Eric Hessels (Physics & Astronomy), received the prestigious 2020 CAP Medal for Lifetime Achievement in Physics from the Canadian Association of Physicists. It is the first time in the association’s history, since the award began in 1956, that it has gone to a York Department of Physics and Astronomy professor. The annual medal awards researchers for their distinguished service to physics over an extended time or a recent outstanding achievement.

CONGRATULATIONS

Sergey Krylov (Chemistry) received $225,000 from CFI for the project, “Development of Rapid and Accessible Diagnostics of COVID-19 using Small-molecule Probes Binding SARS-COV-2 Coat Proteins.” Krylov and his research team are developing rapid and accessible COVID-19 diagnostics, which are based on detection of viral coat proteins. The diagnostic tests will be used not only in hospitals but also in other points of need such as airports. They are also working on creating a simple test for self-application. To read the YFile story on the project, click here.

Brian Doan, a recent graduate from the Department of Chemistry, won the Faculty of Science Silver Medal. The Silver Medal is awarded each year to a graduating student who has combined outstanding academic achievement with the greatest contribution to undergraduate student life. For 2020 the Faculty had two Silver Award winners; Brian’s name was accidentally omitted from a previous communication about the winners.

Dean Rui Wang was among six York U faculty members appointed to the
Britney Picinic, Masters Candidate, Co-supervised by Jean-Paul Paluzzi and Andrew Donini (Biology), was the 1st Place President’s Prize Winner at the Entomology 2020 annual meeting of the Entomology Society of America.

Farwa Sajadi, PhD Candidate, Supervised by Jean-Paul Paluzzi (Biology), was the 2nd Place President’s Prize Winner at the Entomology 2020 annual meeting of the Entomology Society of America.

OTHER NEWS

Call for Nominations – Head of Bethune College: The Faculty of Science and the Lassonde School of Engineering are seeking a tenured faculty member who can provide leadership and mentoring to the intellectual community of students, faculty and Fellows at Bethune College. Applications/nominations will be accepted until Jan. 29, 2021. The new position commences July 1, 2021 for a period of three years. Full information on the role and how to nominate/apply is available here.

Saeed Rastgoo (Physics & Astronomy) was invited to the virtual COST (European Cooperation in Science and Technology) workshop of the Europe Research Day 2020, Canada organized by EURAXESS North America and Simon Fraser University. Rastgoo was part of a panel that discussed COST as an international research networking instrument among peers.

Hélène Mialet (Science & Technology Studies) was invited to present her
research at the Royal Society of Canada’s annual Celebration of Excellence & Engagement symposium on November 26, 2020. The symposium was hosted virtually by the University of Toronto. The Symposium’s theme — The Legacy of Insulin Discovery: Origins, Access, and Translation — launched a year of University events and initiatives to celebrate the 100th anniversary of the discovery of insulin. The theme of her panel was “Commercialization, Technology, and the Future of Insulin and Diabetes Research.”

Saad Idrees will join the Department of Physics and Astronomy as the recipient of the VISTA Distinguished Postdoctoral Fellowship. The awards acknowledge researchers at a level of excellence similar to that of the Banting Fellowships and related highly-competitive awards. Idrees recently completed his PhD at the Werner Reichardt Center for Integrative Neuroscience in Tuebingen, Germany. He will work with Joel Zylberberg (Physics & Astronomy) to develop models that will predict how neurons in the retina respond to dynamic visual stimuli, like those encountered as one walks along a busy street.

The Allan I. Carswell Observatory launched an online store featuring its 2021 Observatory Calendar and Postcards.

During the month of November, about a dozen faculty members and graduate students from the Department of Mathematics and Statistics volunteered to mark papers of the Canadian Open Mathematics Challenge, a mathematics competition written by several thousand high school students across Canada and around the world, organized by the Canadian Mathematical Society. Several universities across Canada also participate in the marking, with the York effort being one of the largest. The volunteers were: Ada Chan, Amenda Chow, Cindy Fu, Rick Ganong, Yun Gao, Alexey Kuznetsov, Richard Le, Neal Madras, Paul Skoufranis, Paul Szeptycki, Yi Tan, and Hongmei Zhu.

York’s Science Engagement Programs continue to offer online programs including STEM Clubs and free York Digital Literacy Workshops to students in grade 3 to 12. The successful program offered online camps and programs to over 350 youths during the summer of 2020. Sign up for their Newsletter here for updates on future programs and register for free workshops here. More information about the programs is available here: https://science-explorations.info.yorku.ca/.

RESEARCH HIGHLIGHTS

Sapna Sharma, Kevin Blagrave, Simon Watson (Biology), Ryan Batt, John Magnuson, Catherine O’Reilly, Tessa Clemens, Blaize Denfeld, Giovanna
Flaim, Laura Grinberga, Yukari Hori, Alo Laas, Lesley Knoll, Dietmar Straile, Noriko Takamura, and Gesa Weyhenmeyer published “Increased risk of winter drownings in warmer winters” in *PLoS One*. The university issued a media release about this research. It was also featured in *YFile*.

**Luke Moslenko, Kevin Blgrave, Alex Filazzola, Arnab Shuvo and Sapna Sharma** (Biology) published “Identifying the influence of land cover and human population on chlorophyll a concentrations using a pseudo-watershed analytical framework” in *Water*.


**Keagan Blanchette, Saurya Das, Samantha Hergott, and Saeed Rastgoo** (Physics & Astronomy) published Black hole singularity resolution via the modified Raychaudhuri equation in Loop Quantum Gravity in *Journal of High Energy Physics*.


**Ilijas Farah** (Mathematics & Statistics) published, "The extender algebra and Σ21-absoluteness" in *Large Cardinals, Determinacy and Other Topics, The Cabal Seminar, Volume IV*, Cambridge University Press (Part of *Lecture Notes in Logic*).

**Juris Steprans, Paul Szeptycki, and Ilijas Farah** (Mathematics & Statistics) edited a special issue of *Annals of Pure and Applied Logic*, titled “50 Years of Set Theory in Toronto.” It includes papers by former York PhD students, postdocs, faculty, and regular visitors (Michal Hrusak, Ashutosh Kumar, Dilip

Christine Le (Chemistry) was a co-author on an editorial, “Organic Chemistry: A Retrosynthetic Approach to a Diverse Field,” published in ACS Central Science.


Andrea Durant and Andrew Donini (Biology) published “Ammonium transporter expression in sperm of the disease vector Aedes aegypti mosquito influences male fertility” in Proceedings of the National Academy of Sciences USA. This research was featured in YFile.

The research team of Xin Gao (Mathematics & Statistics) and H.X. Huang has developed an online Type 2 Diabetes risk predictor. It is intended to serve physicians and patients in predicting future diabetes risk and taking early preventive measures.

York University issued a media release on the first observations from the fifth generation of the Sloan Digital Sky Survey. Patrick Hall (Physics & Astronomy) is part of the team seeking to understand how the matter swirling
around supermassive black holes is organized.

**MEDIA**


**Bridget Stutchbury** (Biology) was featured in the TVO documentary “Running Wild: The Cats of Cornwall” discussing the impact of cats on bird populations.

**Chun Peng** (Biology) was featured on Radio Canada International discussing new research on COVID-19 and sex, age, and estrogens.

**Patricia Lakin-Thomas** (Biology) discussed time changes and the effect on our body clocks on CTV News.

**Paul Delaney** (Physics & Astronomy) commented widely on astronomical events, including: AM1010 Mark Towhey: Apophis asteroid possible impact; AM640 Jeff McCarthy: Virgin Hyperloop demonstration; AM640 Kelly Cutrara: SpaceX Crew-1 mission; AM900 Scott Thompson: SpaceX Crew-1 mission; CTV NewsChannel: SpaceX Crew-1 mission; AM1010 Mark Towhey: Loss of Arecibo Radio telescope; Sirius XM Arlene Bynom: Chang’e 5 Moon mission; Tundra (online astronomy) interview on Allan I. Carswell Observatory.


**Seyed Moghadas** (Mathematics & Statistics) spoke with CBC News regarding “what Canadians need to know about COVID-19 before gathering over the holidays.”

**Cora Young** (Chemistry) was featured on the Bringing Chemistry to Life podcast discussing her work tracking problematic pollutants.