

# THE (PETRI) DISH

*Faculty of Science Newsletter*



Dr. Suzanne Dufour speaks with Anas Alhasanat and Harnoor Singh, graduate students in Physics and Physical Oceanography and Engineering, respectively, at the 2021 Science Endeavours in Academia Conference.



Dr. Amy Hurford, Biology/Math & Stats, was a special presenter at Scientific Endeavours in Academia Conference. She presented her research on Modelling COVID-19 in Newfoundland and Labrador.

## In the News

Dr. Mike Morrow, a retired Physics and Physical Oceanography professor, is raising awareness of the negative effects of light pollution. [VOCM](#)

Retired Biology professor, Dr. Luise Hermanutz explores the limestone barrens near Flowers Cove. [CBC](#)

Dr. Scott Harding and Roya Shamsi, Biochemistry, are investigating the effects of sleep, diet and screen time on childhood behaviour. [Saltwire](#)

Drs. Shawn Leroux and Michael Peers, Biology, say the shifting seasons can be terrible for ecosystems. [CBC](#) and [CBC](#)

The Biology Undergraduate Mentorship Program offers guidance to biology students interested in pursuing further education after their undergraduate degree. [Muse](#)

Dr. Bill Montevicchi, Psychology, says climate change is the reason birds were dying in some parts of the province recently. [NTV](#) and [CBC](#)

Dr. Amy Hurford, Math & Stats/Biology shared her expertise in this [New York Times](#) article. She continues to analyze trends in provincial COVID-19 cases as noted in this [Saltwire](#) article, and co-wrote a [CBC](#) opinion piece with Dr. Maria Martignoni, Math & Stats.



Women from the Department of Chemistry gathered for a photo to recognize International Women's Day 2022.

## FACULTY NEWS

Dr. Steve Piercey, Earth Sciences, was appointed to the [Board of Directors](#) of the Canadian Facility for Isotopic and Geochemical Research.

*Experimental Landscape Ecology*, a new book by Biology's Dr. Yolanda Wiersma, is now available in an electronic format. The hard copy will be out in May.

Dr. Luke Beranek and former M.Sc. student Alex Hutter were awarded the [Medal of Merit](#) from the Canadian Society of Petroleum Geologists for the best paper related to Canadian Petroleum Geology for 2021.

*Intelligent Resource Management in Vehicular Networks*, a new book co-authored by Dr. Qiang Ye, Computer Science.

## Alumni News

Dr. Geoffrey Payne, Psychology, is the newest President of the University of Northern British Columbia. [Read](#)

Dr. Juliana Vidal, Chemistry, received the 2022 Nina McClelland Memorial Award. [Read](#) She was also featured by the School of Graduate Studies. [Read](#)

## EVENTS

Fulbright Canada Talk - On May 18 and 19, Fulbright Canada's Distinguished Research Chair in Environmental Science, Sarah Michaels, will be visiting Memorial to lead two talks, including one on whether becoming a Fulbright grant holder is right for you. [More info](#)

### NEW FACULTY

Dr. Hilary Corlett, Earth Sciences  
 Dr. Stéphane Dandeneau, Psychology  
 Dr. Hilding Neilson, Physics & Physical Oceanography  
 Dr. Zahra Farahnak, Biochemistry

### NEW STAFF

Robin Temple, Dean of Science Office  
 Julie Bowering, Dean of Science Office  
 Ina Benner, Ocean Sciences

### RETIREMENTS

Dr. Kaushik Nag, Biochemistry

### PASSINGS

Dr. Jyoti Patel, School of Fisheries, Marine Institute

## In the Gazette

Earth Sciences students had a rare opportunity recently to use geophysical data to look beneath the sea floor. [Read](#)

Memorial University is offering the Kickstart program for the third consecutive year. A selection of first-year courses, including those from the Faculty of Science, will be offered. [Read](#)

Dr. Sherri Christian, Biochemistry, and her colleagues in the Marathon of Hope Atlantic Cancer Consortium, write about the need for research that can deliver more personalized and effective cancer treatments with fewer side-effects. [Read](#)

On Saturday, May 14, an open house will take place in Memorial's Core Science Facility under the blue whale. Everyone is welcome. [Read](#)

The Faculty of Science held its first interdisciplinary research conference April 8-9. Scientific Endeavours in Academia (SEA) featured more than 80 scientific posters and 65 oral presentations. [Read](#)

Psychology celebrated its 12th annual Research Day, showcasing research by the department's undergraduate and graduate students. [Read](#)

Memorial ranks among the top 451-500 international universities for the study of mathematics and is tied for No. 19 in Canada. [Read](#)

Drs. Karl Jobst and Lindsay Cahill, Chemistry, have been awarded \$294,964 to figure out the identities, and how much, nanometer-sized plastic particles are in human placental tissue. [Read](#)

Five Indigenous academic staff members, including Dr. Hilding Neilson, Physics & Physical Oceanography, have joined Memorial. [Read](#)

Dr. Imran Hack, an alumnus of Biochemistry, and his wife, Diane, are repaying the kindness he received as a student and newcomer to the province with student bursaries in Biochemistry and Medicine. [Read](#)

Dr. Sherri Christian, Biochemistry, has been named assistant scientific director in NL for the Beatrice Hunter Cancer Research Institute. [Read](#)

Dr. Vianne Timmons presented the 2021 President's Awards, recognizing Dr. Brent Snook, Psychology; Dr. Eric Vander Wal, Biology; Dr. Christina Thorpe, Psychology; Ed Whalen, Biology, and Heather Fifield, Biochemistry. [Read](#) and [Read](#)

## Program Completion

Abul Hossain, Biochemistry/Food Science  
 Travis Heckford, Biology  
 Qiwu (John) Jiang, Marine Biology  
 Robine Leeuwis, Marine Biology  
 Marta Miatta, Marine Biology  
 Venketesh Thrithamara Ranganathan, Physics & Physical Oceanography  
 Shivani Semwal, Physics & Physical Oceanography



Ocean Sciences held a small ceremony and plaque unveiling to celebrate the work and contributions of Dr. **Garth Fletcher**, Professor *Emeritus*, has made to the Ocean Science Centre and Memorial over a 50+ year history.



Featuring whale interpretation by the Department of Biology; touch tanks by the Department Ocean Sciences; robotics and STEM education from the Marine Institute and much more!

This event is free, but registration is preferred.



The Dean of Science Office is hiring a student to coordinate and oversee the fall orientation event for new Faculty of Science students.

The position is for eight weeks at 35 hours a week and the start date will be in early July. Email resumes and cover letters to [science@mun.ca](mailto:science@mun.ca) by May 31.

**Please note:** This is a Canada Summer Job and eligible applicants must be a Canadian citizen or permanent residents. International students are not eligible.

## STUDENT NEWS

**Venketesh Thrithamara Ranganathan**, Physics & Physical Oceanography, received the Burton's Pond Plaque, the second highest honour accorded to students in residence.

**Nhan Duy Pham**, Chemistry, received the GSU Award in Teaching Excellence

**Keshia Noseworthy**, Biology, and **Oluwatoyin (Toyin) Onireti**, Aquaculture, each won a Communication Award at the Science Atlantic Aquaculture, Fisheries and Biology Conference.

**Grant Kelly**, Biochemistry, was awarded a summer studentship from the Beatrice Hunter Cancer Research Institute for research on breast cancer this summer

**Meagan Hinks**, Psychology, best poster presentation; **Ashif Hassan** and **Zinia Talukder**, Psychology; and **Shreyasi Sarkar**, Biochemistry, best oral presentation award, Aldrich Symposium.

**Cerren Richards**, Marine Biology, was recently awarded the Dr. Joe Brown Graduate Research Award in Aquatic Ecology and Aquaculture.

**Olivia Dutton**, Psychology, received the Dean's Doctoral Award.

**Tianshuang Han**, Psychology, received the Law Foundation of NL Legal Research Award

**Suhail Hassan**, Psychology, was awarded the MUN Toronto Alumni Scholarship.

**Lucas Fowler**, Psychology, has been named recipient of the C.D. Howe Memorial Scholarship.

**Bethany Torrville**, Psychology, was awarded the 25th Anniversary MUNSU Scholarship.

**Laura Couturier**, Psychology, has won a CIHR CGS-M award as well as a CPA Student Research Grants Award.

**Cailyn Fridgen**, Psychology, has won a CGS M Social Sciences and Humanities Research Scholarship.

**Noah Pevie**, Psychology, has been named recipient of a SSHRC Graduate Scholarship.



With the help of students and staff at Revolutions Dance, Psychology honours student **Gabrielle Dupont** created an interpretative dance to demonstrate the methods and procedures she used while completing her project. Her thesis focused on the influence of meal times on learning and memory in a rodent model. [Watch](#)

# SEIA

Scientific Endeavours in Academia

Faculty of Science Interdisciplinary Conference 2022

## CONFERENCE AWARD WINNERS

### Health & wellness

- Best poster (grad & PDF) - **Rachel Lee**, Psychology
- Best poster (undergrad) - **Alesha King** (Psychology) / **Riley Cotter** (Psychology)
- Nucliq Best talk (grad & PDF) - **Sarita Pellowe** (Psychology)
- Nucliq Best talk (undergrad) - **Willow Squires** (Biochemistry)/**Noah Pevie** (Psychology)
- Best Interdisciplinary Program poster - **Reefat** (Theoretical Physics)
- Best Interdisciplinary Program talk - **Raul Zabala** (CABE)/**Katja Kochvar** (CABE)

### Technology, Innovation and Exploration

- Best poster (grad & PDF) - **Nicholas Wells** (Computer Science)
- Fisher Scientific Best poster (undergrad) - **Erin Bungay** (Chemistry)
- Fisher Scientific Best talk (grad & PDF) - **Brandon Furlong** (Chemistry)
- Fisher Scientific Best talk (undergrad) - **Brianna McDonald** (Computer Science)

### Climate Change and Environment

- 3F Waste Recovery Best poster (grad & PDF) - **Gregory Jackson** (Chemistry)
- 3F Waste Recovery Best poster (undergrad) - **Shelly Hann** (Psychology)
- 3F Waste Recovery Best talk (grad & PDF) - **Yasmine Majchrzak** (Biology)
- 3F Waste Recovery Best talk (undergrad) - **Tori Burt** (Psychology)

### Other Awards

- Best overall presentation (poster or talk) - **Mike Peers** (Biology)
- Vice-president (Research) best paper (grad) - **Sydney Collins** (CABE)/**Adam Meyer** (Biology)
- Vice-president (Research) best paper (undergrad) - **Devon Bath** (Ocean Sciences)
- School of Graduate Studies Best PhD presentation (poster or talk) - **Eric Ignatz** (Ocean Sciences)
- School of Graduate Studies Best Masters presentation (poster or talk) - **Émile Vadboncoeur** (Ocean Sciences)
- Canadian Nutrition Society Best Nutrition presentation (poster or talk) - **Innocent Uzochukwu Okagu** (Biochemistry)/**Renan Danielski** (Biochemistry)

### Departmental Awards

- Best Biochemistry poster (grad) - **Sina Abdolrahim Poor Heravi**
- Best Biochemistry poster (undergrad) - **Oishi Hawlader**
- Best Biochemistry talk (grad) - **Raniru Randunu**
- Best Biochemistry talk (undergrad) - **Leah Parनाविताना**
- Best Biology presentation (poster or talk) - **Keah Hodder**
- Canadian Society for Chemistry Best Chemistry poster (undergrad) - **Nikita Harvey**
- Best Chemistry poster (grad) - **Sarah Cheema**
- Canadian Society for Chemistry Best Chemistry talk (undergrad) - **Sarah Boudreau**
- Best Chemistry talk (grad) - **Zahra Aghei**
- Best Computer Science poster (undergrad/grad) - **Ruixin Song**
- Best Earth Science presentation (poster or talk) - **Bre Tilley**
- Best Mathematics & Statistics talk (grad) - **Juan Margalef**
- Best Ocean Sciences presentation (poster or talk) (undergrad) - **Melanie Downer**
- Best Innovation and Aquaculture poster - **Ze Xuan Ang**
- Best Innovation and Aquaculture talk - **Irene Machimbirike Vimbai**
- Best Physics & Physical Oceanography poster (undergrad, grad or PDF) - **Marilena Geng**
- Best Physics & Physical Oceanography talk (undergrad, grad or PDF) - **Axel Belgard**
- Best Psychology/Behavioural Neuroscience poster (undergrad or grad) - **Courtney Loveless**
- Best Psychology/Behavioural Neuroscience talk (undergrad or grad) - **Olivia Dutton**

# PUBLICATIONS

## Biochemistry

Evaluation of conventional solvent processes for lipid and astaxanthin extraction from shrimp processing by-products, *Chemical Engineering Communications*, co-authored by Dr. Sukhinder Kaur Cheema.

## Biology

Nigericin and Geldanamycin Are Phytotoxic Specialized Metabolites Produced by the Plant Pathogen *Streptomyces* sp.11-1-2, *Microbiology Spectrum* by Gustavo Díaz Cruz, Jingyu Liu, Dr. Kapil Tahlan and Dawn Bignell.

## Chemistry

Single-use porous polymer thin-film device: A reliable sampler for analysis of drugs in small volumes of biofluids, *Analytica Chimica Acta*, by Fereshteh Shahhoseini, Ali Azizi and Dr. Christina Bottaro.

Single entity electrochemical detection of as-prepared metallic and dielectric nanoparticle stochastic impacts in a phosphonium ionic liquid, *ChemElectroChem* by Nazanin Ahmadasab and Dr. Jane Stockmann.

Heavy metals and crab, *The Journal of Ocean Technology*, by Dr. Fran Kerton, Chemistry, and Heather Burke, Environmental Science.

## Computer Science

3D hemisphere-based convolutional neural network for whole-brain MRI segmentation, *Computerized Medical Imaging and Graphics Journal*, co-authored by Dr. Karteek Popuri.

Network-wise concordance of multimodal neuroimaging features across the Alzheimer's disease continuum, *The Journal of the Alzheimer's Association*, co-authored by Dr. Karteek Popuri.

Developing an advanced information system to support ballast water management, *Management of Biological Invasions*, co-authored by Dr. Amilcar Soares.

From multiple aspect trajectories to predictive analysis: a case study on fishing vessels in the Northern Adriatic sea, *GeoInformatica*, co-authored by Dr. Amilcar Soares.

Handling Slice Permutations Viarability in Tensor Recovery, *Proceedings of AAAI Conference* co-authored by Dr. Xianta Jiang, Jingjing Zheng and co-authors.

Evaluating Data Representations for Object REcognition During Pick-and-Place Manipulation Tasks, *Proceeding of IEEE SysCon 2022*, page 54, co-authored by Drs. Amilcar Soares and Vinicius Prado da Fonseca.

A Dashboard Tool for Mobility Data Mining Preporocessing Tasks, Drs. Terrence Tricco, Vinicius Prado da Fonseca and Amilcar Soares.

Efficient Uplink Transmission in Ultra-Dense LEO Satellite Networks with Multiband Antennas, *IEEE Xplore*, co-authored by Dr. Qiang Ye.

Joint pricing and task allocation for blockchain empowered crowd spectrum sensing, *Peer-to-Peer Networking and Applications*, by Dr. Qiang Ye, Jingjing Zheng, Shuo Wang and co-authors.

Phase-Based Grasp Classification for Prosthetic Hand Control Using sEMG, *Biosensors*, co-authored by Dr. Xianta Jiang, Jingjing Zheng and Shuo Wang.

Machine learning classification of multiple sclerosis patients based on raw data from an instrumented walkway, *BioMedical Engineering OnLine*, co-authored by Dr. Xianta Jiang, Wenting Hu, Owen Combden and co-authors.

Building Effective Machine Learning Models for Ankle Joint Power Estimation During Walking Using FMG Sensors, *Frontiers in Neurobotics* by Dr. Xianta Jiang, Arnab Barua, and co-authors.

## Psychology

Foraging paths of Breeding Leach's Storm Petrels in Relation to Offshore Oil Platforms, Breeding Stage and Year, *Frontiers in Marine Science*, by Sydney Collins, Cognitive & Behavioural Ecology; Dr. David Wilson and Dr. Bill Montevecchi, Psychology & Biology.

Systematic review and meta-analysis of cognitive-behavioural therapy for insomnia on subjective and actigraphy-measured sleep and comorbid symptoms in cancer survivors, *Sleep Medicine Reviews*, by Lauren Squires, Psychology, along with faculty co-authors Dr. Joshua Rash and Dr. Jonathan Fawcett.

Emotional memories are (usually) harder to forget; A meta-analysis of the item-method directed forgetting literature, *Psychonomic Bulletin & Review*, by Psychology alumna, Kelsi Hall and faculty co-authors Drs. Emily Fawcett, Kathleen Hourihan and Jonathan Fawcett.

The Mental Health and Wellness of Correctional Officers in Canada, *Corrections: Policy Practice and Research* co-authored by Gillian Foley, Psychology.

Objection, your Honour: examining the questioning practices of Canadian judges, Psychology, Crime and Law by Drs. Chris Lively, Laura Fallon and Brent Snook, along with previous graduate student, Weyam Fahmy.

Antidepressant activity of pharmacological and genetic deactivation of the small-conductance calcium-activated potassium channel subtype-3, *Psychopharmacology*, co-authored by Nageeb Hasan, Shannon Waye and Dr. Francis Bambico Psychology and O. Chandani Dinesh, Biochemistry.

Climate oscillations drive millennial-scale changes in seabird colony size, *Global Change Biology* co-authored by Dr. Bill Montevecchi, Psychology & Biology.

Influence of offshore oil and gas structures on seascape ecological connectivity, *Global Change Biology*, co-authored by Dr. Bill Montevecchi, Psychology & Biology