

# THE (PETRI) DISH

*Faculty of Science Newsletter*



Recipients of the Faculty of Science Dean's Awards, from left to right, Dr. Rick Goulding, Danielle Nichols, Dr. Javier Santander, Dr. Jonathan Fawcett, Dr. Joshua Rash and Dr. Amy Hurford with Dr. Travis Fridgen. Missing: Dr. Christina Bottaro.

## In the News

Mohammad Afkani, a Physics & Physical Oceanography student, helped organize a rally in St. John's to support protest in Iran. [CBC NL](#)

Biology's Dr. Ian Jones, a specialist in crested auklets, on why the seabirds stage a rowdy 'love-in' each spring. [National Geographic](#).

Dr. Ian Jones also discusses why the strain of avian influenza in the province is the most devastating he has seen. [Saltwire](#)

Dr. Scott Harding, Biochemistry, weighs in on Newfoundland and Labrador's new sugary drink tax. [CTV News](#) (video)

New research from Dr. Sheila Garland, Psychology, finds adult cancer survivors showed significantly worse mental health compared to peers who did not have cancer. [CTV News](#) and [City News](#)

Dr. Paul Snelgrove, Ocean Sciences/Biology, says its not unheard of for the Portuguese man-of-war to wash up in Newfoundland, but the number this year has been unusual. [CBC NL](#)

Did you have memory problems during the pandemic? Molly MacMillan, a PhD Psychology student explains some potential causes. [The Conversation](#)

Dr. Hilding Neilson, Physics & Physical Oceanography, gets a mention in this article on the search for extraterrestrial life. [NY Times](#)

Jason Matthews, Computer Science/Mathematics and Statistics, is one of four NL students receiving prestigious Schulich scholarships. [CBC NL](#)

PhD marine biology student Lyndsay Grace Walls talks about the risks of lost lobster traps post-Fiona. [CBC NB](#)



## DEAN'S MESSAGE

With Halloween in the rear-view mirror, we have our sights set on the end of a successful back-to-in-person fall semester!

Thank you to all of our hard-working faculty, staff, and students who make this possible.

It always amazes me to read the mainstream media stories and those from the Gazette that highlight the work of our faculty, staff, and students in the Faculty of Science. Please take some time to look through these stories and see what fantastic things our colleagues in the Faculty are up to.

The Dean's Awards were held in late September to showcase some of the achievements of our students, staff, and faculty.

Just recently we celebrated the long-time service milestones (as of September 2021) of many staff and faculty. Congratulations and a big thank you to all for your hard work and dedication to the mission of the Faculty and University.

I hope that over the holidays—yes, they are coming soon—you find time for some well-deserved relaxation and reboot to your systems.

## In the News (Cont'd)

PhD marine biology student **Lyndsay Grace Walls** talks about the risks of lost lobster traps post-Fiona. [CBC NB](#)

Psychology hosts public lecture on supporting vulnerable youth. [VOCM](#)

Tech NL kicks off Innovation Week and Memorial's Centre for Artificial Intelligence is discussed. [CBC NL](#)

Psychology alumnus and director of Memorial's Sleep, Health and Wellness Lab **Josh Tulk** explains why sleeping in on weekends may not be the best plan. [Saltwire](#)

The Core Science Facility is one of six Canadian finalist in the North American CertainTeed Gypsum Trophy Awards competition. It recognizes drywall design, installation, sustainability and craftsmanship. The finalists advance to the international Saint-Gobain Gypsum International Trophy Awards in Athens, Greece. [Construction Canada](#)



## PASSINGS

Joanne Moore, Biochemistry/Chemistry

## BIRTHS

Taliesin Apollo Rees Austin to **Beth Ann Austin**, Mathematics and Statistics, July 21, 2022.

Sofia Ricalde-Santisteban to **Nury Paula Santisteban** on Aug. 24, 2022.

## RETIREMENTS

Shena Quinton, Biology  
Colleen Banfield, Chemistry  
David Stirling, Chemistry



## STAFF NEWS

**Danielle Nichols**, Ocean Sciences, received the 2022 Faculty of Science Distinguished Service Award.



Mathematics and Statistics Summer Undergraduate Research Forum presenters **Gerry Harris-Pink**, **Maggie McCarthy**, **Ben Stanley** and **Anders Cornect**.

## In the Gazette

Science field courses return to Newfoundland's west coast. [Read](#)

Dr. **Araya Schmidt**, who holds a master's in Environmental Science from Memorial, is the Marine Institute's first PhD graduate. [Read](#)

Science alumna **Rolene Pryor** is working with a company matching MBA students with startup companies. [Read](#)

Students, staff and faculty honoured at the Faculty of Science Dean's Awards ceremony. [Read](#)

Public lecture to discuss ways families, schools and communities can help children thrive. [Read](#)

Three research teams led by Drs. **Michael Babechuk**, Earth Sciences, **Talia Jane Stockmann**, Chemistry, and **Heloise Therien-Aubin**, Chemistry, received more than \$285,000 for high-performance research infrastructure. [Read](#)

Twenty research teams, including those from the Faculty of Science, are among the latest cohort participating in Lab2Market Oceans. [Read](#)

Dr. **Uta Passow**, Ocean Sciences, receives the A.G. Huntsman Award for Excellence in the Marine Sciences. [Read](#)

Dr. **Stephen Butt**, who is cross appointed with Earth Sciences, receives the 2022 Canadian Society for Chemical Engineering Award in Design and Industrial Practice. [Read](#)

Biochemistry pilots Harlow Campus nutrition and food course. [Read](#)

**Jason Matthews** has been named the Science student recipient of the 2022 Schulich Leader Scholarship. [Read](#)

Dr. **Sheila Garland**, Psychology, is one of four researchers at Memorial inducted to the Royal Society of Canada's College of New Scholars, Artists and Scientists. [Read](#)

Dr. **Robert Bertolo**, Biochemistry, leads one of five research teams benefiting from a nearly \$2 million investment to strengthen Memorial's health-related research capacity. [Read](#)

## Program Completion

Emilie Geissinger, PhD, Biology  
Judy Perry, MSc., Chemistry

## EVENTS

Faculty of Science Three Minute Thesis (3MT)  
Nov. 21, 11:30 a.m., C-2039. [Register](#)

2022 Brosnan Lecture in Biochemistry  
Antibiotic Resistance Up Close: A Structural Biologist View on a Global Health Threat with Dr. Albert Berghuis, McGill University, Nov. 23, 1 p.m., CSF-1302



**Fiona Cuthbert**, Biology, chats with visitors from Camp Whatchamacallit about the history and biology of the blue whale skeleton.



## Staff Long Service Recognition

Congratulations to the following staff and faculty who were recognized for their years of service at Memorial University.

**Theresa MacKenzie**, Faculty of Science, 20 years

**Cathy Hyde**, Computer Science, 20 years

**Dr. Michael Slawinski**, Earth Sciences, 20 years

**Dr. Kurt Gamperl**, Ocean Sciences, 20 years

**Christine Vickers**, Ocean Sciences, 20 years

**Jennifer Hall**, Ocean Sciences/CREAIT, 20 years

**Dr. Stephanie Curnoe**, Physics and Physical Oceanography, 20 years

**Dr. Paul Snelgrove**, Biology/Ocean Sciences, 25 years

**Dr. Len Zedel**, Physics and Physical Oceanography, 30 years

**Dr. Valerie Power**, Biology, 30 years

**Rosalind Collins**, Chemistry, 30 years

**Dr. Margaret Shears**, Ocean Sciences, 30 years

**Fred Perry**, Physics and Physical Oceanography, 30 years

**David Stirling**, Chemistry, 35 years

**Christopher Deacon**, Physics and Physical Oceanography, 35 years

**Dr. Mike Morrow**, Physics and Physical Oceanography, 35 years

**Gary Hancock**, Chemistry, 40 years

**David Murphy**, Chemistry, 40 years

**Avery Earle**, Psychology, 40 years

**Dr. Danny Summers**, Mathematics and Statistics, 50 years

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## STUDENT NEWS

**Dr. Matteo Rizzuto**, Biology, received *Oecologia's* Hanski Prize for best student paper published in the journal in 2021.

The Ecological Society of America's Canada Chapter has awarded the inaugural Excellence in Canadian Ecology award to **Dr. Anne McLeod**, Biology. The award recognizes the best recent student paper published in the society's journals.

**Pranav Arora**, Computer Science, was runner-up in Dev.to's [Redis Hackaton](#), for his inventory management app, [hardWareHouse](#).

**Jillian Dawson McGroarty**, Biology, received the Entomological Society of Canada Danks Scholarship.

The Faculty of Science took part in the recent Science Atlantic Mathematics, Statistics and Computer Science Conference at Mount Allison University. Computer Science had one team competing in-person, and four others in a remote hub at Memorial University, in the Atlantic Canadian Programming Competition. MUN Zeit ist Geld took second place while MUN Mehdee placed fifth. MUN Code Druid, MUN Innovators and MUN BKCD placed 6th, 13th and 15th respectively. Daniel Gosse and Eric Goulding from Mathematics and Statistics came second in the Mathematics competition.

**Sara Jobson** and **Victoria Heath**, Ocean Sciences, have been awarded the J. Roger Pearson Graduate Award in Ocean Education and Outreach.

**Verena Kalter**, Ocean Sciences, was awarded the Ms. Carole Solberg and Dr. John Hoddinott Graduate Teaching Award.

**Brianna McDonald**, Computer Science, received the 2022 Faculty of Science Co-op Student of the Year Award.

**Rachel Lee**, Psychology, received the best poster award at the Canadian Association of Psychosocial Oncology and International Psycho-Oncology Society joint conference.

### Lou Visentin Award 2021-2022

**Cassandra Clowe-Coish**, Physics & Physical Oceanography

**Benjamin Constantine-Wall**, Biology;

**Ian Coxon**, Earth Sciences;

**Yousef Elsisy**, Biochemistry;

**Alexandra Gamble**, Biochemistry;

**Mackenzie Grace**, Psychology;

**Hannah George**, Chemistry;

**Rachel Harpur**, Chemistry;

**Oishi Hawlader**, Biochemistry;

**Brianna Hepditch**, Psychology;

**Kate Hickey**, Psychology/Biochemistry;

**Rachel Howells**, Psychology;

**Emma Jacobs**, Biochemistry;

**Alexandra Janes**, Chemistry;

**Jacob Kennedy**, Biochemistry;

**Darren Li Chong Youne Li Shing Hung**, Ocean Sciences;

**Hannah Murphy**, Psychology;

**Nathan Pitts**, Biochemistry;

**Willow Squires**, Biochemistry/Chemistry;

**Kelsey Stanford**, Biochemistry;

**Sydney Sullivan**, Biology/Ocean Sciences;

**Caroline Sutton**, Chemistry;

**Breanna Tilley**, Earth Sciences

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# FACULTY NEWS

Dr. Lindsay Cahill, Chemistry, and Dr. Ashlyn Swift-Gallant, Psychology, have been named Future Leaders in Canadian Brain Research by Brain Canada. [Read](#)

Dr. Kathryn Hargan, Biology, has received the International Paleolimnology Association Early Career Researcher Award. The award will be presented in at the IAL-IPA 2022 meeting in Argentina in November.

Dr. Cheryll Fitzpatrick, Psychology, received funding from Memorial's Teaching Enhancement through Scholarly Inquiry (TESI) program.

Dr. Christina Thorpe, Psychology received funding from Memorial's Teaching Innovations and Learning Enhancement (TILE) fund for her project, Psychology beyond the classroom: Enhancing work-integrated learning and experiential opportunities for our students. [Read](#)

Dr. Ivan Booth, Mathematics & Statistics, also received TILE funding for his project Renewing selected aspects of the calculus sequence.

Drs. Fran Kerton, Chris Kozak and Christina Bottaro, Chemistry, have received grants from the Ocean Frontier Institute (OFI) Vitamin Research Fund.

OFI seed grants were received by Drs. Pierre-Paul Bitton, Psychology; Chris Parish, Ocean Sciences; and post-doctoral fellows Drs. Albert Cabellero-Solares and Mohamed Emam, Ocean Sciences. [Read](#)

Janeway Research Foundation Awards were received by Biochemistry's Dr. Shyamchand Mayengbam; Drs. Janet Brunton and Robert Bertolo, as well as Drs. Robert Bertolo, Robert Brown and student Kandeepan Karthigesu.

Dr. Jie Xiao, Mathematics & Statistics, is on the Canadian Conference on Computational Geometry's steering committee. He is also a guest editor of a special issue of *La Matematica*, the official journal of the Association for Women in Mathematics, and recently became division editor for the *Journal of Mathematical Analysis and Applications*.

Dr. Christina Bottaro, Chemistry, received the 2022 Faculty of Science Distinguished Scholar Medal.

Dr. Amy Hurford, Mathematics and Statistics/Biology, received the 2022 Faculty of Science Distinguished Teacher Award.

Drs. Jonathan Fawcett and Joshua Rash, Psychology; and Dr. Javier Santander, Ocean Sciences, received the 2022 Faculty of Science Distinguished Emerging Scholar Award.

Dr. Rick Goulding, Physics and Physical Oceanography, received the inaugural 2022 Faculty of Science Distinguished Teaching Award (Staff and Per Course Instructors).

Dr. Fran Kerton, Chemistry, is associate editor of the Royal Society of Chemistry's *RSC Sustainability*.

Dr. William Montecchi, Psychology, is the Faculty of Science's newest Professor *Emeritus*.

# STUDENT NEWS (CON'T)

## Book Prize 2021-2022

Michael Burke, Physics and Physical Oceanography  
Anders Cornect, Mathematics and Statistics  
Samuel Goguen, Psychology  
Madeline Hart, Geography  
Claire Hynes, Biochemistry  
Allison Knee, Economics  
Parmar Mahek, Computer Science  
Ali Salman, Biology  
Katherine Steeves, Chemistry  
Rachel Stephan, Ocean Sciences  
Mary Julianna Whelan, Earth Sciences

## Alumni News

Dr. Shiva Balak Misra, Earth Sciences, left fame and an historic discovery behind in Canada to transform a his village in India. [The Better India](#)

Nucliq Biologic, a medical tech company led by Drs. Nikitha Kendyala, Biochemistry, and Purvikalyan Pallegar, Biology, is analyzing microbial diversity in customers' stool samples. [CBC](#). The company recently received the Genesis Startup of the Year Award at the 2022 TechNL Innovation Week Industry Awards.

Dr. Christopher Earle, Chemistry, says young children need 9 to 11 hours of sleep a night. [VOCM](#)

Christopher Buchanan, Earth Sciences, has been appointed vice-president, exploration, for Soma Gold Corp.

Dr. Kimberley Strong, Physics received the Royal Society of Canada's Willet G. Miller Medal for Outstanding Research in Ocean and Atmospheric Sciences.

Dr. Donald Dingwell, Earth Sciences, received the Royal Society of Canada's Willet G. Miller Medal for Outstanding Research in Earth Sciences.

Dr. Alex Bond, Biology, received the Marsh Award for Ornithology from the Marsh Charitable Trust. Dr. Bond is the curator of birds at London's Natural History Museum.



New science students check out the Ocean Science touch tank at the Faculty of Science Academic Expo during orientation week.

# PUBLICATIONS

## Biochemistry

Vitamin D Status of Infants of Mothers with Gestational Diabetes: Status at Birth and a Randomized Controlled Trial of Vitamin D Supplementation across Infancy, *The Journal of Nutrition*, co-authored by Dr. Zahra Farahnak

## Biology

Ecoregion and community structure influences on the foliar elemental niche of balsam fir (*Abies balsamea* (L.) Mill.) and white birch (*Betula papyrifera* Marshall), *Ecology and Evolution*, co-authored by Travis Heckford, Dr. Shawn Leroux, Dr. Eric Vander Wal, Dr. Matteo Rizzuto, Juliana Balluffi-Fry, Isabella Richmond and Dr. Yolanda Wiersma

## Chemistry

Proteomics Profiling of Osteoporosis and Osteopenia Patients and Associated Network Analysis, *International Journal of Molecular Sciences*, co-authored by Dr. Anas M. Abdel Rahman

Lipids Alterations Associated with Metformin in Healthy Subjects: An Investigation Using Mass Spectrometry Shotgun Approach, *International Journal of Molecular Sciences*, co-authored by Dr. Anas M. Abdel Rahman

Unwrapping Wrap-around in Gas (or Liquid) Chromatographic Cyclic Ion Mobility–Mass Spectrometry, *Analytical Chemistry*, co-authored by Jake Breen, Mahin Hashemihedeshi, Roshanak Amiri and Dr. Karl Jobst

Gas Chromatography-(Cyclic) Ion Mobility Mass Spectrometry: A Novel Platform for the Discovery of Unknown Per-/Polyfluoroalkyl Substances, *Analytical Chemistry*, co-authored by Amber MacNeil, Xiaolei Li, Roshanak Amiri and Dr. Karl Jobst

Maternal Exposure to Polystyrene Micro- and Nanoplastics Causes Fetal Growth Restriction in Mice, *Environmental Science and Technology Letters*, co-authored by Zahra Aghaei and Drs. Karl Jobst and Lindsay Cahill

Biochar as a sustainable and renewable additive for the production of Poly( $\epsilon$ -caprolactone) composites, *Sustainable Chemistry and Pharmacy*, co-authored by Dr. Juliana Vidal, Mikhailey Wheeler and Drs. Stephanie MacQuarrie and Fran Kerton.

Nanoconfinement in miniemulsion increases reaction rates of thiol–ene photopolymerization and yields high molecular weight polymers, *Polymer Chemistry*, co-authored by Dr. Héloïse Thérien-Aubin

## Earth Sciences

Genetic model of the El Laco magnetite-apatite deposits by extrusion of iron-rich melt, *Nature Communications*, co authored by Fernando Tornos, Dr. John Hanchar and Dorota K. Pietruszka

## Ocean Sciences

Host-Pathogen Interactions of Marine Gram-Positive Bacteria, *Biology*, co-authored by Hajarrooba Gnanagobal and Dr. Javier Santander

## Physics and Physical Oceanography

Tunable colloids with dipolar and depletion interactions: Toward field-switchable crystals and gels, *Physical Review X*, co-authored by Dr. Shivani Semwal, Cassandra Clowe-Coish, and Drs. Ivan Saika-Voivod and Anand Yethiraj

## Psychology

Cross-sex cecal microbiota transfer alters depressive-like behaviours in mice, *bioRxiv*, co-authored by Meagan Hinks, Yellow Martin, Francine Burke and Drs. Francis Bambico and Ashlyn Swift-Gallant

Some Psychological Determinants of Broad Union Attitudes, *Journal of Social and Political Psychology*, co-authored by Owen McAleese and Dr. Martin Day

Orthorexia symptoms and disordered eating behaviors in young women with cancer, *Eating Behaviours*, co-authored by Meghan Waterman, Rachel Lee and Drs. Jacqueline Carter and Sheila Garland

Sketching: The Effect of a Dual-Modality Technique on Recall Performance, *Journal of Police and Criminal Psychology*, co-authored by Drs. Kirk Luther and Brent Snook

Health psychology and behavioral medicine researchers in Canada: An environmental scan, *Journal of Health Psychology*, co-authored by Dr. Joshua Rash

## Interdisciplinary

Structural brain abnormalities in endothelial nitric oxide synthase-deficient mice revealed by high-resolution magnetic resonance imaging, *Brain and Behavior*, co-authored by Hannah George, Grace Mercer, Darcie Stapleton and Dr. Lindsay Cahill, Chemistry; and Laura Dawson, Phillip MacCallum and Dr. Jacqueline Blundell, Psychology

Towards the identification of humic ligands associated with iron transport through a salinity gradient, *Nature Scientific Reports*, co-authored by Kavi Heerah, Environmental Science, and Dr. Heather Reader, Chemistry

Nocturnal Flight Activity by Northern Gannets *Morus Bassanus* in Response to Predator Disturbance, *Marine Ornithology*, co-authored by Kyle D'Entremont and Dr. William Montevecchi, Cognitive and Behavioural Ecology

Foraging range scales with colony size in high-latitude seabirds, *Current Biology*, co-authored by Dr. William Montevecchi, Psychology/Biology

Role of lipopolysaccharide in antimicrobial and cell penetrating peptide membrane interactions probed by deuterium NMR of whole cells, *BBA Advances*, co-authored by Sarika Kumari, Biochemistry; and Drs. Michael Morrow, Physics and Physical Oceanography and Valerie Booth, Biochemistry/Physics & Physical Oceanography