

VOLUME 1 • DECEMBER 2020

# Department of Biological Sciences Newsletter

FROM BIOMOLECULES TO THE BIOSPHERE

## IMPORTANT DATES

**CANADA GRADUATE  
SCHOLARSHIPS -  
MASTER'S (CGS-M)  
DEADLINE**  
DEC. 1

**GRADUATE AWARDS  
COMPETITION (GAC)  
WORKSHOP**  
DEC. 3

**LAST DAY TO WITHDRAW  
FROM A COURSE, LAST  
DAY OF CLASSES**  
DEC. 9

**START OF EXAMS**  
DEC. 12

**GAC DEADLINE**  
JAN. 15

## CONGRATULATIONS TO:

**Chantel Biegler**, who received an Honourable Mention Award in the annual Jérôme H. Remick III Poster Competition from Geoconvention 2020 (<https://geoconvention.com>)!

**Luis Ponce Alvarez, Sridhar Dwadasi and Laura Sosa**, who won Alberta Innovates Graduate Student Scholarships!

**Sarah Skarsgard**, who won the Faculty of Science Award at the Undergraduate Research Symposium for her Honour's Thesis project on diversity and habitat use by bats in Cochrane!

**Mahdi Moussaei and Mary Kudaibergenova** for their publication in the Journal of Chemical Information and Modeling titled "Assessing hERG1 Blockade from Bayesian Machine-Learning-Optimized Site Identification by Ligand Competitive Saturation Simulations"!

**Julia Casorso**, who won the Office of the Vice-President, Research award at the recent Undergraduate Research Symposium for her Honour's Thesis project, "Primates and alcoholic fruits: The evolution of alcohol metabolism in the human lineage"!

**Suria Ganesan** for her publication in Frontiers in Cellular Development titled "Tubular ER Associates With Diacylglycerol-Rich Structures During Lipid Droplet Consumption"!

*If you or someone in your lab have something to celebrate, including successful defences and awards, please contact [biogsa@ucalgary.ca](mailto:biogsa@ucalgary.ca) to have your accomplishment included in the next newsletter!*



# SEMINARS

## **BCEM601 Seminar - Monday 4:00pm**

November 30 - **Mario Ernesto Valdes Tresanco** - Unravelling antimicrobial resistance and fitness costs of resistance through quantitative proteomics

## **CMMB601 Seminar - Wednesday 12:00pm**

December 2 - **Nikhil Pradhan** - Exploration Towards Novel Biogenic Nanomaterial.

## **ICB601 Seminar - Friday 3:00pm**

December 4 - **Farzaneh Ehtemam** - Unbalance in mitochondria dynamics in cooperation with lipid peroxidation as possible players in neuronal dysfunctionality and healthy brain aging

## **ECOL601 Seminar - Monday 12:00pm**

December 7 - **Austin Ashbaugh** - Integration and Modularity in Ungulate Cheek Tooth Evolution: A Palaeontological Approach.

## **BCEM601 Seminar - Monday 4:00pm**

December 7 - **Jayde Johnson** - Characterization of a novel chloroplast protein phosphatase: Shewanella-like protein phosphatase 1 from Arabidopsis thaliana.

## **CMMB601 Seminar - Wednesday 12:00pm**

December 9 - **Rita Eresia-Eke** - Microbial sulfidogenesis in high temperature and high salinity oil fields and efficacy of biocide treatments.

## **ICB601 Seminar - Friday 3:00pm**


December 11 - **Eamon McFadden** - TBD

## **BioSci Connected - Friday 4:00pm**

December 11 - **Hans Vogel**

## **REMINDERS:**

Register for the GAC workshop at <https://ucalgary.zoom.us/meeting/register/tjErde-ppzgrHdwGRZlukkZYrhDUQ8zRVs9d>



# GRADUATE STUDENT AFFAIRS

## ***Ph.D. Candidacy Oral Examination - Candidacy Exams are Closed Exams.***

**Mariia Borbuliak** (Supervisor: Dr. P. Tieleman) will be holding her Ph.D. Candidacy Examination on December 10, 2020.

**Dimitri Desmonts de Lamache** (Supervisor: Dr. I. Lewis) will be holding his Ph.D. Candidacy Examination on December 16, 2020.

## ***Thesis Oral Examinations - Exams are "Open" unless otherwise noted.***

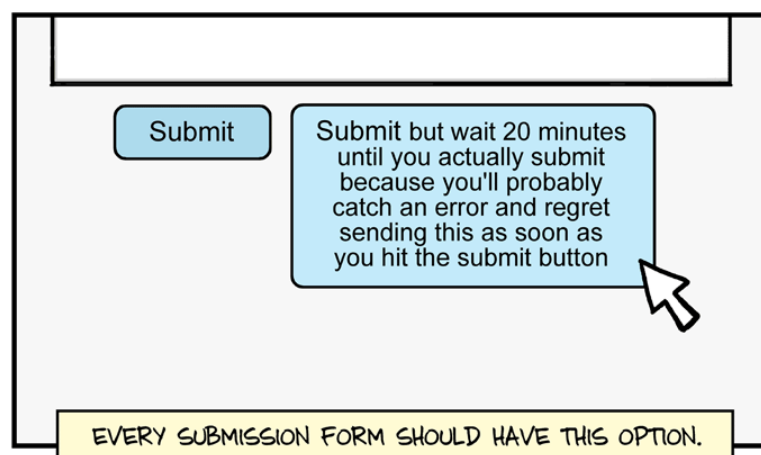
**Ishrat Jalal** (Supervisor: Dr. H. Vogel) will be holding her PhD Thesis Examination on "Periplasmic peptidoglycan binding proteins from *Escherichia coli*" on December 3, 2020.

**Julie Paulssen** (Supervisor: Dr. L. Gieg) will be holding her MSc Thesis Examination on "Biodegradation of Naphthenic Acids by Microorganisms Originating from Alberta's Oil Sands Surface Mining Operations" on December 10, 2020.

**Nicole Taylor** (Supervisor: Dr. L. Gieg) will be holding her MSc Thesis Examination on "Biodegradation of aromatic hydrocarbons by methanogenic consortia and groundwater-associated microbial communities" on December 11, 2020.

**Nabiha Mehina** (Supervisor: Dr. D. Storey) will be holding her MSc Thesis Examination on "The influence of non-inhibitory concentrations of purified pyocin S2 on *Pseudomonas aeruginosa* isolates" on December 11, 2020.

**Nicole Jervis** (Supervisor: Dr. D. Storey) will be holding her MSc Thesis Examination on "The effects of diketopiperazines on the virulence of *Burkholderia cepacia* complex species" on December 18, 2020.





# BIOSCI IN THE NEWS

## **Wastewater surveillance of SARS-COV2 to enable real-time clinical case-finding in Calgary**

Dr. Casey Hubert, PhD, Faculty of Science

Dr. Michael Parkins, MD, Cumming School of Medicine

Our very own Dr. Casey Hubert has received funding through the Canada Foundation for Innovation (CFI) Exceptional Opportunities Fund to improve COVID-19 detection. The multi-disciplinary team will be tracking COVID cases in Calgary using wastewater autosamplers to detect viral RNA that is excreted from infected patients. This project represents a collaboration between The City of Calgary, the University of Calgary and Alberta Health Services. Together areas with increasing cases, including pre-symptomatic cases, will be identified and targeted for case tracing. The importance of this emergency funding is underscored by a quote from Vice-President Research Dr. William Ghali: "UCalgary researchers have done truly impressive work to pivot and focus on urgent problems related to the COVID-19 pandemic. The projects supported by CFI will advance our understanding of the disease, and lead to transformative research that will improve the lives of Canadians."


## **Study in zebrafish finds vaping during pregnancy may affect fetus**

Dr. Matt Vijayan, PhD, University of Calgary

Dr. Patrick Gauthier, PhD, University of Calgary

Dr. Alison Holloway, PhD, McMaster University

Vaping is increasing in popularity as a "healthy" alternative to smoking - however, the effects on our health is only starting to be studied. A team right here in our department is addressing an important question: how does vaping affect fetal development? In particular, they tackled the effect of unregulated flavourants on development by looking at the effects developmental model organism zebrafish. They found that even a short-term exposure to two common flavourants caused a hyperactive response in developing zebrafish, which is very similar to the response observed to nicotine. The observed effects on the sensory-motor response of the zebrafish should make us wary of effects on human pregnancies. Vijayan's work was funded by a Discovery Grant from the Natural Sciences and Engineering Research Council of Canada (NSERC).



## **Assistant Professor - Field Ecology and Evolutionary Biology**

The [Department of Ecology and Evolutionary Biology](#) at the University of Toronto invites applications for a tenure stream appointment in Field Ecology and Evolutionary Biology at the rank of Assistant Professor, with an expected start date of July 1, 2021.

We seek candidates who conduct conceptually driven field research to study fundamental questions in ecology and/or evolution. We seek applications from candidates whose research program complements the [research programs](#) of the highly collaborative faculty currently in the department.

The successful candidate must have a PhD in ecology, evolution or a related field by the date of appointment, or shortly thereafter. Candidates must have a demonstrated record of excellence in research. The successful candidate will be expected to mount an independent, innovative, active, externally funded and internationally recognized research program. The successful candidate will also demonstrate excellence in teaching and contributions to the education and training of undergraduate and graduate students.

Candidates must provide evidence of research excellence which can be demonstrated by a record of publications in top-ranked and field relevant journals or forthcoming publications meeting high international standards, the submitted research statement, presentations at significant conferences, awards and accolades, and strong endorsements from referees of high standing.

Excellence in teaching will be demonstrated through a teaching statement highlighting previous experience that can include leading successful workshops or seminars, student mentorship, delivering conference presentations or posters, or experience as a teaching assistant or course instructor. Excellence in teaching may also be demonstrated through materials such as sample course syllabi (either of courses delivered by the candidate or planned for the future), course evaluations, or other evidence of superior performance in teaching-related activities submitted as part of the application.

Equity and diversity are essential to academic excellence. We seek candidates who value diversity and whose research, teaching and service bear out our commitment to equity. Candidates are therefore asked to include a statement discussing past, current and/or planned contributions to equity and diversity, which might cover topics such as (but not limited to): research or teaching that incorporates a focus on underrepresented communities, the development of inclusive pedagogies, public engagement activities that reach out to marginalized communities, and mentoring of students from underrepresented groups.

Salary to be commensurate with qualifications and experience.

The University of Toronto is a leading academic institution with over 60 faculty members specializing in ecology and evolution. Strong links exist between the Department of Ecology and Evolutionary Biology and the Royal Ontario Museum, the Department of Cell and Systems Biology, the Centre for Global Change Science, Dalla Lana School of Public Health, the School of the Environment, the University network of leading academic research hospitals (<http://www.uhn.ca/>, [sunnybrook.ca/](http://www.sunnybrook.ca/)) and research groups with provincial and federal government agencies. The University owns a nearby field station dedicated to ecological research (the Koffler Scientific Reserve; <http://www.ksr.utoronto.ca/>). Toronto is a vibrant and cosmopolitan city, one of the most desirable in the world in which to work and live.

All qualified candidates are invited to apply online at: <https://jobs.utoronto.ca/job/Toronto-Assistant-Professor-Field-Ecology-and-Evolutionary-Biology-ON/542977017/>

Applications must include:

- a cover letter
- curriculum vitae
- statement of research interests
- a teaching statement highlighting previous experience as listed above
- an equity and diversity statement (as noted above)
- three representative publications or working papers
- applicants must arrange to have three letters of reference **sent directly by the referee to the hiring unit via email** at [chairsec.eeb@utoronto.ca](mailto:chairsec.eeb@utoronto.ca) by the closing date **December 21, 2020, 11:59 p.m. (EST)** (on letterhead, dated, and signed). **PLEASE NOTE:** This search is not using the University's automatic solicitation and collection functionality for reference letters.

For further information on the Department of Ecology and Evolutionary Biology, please visit our website at <http://www.eeb.utoronto.ca/>. Questions regarding this position can be directed to Liz Rentzelos at: [chair.eeb@utoronto.ca](mailto:chair.eeb@utoronto.ca)

Deadline for receipt of all application materials, including reference letters, is December 21, 2020, 11:59 (EST).

All qualified candidates are encouraged to apply; however, Canadians and permanent residents will be given priority.

### **Diversity Statement**

The University of Toronto is strongly committed to diversity within its community and especially welcomes applications from racialized persons / persons of colour, women, Indigenous / Aboriginal People of North America, persons with disabilities, LGBTQ persons, and others who may contribute to the further diversification of ideas.

As part of your application, you will be asked to complete a brief Diversity Survey. This survey is voluntary. Any information directly related to you is confidential and cannot be accessed by search committees or human resources staff. Results will be aggregated for institutional planning purposes. For more information, please see <http://uoft.me/UP>.

### **Accessibility Statement**

The University strives to be an equitable and inclusive community, and proactively seeks to increase diversity among its community members. Our values regarding equity and diversity are linked with our unwavering commitment to excellence in the pursuit of our academic mission.

The University is committed to the principles of the Accessibility for Ontarians with Disabilities Act (AODA). As such, we strive to make our recruitment, assessment and selection processes as accessible as possible and provide accommodations as required for applicants with disabilities.

If you require any accommodations at any point during the application and hiring process, please contact [uoft.careers@utoronto.ca](mailto:uoft.careers@utoronto.ca).