



# Department of Biology

June 14, 2019

UNIVERSITY OF VICTORIA

## Humans unknowingly consume a lot of microplastics

Plastic pollution is a massive problem for oceans and marine life. Now a new University of Victoria study suggests humans are unknowingly consuming tens of thousands of plastic particles per year—a problem that requires further research to understand potential health impacts.

At just under five millimetres in diameter, or smaller than the size of a sesame seed, microplastics are tiny pieces of plastic that come from the degradation of larger plastic products or the shedding of particles from water bottles, plastic packaging and synthetic clothes. These particles can easily sneak into our bodies undetected through food or when we breathe air containing microplastics, says Kieran Cox, a marine biology PhD candidate in UVic Biologist Francis Juanes' lab. Cox is the [lead author of a research paper](#) in the American Chemical Society's journal Environmental Science & Technology.

"Human reliance on plastic packaging and food processing methods for major food groups such as meats, fruits and veggies is a growing problem. Our research suggests microplastics will continue to be found in the majority—if not all—of items intended for human consumption," says Cox. "We need to reassess our reliance on synthetic materials and alter how we manage them to change our relationship with plastics."

Cox and his colleagues reviewed 26 previous studies and analyzed the amount of microplastics in fish, shellfish, sugars, salts, alcohol, water and air, which accounted for 15 per cent of Americans' caloric intake. By looking at the amounts of these foods people ate, based on their age, sex and dietary recommendations, the team was able to estimate that a person's average microplastic consumption is between 70,000 and 121,000 particles per year, with rates rising up to 100,000 for those who drank only bottled water. There are limitations in available data and the health impacts are still not known, says Cox. The majority of research to date has focused on seafood, but the new study indicates a significant amount of the plastic humans consume may be in the air we breathe or water we drink.

More research is needed on microplastic levels in our foods—particularly major food groups like beef, poultry, dairy and grains—in order to understand health impacts and the broader problem of plastic pollution, he adds. The study, co-authored by scientists at UVic, Hakai Institute and Fisheries and Oceans Canada, was supported by the Natural Sciences and Engineering Research Council of Canada and the Liber Ero Foundation.

By Clare Walton, SCIE Communications Officer, and Jennifer Kwan, UVic Communications + Marketing.

For more photos click [here](#).

For news stories click [CHEK News](#) and [CBC](#).

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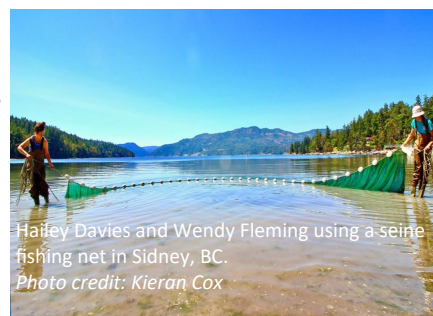
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Kieran Cox, PhD Candidate



Garth Covernton, PhD Candidate



Hailey Davies and Wendy Fleming using a seine fishing net in Sidney, BC.  
Photo credit: Kieran Cox

## Welcome summer students

### Awatramani Lab:

Sydney Goodwin  
Sastun Phillips



### Baum Lab:

Pierre-Jean Harnois  
Laura Bañuelos Flores  
Lili Hernández

### Constabel Lab:

Luis Eduardo Peña Barrena

### Chow Lab:

Kelly Hamilton  
Alberto Ruiz  
Seb Gulka

### Ehltung Lab:

Fleur Fenjin  
Peter Socha

### El-Sabaawi Lab:

Natalie Kennedy

### Gawryluk Lab:

Kara Ruff

### Hawkins Lab:

Kate McKeown

### Juanes Lab:

Lucas Agagnier  
Jennifer Curtis  
Erin Ritchie  
Mackenzie Woods  
Micah Quindazzi  
Katie Innes  
Brian Timmer  
Iamania Ines Vergara Perez  
Santiago Gonzalez Bravo



### Lacourse Lab:

Matthew Stewart

### Nashmi Lab:

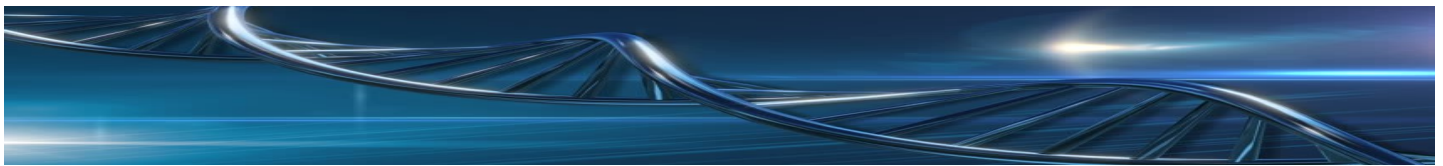
Jessica Fraser

### Tunncliffe Lab:

Veronica Rodriguez Jurado

### Varela Lab:

Brandon McNabb



## Biology Seminars, Everyone Welcome!

### Levin Fest Symposium

Keynote speaker: Dr. Simon Levin  
Ecology & Evolutionary Biology  
Princeton University  
UVic Honorary Doctor of Science

“Public goods: From biofilms to societies”

Mark Lewis (Alberta) and Carla Staver (Yale) will also be keynote speakers.

Saturday, June 15, 2019  
from 9:00 am to 5:00 pm in BWC A104



## Calendar

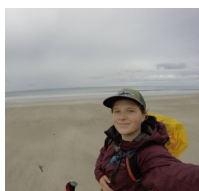
### Important Dates:

|                          |                               |
|--------------------------|-------------------------------|
| Wednesday, June 5        | May courses end               |
| Thursday, June 6         | June courses begin            |
| Monday-Friday June 10-14 | Spring Convocation            |
| Friday, June 28          | May-June and June courses end |



## Oral Examinations

### MSc Oral Examinations



#### **Kathrina Harms**

Supervisor: Dr. Louise Page  
Monday, June 10, 2019 @ 10:00 am in CLE B007

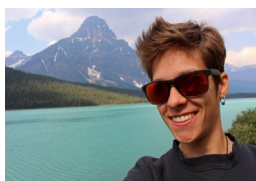
“Surprise in a small package: foregut metamorphosis in the marine ectoparasitic snail *Odostomia tenuisculpta* (Family Pyramidellidae)”



#### **Rhea Ashmead**

Supervisor: Dr. Francis Choy  
Friday, June 21, 2019 @ 10:00 am in ECS 104

“Purification of Human Recombinant Naglu from Sf9 cells and Uptake Studies with MPS IIIB Fibroblasts”



#### **Emily Campbell**

Supervisors: Drs. Francis Juanes and Travis Gerwing  
Friday, June 28, 2019 @ 1:00 pm in ELL 116

“Passive Restoration and Non-Invasive Monitoring of Soft-Sediment Ecosystems on the North Coast of British Columbia, Canada”

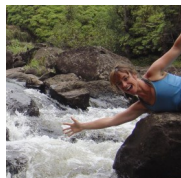


#### **Rande Kanne**

Supervisors: Drs. Geraldine Allen and Barbara Hawkins  
Wednesday, July 3, 2019 @ 10:00 am in CLE B017

“Phylogeographic patterns and migration history of Garry oak (*Quercus garryana*)”

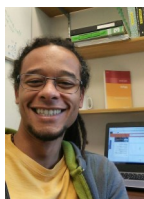
### PhD Oral Examinations



#### **Therese Frauendorf**

Supervisor: Dr. Rana El-Sabaawi  
Wednesday, July 31, 2019 @ 11:00 am CLE B017

“The effects of climate change and introduced species on tropical island streams”



#### **Piata Marques**

Supervisor: Dr. Rana El-Sabaawi  
Thursday, August 8, 2019 @ 1:00 pm CLE B017

“Characterizing the effects of urbanization on stream biota using a trait-based approach”

## Lab News

### Tunncliffe Lab

Veronica Rodriguez-Jurado, a summer student, is working on a project to use the functional traits of hot vent animals to model the vulnerability of species to deep seabed mining. She will examine how each species will respond when part of their distributional range is removed in a projected scenario. This work involves documenting key features of each species.

Veronica is working with animals in the tubeworm communities in the Endeavour Hot Vents Marine Protected Area.



### Juniper Lab

Recent Biology Honour's graduate, Robyn Sahota, is spending much of May and June at sea on oceanographic expeditions, sampling zooplankton populations off the west coast of Vancouver Island. For her Honour's research Robyn collaborated with Dr. Catherine Stevens in Dr. Kim Juniper's lab, in a study that used fatty acid profiles to study zooplankton food sources. This summer Robyn is back at sea on two expeditions on the Research Vessel John P. Tully, led by researchers from the Federal Department of Fisheries and Oceans. She is collecting more zooplankton samples to extend her Honour's research by comparing long-term (fatty acids) and recent (molecular biomarkers) food sources for dominant copepod and gelatinous zooplankton groups. At the end of the summer Robyn is off to Europe on an Erasmus Mundis fellowship that will take her to three universities in three countries (Portugal, Univ. of Algarve; Belgium, Univ. of Ghent; and France, Sorbonne University), to complete a Master's degree in marine science



Photo - Robyn on the afterdeck of the research vessel John P. Tully, deploying 'bongo nets' to sample zooplankton on La Perouse Bank, off the west coast of Vancouver Island.

## Job Opportunities

### Biology Teaching Assistant Positions for Fall 2019

Laboratory Instructor positions for the September - December term of the 2019-20 Winter session.

The following is a list of Lab Instructor positions available at the moment. The number of positions is subject to enrollment and/or course cancellation.

|                  |  |                             |
|------------------|--|-----------------------------|
| BIOL 184         | Evolution & Biodiversity               | 34-36 lab sections          |
| BIOL 215         | Ecology                                | 11-12 lab sections          |
| BIOL 225         | Principles of Cell Biology             | 19-20 lab sections          |
| BIOL 311/EOS 311 | Oceanography                           | 4 lab sections              |
| BIOL 321         | Invertebrates                          | 4 lab sections              |
| BIOL 326         | Development & Genetics of Model Plants | 1 lab section               |
| BIOL 345         | Animal Behaviour                       | 5-6 lab sections            |
| BIOL 365         | Animal Physiology                      | 6-7 lab sections            |
| BIOL 448         | Neuroethology                          | 1-2 positions for tutorials |

|          |  |  |
|----------|--|--|
| BIOL 184 | Scientific Assistant technical support | Paid by timesheet; approximately 50-60 hours/term. |
|----------|--|--|

The closing date for applications is Wednesday, July 7, 2019. Please see the [postings](#) for more details.

### Intermediate Marine Biologist

Hatfield Consultants has a position for an enthusiastic and technically focussed marine biologist. This position presents an exceptional opportunity for the right individual to advance their career at one of Western Canada's largest purely environmental consultancies.

Full posting can be viewed here: [Hatfield Consultants. Intermediate Marine Biologist, Vancouver Canada](#)



## Biology Social

### Beach Party @ Gyro Park

On Friday May 31 under a glorious sunshine, Biology graduate students, faculty members, research assistants and staff gathered at Gyro Park to play some games and eat delicious pizza.

Special thanks go to Shea Wyatt, Garth Covernton, Michelle Shen and Dr. Barbara Hawkins for organizing this event!



If you have stories or announcements that would like to share for the Biology newsletter, please email Chantal Laliberté at [biology@uvic.ca](mailto:biology@uvic.ca) or Laura Alcaraz-Sehn at [bioclerk@uvic.ca](mailto:bioclerk@uvic.ca).

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