



Department of Biology

February 22, 2023

UNIVERSITY OF VICTORIA

'What's up' in the Department of Biology UVic

The Lewis Lab

The Lewis Research Group is happy to now be at UVic, having moved from U Alberta. Most but not all of us are now in Victoria and some of us are settling into our new research space in the basement of Cunningham (CUN034) while others are in Math/Stat. We are a diverse group, ranging from mathematicians to field biologists and the best time to find us is during lab coffee at 11AM on Wednesdays!



PhD students:

Emma Atkinson: Population dynamics and population biology of spot prawns

Shan Gao: Effect of toxins on behaviour and their impact on ecological dynamics

Kevan Rastello: Improving the effectiveness of risk assessment for the spread of mountain pine beetle

Shibai Zhang: Statistical models for memory and animal movement patterns

MSc students:

Xiaoqi Xie: Statistical models for mountain pine beetle spread

Nick Paroshy: Polar bear movement patterns

Johnson Yue: Nonlocal models in mathematical ecology

Postdocs:

Azadeh Agheeyan: From rationalists to imitators: Models for behavioural responses to vaccines

Inesh Munaweera Arachchilage: Mark recapture models for sturgeon populations

Micah Brush: Mountain pine beetle dynamics in space and time

Evan Johnson: Spatial dynamics and scaling laws for mountain pine beetle dynamics

Julia Schmid: Bayesian Network modelling and machine learning methods to predict angler pressure, spatial connectivity and disease spread in fisheries using data from mobile apps

Peter Thompson: Visiting postdoc (see below)

Lab manager/admin:

Kim Budinski (kbudinski@uvic.ca)



Special congratulations go out to the newly minted Dr. Peter Thompson who recently defended his thesis on "Mathematical methods for exploring the cognitive drivers of animal movement". He was jointly supervised by Mark Lewis (now at UVic) and Andy Derocher (U Alberta). Part of his research has focused on evaluating the effects of changing ice conditions on polar bear movement patterns in the Canadian arctic. Dr. Thompson is now starting a postdoc modelling wildlife movement amid human activity in the Canmore area of Alberta.

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Drop by and say hello, come to coffee at 11AM on Wednesdays in CUN034 or come by and look at our noticeboard or check out lewisresearch-lab.org for more information about our research projects.



SCAN ME

Biology Seminars

Biology & FORB



**Dr. Janice
Cooke**
UofA

“TBA”

Host: Drs. M. Lewis and
P. Constabel

Friday, March 3, 2023
3:30 pm
CUN 146

Biology



Dr. Nathan Lauer

“TBA”

Host: Dr. Barbara Hawkins

Friday, March 10, 2023
3:30 pm
MSB 150

Biology



Dr. Gerry Gourlay
UVic

“TBA”

Host: Dr. Barbara Ehlting

Friday, March 17, 2023
3:30 pm
MSB 150

Biology



Dr. John Taylor
Department of
Biology, UVic

“TBA”

Host: Dr. Peter Constabel

Friday, March 24, 2023
3:30 pm
MSB 150

Calendar

Important Dates:

Monday, February 20 to Friday February 24

Tuesday, February 28

Friday, March 3

Monday, March 13

Reading Break for all faculties

Last day for withdrawing from full year and
second term courses without penalty of failure
Senate meets

First registration for Summer Session 2023

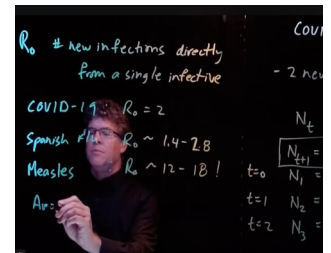


Biology News

Dr. Mark Lewis: Kennedy Chair

Dr. Mark Lewis, renowned mathematical ecologist and Kennedy Chair, was recently featured in The Ring. Dr. Lewis uses mathematical biology as a tool for addressing climate change, habitat destruction, and industrial salmon farming.

For the full article, click here: [here](#)



Dr. Mark Lewis
Photo: UVic Photo services

Alumni News, Inspiring student stories

Rhonda Reidy, Featured in *Inspiring Student stories illuminate path for others*, in the Ring, February 8, 2023.

Following the trail of humpback whales.

“I wanted to statistically model the impact of humpback whale predation on local prey populations. But no one knew what species they were eating underwater. My whole PhD became developing methods to begin to estimate what the whales are eating!

It's been a challenging, gratifying journey”.

—Rhonda Reidy, PhD candidate in UVic's Dept. of Biology and with the Juanes Lab at UVic

Full story [here](#)



Dr. Rhonda Reidy.
Photo credit Jessica Qualley

Biology News

Oral Examinations



Claire McPolin Msc
Supervisor: Dr. Barbara Hawkins
Date: February 21st
Place: CLE B021
Time: 10:00 am
Title: "Ectomycorrhizal fungal endemism and rainforest nutrition in Pacific Northeast"



Prathyusha Ravi Chander Msc
Supervisor: Dr. Gautam Awatramani
Date: TBA
Place: TBA
Time: TBA
Title: "Orientation selectivity in the population of ON-OFF direction-selective ganglion cells in the mouse retina"

Welcome !



Lola Dumortier, Visiting Grad Student
Constabel Lab



Congratulations Biology Undergrad students!

Our undergrad students were the recipients of the UVic's best Science Department award during the Chem and Biol PowerPoint Karaoke Night held on February 2nd, 2023.

Congratulations!!!



Freya Innes and Soledad Callo
BUGS representatives
visiting the Biology office
with their award



If you have stories or announcements that you would like to share in the Biology newsletter, please email: Jennie Bartosik @ biology@uvic.ca or Laura Alcaraz-Sehn @ bioclerk@uvic.ca

NPAFC Internship Program

2023 NPAFC Internship Program

The North Pacific Anadromous fish Commission (NPAFC) invites citizens from its member countries (Canada, Japan, the Republic of Korea, the Russian Federation, USA) to apply for the NPADV internship Program. One of two interns will be accepted upon approval of the commission.

Internship period: Up to a max. of 6 months, with start date must be between July – December 2023. the intern is expected to perform tasks at the Secretariat office on a daily basis Monday to Friday, 7.5 hours per day.

Applications must have a cover letter describing applicant's interest and qualifications, resume showing academic and/or work experience, 3 professional letter of reference and personal data page of passport as proof of citizenship.

Email application to: secretariat@npafc.org by March 14, 2023. For complete information go to <https://npafc.org> and contact the NPAFC Secretariat.



Accepting Applications for the 2023 NPAFC Internship Program

The North Pacific Anadromous Fish Commission (NPAFC) invites citizens from its member countries (Canada, Japan, the Republic of Korea, the Russian Federation, and the USA) to apply for the NPAFC Internship Program. One or two interns will be accepted upon approval of the Commission. The interns will work at the NPAFC Secretariat office in Vancouver, BC, Canada.

The interns will gain experience and knowledge in operations of the NPAFC and will have the opportunity to lead higher interest in international governmental organizations, fisheries management, salmon biology & ecology, and fisheries enforcement. The intern will work under the supervision of the Executive Director and/or his designates. In general, the intern will assist in a variety of tasks, including:

- plan, develop, and complete an individual project in enforcement, science, communication, fisheries management, or administration;
- prepare information for and provide support to special projects;
- assist in organizing and setting various NPAFC publications;
- coordinate international cooperative programs and assist Secretariat activities; and
- assist with other work delegated by the Executive Director and/or his designates.

Financial support: NPAFC will provide a stipend of CAD \$3,000 per month. Travel costs for the interns to and from their place of residence and the location of the Secretariat will be at the intern's own expense or by home country support. Travel expenses associated with the intern's work in the Secretariat will be covered by NPAFC. The intern's medical insurance and benefits are not covered by the NPAFC Internship Program.

Applications: Completed applications must include all of the following:

- a cover letter describing the applicant's interests and qualifications;
- a resume showing academic and/or work experience;
- three professional letters of reference; and
- personal data page of passport as proof of citizenship.

Internship period: Up to a maximum of 6 (six) months, with the start date to be negotiated. Start date must occur between the period of July–December 2023. The intern is expected to perform his/her tasks at the Secretariat office on a daily basis, Monday–Friday, 7.5 hours per day.

For complete information: Go to <https://npafc.org> and contact the NPAFC Secretariat for questions at secretariat@npafc.org

APPLICATION DEADLINE: March 14, 2023



TLC of British Columbia

The Land Conservancy of BC

TLC is pleased to announce the organization will be hosting two sessions of the Deertrails Naturalist Program in 2023 which will explore the beauty and brilliance of Cortes Island (April 25 to 30) and the Clearwater River Valley (April 18 to 23). Aspiring naturalists can apply online at www.conservancy.bc.ca/deertrails.


Application deadline is Friday, February 24. Bursaries are available.

To learn more about the program, you can also view our brand new film by filmmaker Marina Dosis featuring the 2022 session of the program at <https://www.youtube.com/watch?v=W21cAuhVb0>

For more details regarding the Deertrails Naturalist Program and the two spring 2023 sessions please view the press release and program backgrounders attached, or contact TLC at (250) 479-8053 or admin@conservancy.bc.ca.



TLC The Land Conservancy of British Columbia



The Land Conservancy of British Columbia

2023 Deertrails Naturalist Program

Cortes Island

The Deertrails Naturalist Program is a week-long workshop inviting deep immersion in the practice of becoming naturalist. Set on Cortes Island in the northern Salish Sea, it's designed for students, teachers, artists, scientists, poets, philosophers – anybody who feels drawn to place-based learning through immersive practice in wild nature.

Participants will be instructed in the specifics of natural history while at the same time being invited to participate in broader naturalist-based perspectives on the living world – not least the question of “right relation” in time of profound disruption and change. At the same time, we will pay close attention to the “here and now,” giving voice to our experience through species lists, field journal entries, drawings, maps, questions, and more contemplative writing pieces.

The workshop is hosted by The Land Conservancy of British Columbia, Linnaea Farm Society and BC's very own **Briony Penn**, with capable assistance from **Ann Mortifee**, **Kristen Scholfield-Sweet**, **Rex Weyler**, and **Sabina Leader Mense** – all well-seasoned naturalists and artists. Cameo instruction this year includes sessions with a cast of Cortesians covering a full spectrum of disciplines.

Operating from the premise that our connection to place arises from the stories we tell, this workshop features a series of naturalist-led walks and talks on an island on an edge – the meeting place of tidal waters, biogeoclimatic zones, and cultural territories. We will walk island shorelines, swim in bracingly cold waters, explore a tapestry of sensitive ecosystems, and search for northern goshawk plucking posts.

Evenings, we'll share meals, converse in a circle with Cortesians, share stories, music, poetry, and readings – allowing our conversations to run far and long, ever deepening our sense of wonder for the natural world.

Throughout the workshop, leaders will introduce you to the rudiments of island geology and geography, local marine biodiversity through species identification, bird study and forest ecology, as well as the art of

creating field journals, ceremony, and sacred objects – vehicles to meaning. More generally, we'll be invited to consider how direct experience of the natural world can renege our place within it. The goal of this workshop is to learn “how to learn” about the living world – skills we can bring home to our own back yards, classrooms, and beyond.

As a special offering, Ann will share readings from her book, *In Love with the Mystery*.

Dates: April 25 to 30, 2023. Welcome on site late afternoon on April 25. Disperse noon April 30.


Program Fee: \$750 for those tenting \$900 for indoor accommodations. Please designate which accommodation style you prefer in your application. Fees include meals catered by Linnaea Farm stewards. Fees are due by March 31, 2023.

Accommodation: Included in the Program Fee is the cost for access to Linnaea Farm's facilities including washrooms, study rooms, quiet spaces, ECOlab, and the Cortes Wild! natural history center. please visit www.ourcortes.com for other Cortes Island accommodations.

Application Deadline: 5:00 p.m. on Friday, February 24, 2023. Applicants will be informed regarding the success of their applications by late March.

For more information please contact:
Cathy Armstrong
TLC Executive Director
250-479-8053
admin@conservancybc.ca

Usually known as TLC, The Land Conservancy is a non-profit, charitable Land Trust working throughout British Columbia. TLC protects important habitat for plants, animals and natural communities. TLC protects special places through the use of conservation covenants, stewardship agreements and direct acquisition.



The Land Conservancy of British Columbia

2023 Deertrails Naturalist Program

Clearwater River Valley

The Deertrails Naturalist Program is a week-long workshop inviting deep immersion in the practice of becoming naturalist. Set in the beautiful Upper Clearwater Valley near Wells Gray Provincial Park, it's designed for students, teachers, artists, scientists, poets, philosophers – anybody who feels drawn to place-based learning through immersive practice in wild nature.

Participants will be instructed in the specifics of natural history while at the same time being invited to participate in broader naturalist-based perspectives on the living world – not least the question of “right relation” in time of profound disruption and change. At the same time, we will pay close attention to the “here and now,” giving voice to our experience through species lists, field journal entries, drawings, maps, questions, and more contemplative writing pieces.

The workshop is hosted by The Land Conservancy of British Columbia and features BC's very own seasoned naturalists, artists, and teachers **Briony Penn**, **Lyne Baldwin**, **Nancy Flood**, **Nancy Turner**, **Malca Acker**, and **Trevor Goward**.

Operating from the premise that our connection to place arises from the stories we tell, this workshop features a series of naturalist-led hikes in a valley renowned for its geological history and vibrant ecologies. We will follow deer trails, attend to waterfalls and canyons, listen for the early songs of migrating songbirds, and generally immerse ourselves in an ecosystem awakening to spring.

Each evening we will share meals, converse indoors, huddle around the campfire, share music, poetry, and readings – allowing our conversations to run far and deep. With luck, we will also attend to the nighttime conversations of owls, wolves, and shimmering northern lights.

Throughout the workshop, leaders will introduce you to the rudiments of bird study, plant, fungi, and lichen identification, and forest ecology as well as the art of creating field journals, memory maps, and lyric writing

– vehicles to meaning. More generally, we will be invited to consider how our direct experience of the natural world can renege our place within it. The goal of this workshop is to learn “how to learn” about the living world – skills we can bring home to our own back yards, classrooms, and beyond.

Dates: April 18 to 23, 2023. Welcome on site late afternoon on April 18. Disperse noon April 23.

Program Fee: \$750 including meals and accommodation. Fees are due by March 31, 2023.

Accommodation: Included in the Program Fee is the cost for shared accommodation in field station cabins at Thompson Rivers University Wells Gray Wilderness Centre. For other accommodations in the Upper Clearwater Valley, please see www.wellsgraypark.info and www.wellsgray.ca. Tent and vehicle camping is available at no additional cost.

Application Deadline: 5 p.m. on Friday, February 24, 2023. Applicants will be informed regarding the success of their applications by late March.

For more information please contact:
Cathy Armstrong
TLC Executive Director
250-479-8053
admin@conservancybc.ca

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For more information about TLC call 1-877-485-2422 or visit www.conservancybc.ca

Undergraduate Research Opportunities

2023 SURG (Applications available now)

Shoals Marine laboratory's SURG program is specifically designed for undergraduate college students the summer break. Undergraduate researchers work directly with faculty mentors and SML scientist to conduct research experiments and projects, combining new areas of discovery with ongoing, long-term monitoring.

Apply: [Here](#)

Application deadline: March 1, 2023

Please see individual internship pages for specific application instructions.

Applicants should be prepared to upload (as separate files): cover letter, resume/CV, and unofficial transcripts.

Applicants should request two letters of recommendation.

Undergraduates in all majors may apply. Must have at least 1 semester of college remaining.

Prior relevant field/lab experience preferred but not required.

Questions? Email Dr. David Buck (david.buck@unh.edu)

Job opportunity

Ocean Ambassadors Canada



Leadership, Education, Wet Feet

Position: Ocean Camp Guide
Duration of Employment: May 1 – Sept 1, 2023

Pay Rate: \$18-20/hour

Overview

Ocean Ambassadors Canada is a not-for-profit company that is focused on turning the tide on marine pollution by creating interactive learning experiences that encourage the love of the ocean. Our spring and fall school field trip programs provide students in grades 1 – 10 in the Lower Mainland with an inspiring educational experience that culminates in our on-the-beach Ocean Camp, Gumboots and Ocean Health Inquiry programs. Students discuss the ways ocean plastics impact marine life and discover ways they can make a difference. Our summer **TideRider** camps are creating a community of ocean ambassadors by connecting kids aged 8-12 with the ocean. Participants will develop a relationship with the ocean through personal experience, exploring the intertidal zone, learning about the problem of plastics and other pollutants in the oceans, and developing leadership skills. Our team strives to encourage meaningful connections to nature while creating a fun environment for learning and skill development.

Participants learn to stand-up paddleboard with all of the best equipment to make their time on the water comfortable and fun. On the beach, participants learn how plastics are made and how they break down, discuss the ways ocean plastics impact marine life, and discover ways they can make a difference. Students discuss our culture of consumption and convenience, including fast fashion.

Position Description

The Ocean Camp Guide is responsible for safely leading workshops for groups of participants in school and summer camp programs. Workshops include learning activities and on-water stand up paddleboard sessions. The Ocean Camp Guide will directly involve participants in a program of learning and discovery of the beach and ocean environment. The Ocean Camp guide will actively engage with participants in creativity and free play activities on the beach.

Camps have small instructor to participant ratios and are based at Hollyburn Sailing Club at Ambleside Beach in West Vancouver and Kitsilano Yacht Club or Royal Vancouver Sailing Club in Vancouver. Your typical week will consist of spending half of your time on the beach delivering educational workshops, and half of your time on the ocean paddle boarding. Your workday will include set up and take down of equipment each day.

Job Responsibilities

- Use best judgment to provide fellow guides and participants with a safe and fun environment
- Communicate effectively with Program Coordinator, other guides, teachers, parents and participants
- Maintain a professional and positive attitude
- Maintain SUP equipment, program equipment, daily upkeep of van
- Fit PFD's, paddles and provide equipment information to participants
- Deliver stand up paddle lessons that include information about ocean health and ocean life
- Lead intertidal discovery walks, beach activities, and workshops
- Ensure group safety and conduct an assessment to determine potential for physical and/or environmental limitations
- Ensure storage of waivers and other relevant paperwork
- Provide photos for social media posts regularly
- Liaise with sailing club members and staff and maintain a positive relationship with stakeholders
- Other related duties as required

Qualifications

- Passion for sustainability and the Ocean
- Must have proficient Stand-Up Paddleboard skills
- Must be comfortable working in an outdoor environment, including on the ocean, in all weather conditions
- Must be an excellent team player, with a positive attitude
- Must be able to make programs fun and engaging, and be a mentor to volunteers and participants
- Must be able to communicate in an effective, professional and friendly manner with kids, parents, supervisors and co-workers
- Experience working with children preferred
- Knowledge of local history and Pacific Northwest ecology is a benefit

Please contact:
programs@oceanambassadorscanada.org

Thank you for your interest in joining our team!

[Oceans Ambassador Canada](#)

Editors: L. Alcaraz-Sehn, J. Bartosik

Contributors: Dr. M. Lewis, M. Shen, FORB, BUGS, Dr. F. Juanes, TLC of

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