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peec.ca

Pacific **E**cology and **E**volution **C**onference



Pacific Ecology and Evolution Conference

2024

March 15-17, 2024

Bamfield Marine Research Centre | Bamfield, BC

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DEPARTMENT OF BIOLOGICAL SCIENCES

Welcome to PEEC 2024



The Pacific Ecology and Evolution Conference (PEEC) is a student-run, annual conference that aims to provide opportunities to early-career scientists to exchange ideas and seek collaborations with peers from across western Canada and the United States. The conference was first held in 1979 and since then has provided opportunities for thousands of researchers to share their work and build their networks in a supportive and collaborative environment. PEEC is a multi-disciplinary and intellectually stimulating conference and we welcome presentations on

DEPARTMENT OF ZOOLOGY
UBC

UBC THE UNIVERSITY OF BRITISH COLUMBIA
Faculty of Science

SCIENCE.UBC.CA/RESEARCH

OCEAN TRACKING NETWORK

The Ocean Tracking Network (OTN) is a global aquatic research, data management and partnership platform headquartered at Dalhousie University in Halifax, N.S., Canada.

Researchers are using OTN's telemetry and data infrastructures to document the movements, habitats and survival of aquatic species in the context of changing global environments.

Knowledge generated through OTN collaborations is used provincially, federally and internationally to help guide the management and conservation of aquatic resources.

Learn more:

Statement of Principles

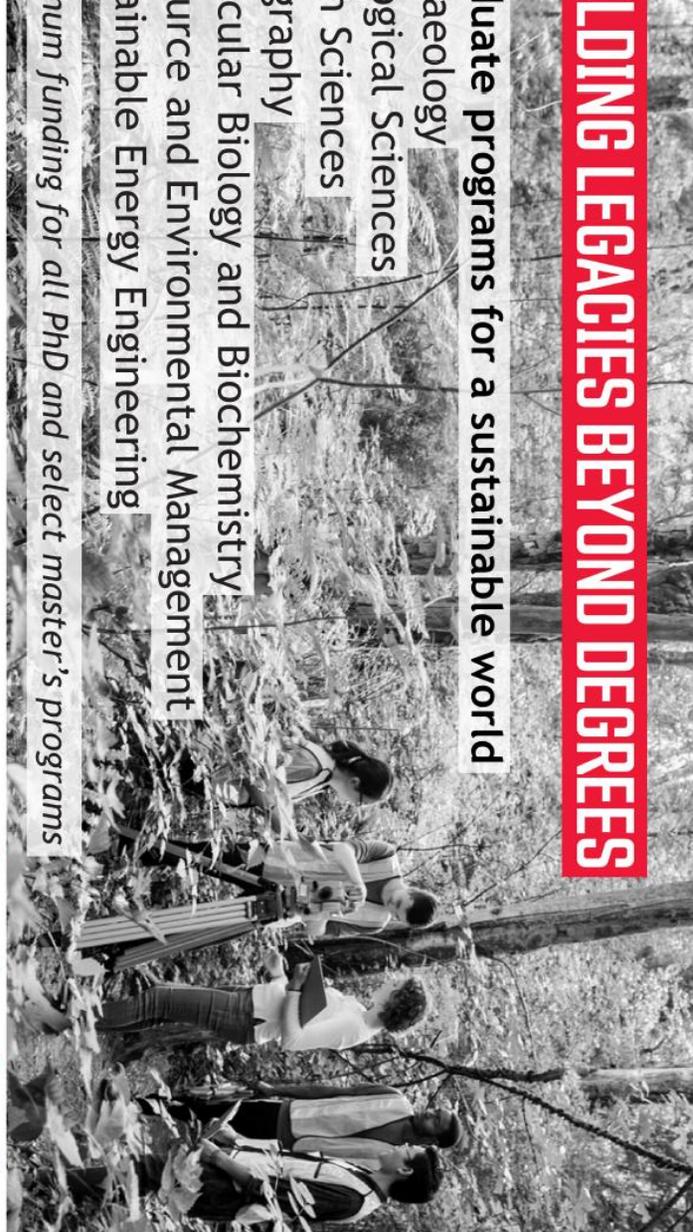
We recognize that the Pacific Ecology and Evolution Conference is a gathering designed by the student community and for the student community. Our actions as organizers and participants must necessarily reflect this ethos of service. We are committed to developing and maintaining an environment built on respect and mutual support towards each other.

We therefore strive as an organization and as participants to welcome each other and reject discrimination in all its forms, whether it be based on class, race, ethnicity, nationality, gender, sexual orientation, age, socio-economic class, religion, disability or any other variety. This rejection must take the form of more than just words and thoughts. We will work together to combat these issues as they arise and take concrete steps to prevent them from taking root.

We as organizers will seek to not only reject discrimination in its present forms, but also work to combat the legacies of past acts, and will implement a reparative approach to designing our gathering, using it to reflect the actual diversity of our field and uplift marginalized voices.

Signed, The Organizing Committee of PEEC 2024

www.sfu.ca/gradstudies



LOOKING FOR A SALMON CAREER?

The Pacific Salmon Foundation awards bursaries to students aiming to join salmon conservation efforts.

Check your eligibility:

- resident of B.C. or the Yukon
- demonstrated financial need
- enrolled full-time in a B.C. university in a program related to Pacific salmon (year 2+)

Applicants with volunteer experience in aquatic stewardship will be given preference.

LEARN MORE AT [PSF.CA](https://psf.ca)

**APPLICATIONS OPEN
ON AUG 1, 2024.**



**PACIFIC SALMON
FOUNDATION**

Conference Schedule - Saturday

Welcome and Opening Remarks

8:30 AM – Rix Center

Breakfast - 7:30 - 8:30 AM

Room A: Kelp forest ecosystems

9:00	Alana Breitreutz	Does flow speed affect blade number in the bull kelp, <i>Nereocystis luetkeana</i> ?
9:15	Ruby Burns	Kelp culturing and thermal physiology research for collaborative industry restoration
9:30	Amelia Gray, Isabel Gregr, and Sophia Cross	Cold region <i>Nereocystis Luetkeana</i> sporophytes outperform those from warm regions
9:45	Em Lim	Spatial dynamics of animal-mediated nutrients in temperate waters
10:00	Alyssa Allchurch	Investigating the resilience of kelp forests to harvest amid a rapidly changing ocean

3 minute presentations

10:15	Tessa Rehill	Investigating urchin distributions and control methods to inform restoration of threatened kelp forest ecosystems
	Aidan Wright	Estimating Bryozoan Coverage on Kelp Surfaces Using UAVs
	Jing Jiang	Ecological Niche Projections for Three Asia-Pacific Economies Under Climate Change

Room B: Conservation Biology

9:00	Mina Hassanaghaei	Ecotoxicological insights from the 2022-White Sturgeon (<i>Acipenser transmontanus</i>) mortalities in the Nechako River, British Columbia
9:15	Nicole Williams	Moonlight influence on the vocal activity of Western Screech-Owls
9:30	Niloufar Abhari	Measuring Genetic Diversity Across Populations
9:45	Elisabeth Schafers	Biodiversity in British Columbia
10:00	Gwynifyre Taylor	Optimizing Seagrass Mapping with Drones and Machine Learning
3 minute presentations		
10:15	Michelle Hoang	Landscape connectivity influence on genetic structure of coastal wolves
	Quin Johnston	Potential drivers of catch and release mortality of recreationally captured coho salmon
	Dave Scott	Juvenile salmon response to jetty breaching in the Fraser River estuary, BC.



Thank you to Our Sponsors!

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Pacific Salmon Foundation

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Gold Sponsorship Level

U of A Faculty of Science

Silver Sponsorship Level

UBC Zoology



UBC Faculty of Science

North Pacific Marine Science Organization (PICES)

SFU Department of Biological Sciences

Sport Fishing Institute of British Columbia

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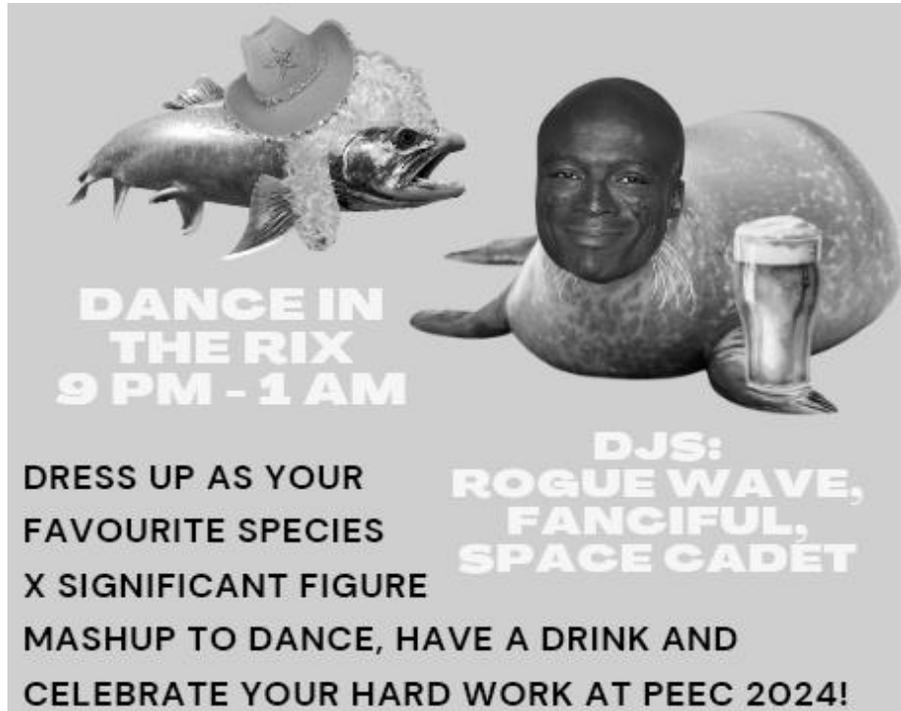
Nova Harvest

UVic Biology

UBC Graduate Studies

VIU Biology

Dance in the Rix - 9 PM - 1:00 AM



**DANCE IN THE RIX
9 PM - 1 AM**

DRESS UP AS YOUR FAVOURITE SPECIES X SIGNIFICANT FIGURE MASHUP TO DANCE, HAVE A DRINK AND CELEBRATE YOUR HARD WORK AT PEEC 2024!

**DJS:
ROGUE WAVE,
FANCIFUL,
SPACE CADET**

Conference Schedule - Saturday

Breakfast - 9:00 - 10:30 AM

Keynote Speaker 11:00 - Rix Center

Stella Peters: Kiixin

Room C: Ecology of Human Landscapes

9:00	Ashley Mickens	Assessing Methods of Measuring Urbanization and Its Effects on Aquatic Ecosystems Across Vancouver Island
9:15	Janine Garcia	The Impact of Tire-Derived Toxicity
9:30	Ashton Seis	Long-read sequencing reveals complete plasmids in three Tenacibaculum species
9:45	Brianna Heese	Antimicrobial resistance monitoring of florfenicol on BC Tenacibaculum isolates
3 minute presentations		
10:00	Ian Pettit	Microbial Source Tracking In Baynes Sound Using Pacific Oysters complex
	Liam Surry	Identifying Markers Related to Bacterial and Viral Resistance in Pacific Oysters
	Meredith White	Vessel noise effects on anti-predator behaviour in Pacific sand lance
10:15	Vanessa Hum	Bird-window collisions: a window of opportunity to implement effective solutions
	Lal Deniz Basok	Understanding the Role of Attributes and Patterns in the Segmentation and Development of Global Shark Ecotourism
	Mahynour Saleh	The effects of climate change on food security in Tla'amin

Coffee Break - 10:30 - 10:45 AM

Session 2 (10:45 AM - 12:15 PM)

Room A: Wild Salmon and Food for Wild Salmon

10:45	Kaitlyn Zinn	Mechanisms impacting the short-term survival of released Chinook salmon in Barkley Sound
11:00	Ian Clevenger	The current relevance of creekwalking
11:15	Dan Scurfield	Advances in Passive Integrated Transponders and novel applications
3 minute presentations		
11:45	Michelle Douglas	Environmental Data and Decision-making in Fraser River Sockeye Fisheries
	Samantha Rhodes	Examining the Estuary: Investigating habitat use of juvenile sockeye salmon on the Lower Fraser River
	Sophie Watson	Who Will Survive?: Investigating Overwintering Success in Juvenile Sockeye
12:00 PM	Alexandra Munday	Ecological Risk Management in BC Salmon Hatcheries
	Loic Dallaire	SHSI : A novel index for Pacific Herring spawning detection
	Jake Dingwall	Investigating the Impact of Stressors on Pacific Herring Spawning Dynamics
	Grace Melchers	Employing Environmental DNA to Resolve Spatial Differences in Marine Biodiversity

Poster Session – Rix Main – 6:45-8:30 PM

Giselle Dove	Evolution of the transitional retina in the young sablefish
Sarah Rozanski	Understanding controls on nutrient cycling in aquatic ecosystems
Natalie Butler	Assessing effects of acclimation temperature on thermal tolerance of stream-type juvenile Chinook salmon (<i>Oncorhynchus tshawytscha</i>) under ecologically relevant temperatures
Cormac Toler-Scott	Exploring sea spider (pycnogonida) species diversity in British Columbia
Chloe Nicholls	Investigating Behavioural Patterns in Ringed Seal Calls Through Acoustic Analysis
Heather Gordon	Mesozooplankton in the Lazarev Sea: Community structure and spatiotemporal dynamics
Carter Butlake	Managing a tue'up Garden
Paula Mali	Female-female socialization and cohabitation in intertidal jumping spiders (<i>Terralonus californicus</i>)
Dana Halay	Understanding Trophic Dynamics in a Canadian Freshwater Jellyfish <i>Craspedacusta sowerbii</i> Population Through Zooplankton Analysis
Rebecca Krohman	Hypoxia and heat stress on heart characteristics of <i>Corella tunicates</i>
Maya Persram	Reconnecting salmonid habitats at watershed scales using spatial conservation tools
Joan Moreaux	You are what you eat: Humpback whale diet composition in the Strait of Georgia
Michael Clark	Female Meiotic Drive and its Effect on Nondisjunction
Lucas Silva	Self-Grooming in <i>Aedes aegypti</i> exposed to formulated <i>Metarhizium humberi</i> Conidia

Room C: Climate Change and Changing Distributions (continued)

12 minute presentations

2:00	Elizabeth Oishi	Outdoing the locals: comparative functional response experiments reveal the mechanisms underpinning invasive predator success
2:15	Eva MacLennan	Intertidal communities and stoichiometry on natural and artificial urban reefs

Afternoon Presentation Break - 2:30 - 6:00 PM

3:00 - 5:00 PM	Workshop Room B	The Living Data Project: Creating teaching resources that leverage the power of open data in combination with R programming language. Led by Margaret A. Slein, O'Connor Lab, UBC
2:45 - 6:00 PM	Brady's Beach/West Bamfield	Meet on the foreshore for boat shuttles which will be leaving 2:30 to 3:30, return boat shuttle from West Side dock when ready from 5 to 6 pm.
2:45 - 3:15 PM	Nova Harvest Tour	Meet outside Buchanan for the short walk to Nova Harvest for a tour. Nova Harvest Ltd. is an aquaculture company that applies innovative, science-based solutions to support the development of a sustainable shellfish industry in BC, located next to BMSC. (www.novaharvest.com)

Dinner BMSC Cafeteria 6:00-7:00 PM

Room C: Birds, Bugs and Beyond

10:45	Asim Renyard	Seasonal patterns of macronutrient collection and proximate mechanisms of foraging ants
11:00	Claire Gooding	Ticks utilize soil-dwelling fungi as indicators of suitable resting sites
11:15	Sandhyarani Siddamsetty	Effects of Rhizobium and Caballeronia sordidicola Inoculation on Growth and Nitrogen Fixation of Intercropped Field Pea and Poplar
11:30	Genavieve Desjardin	Life history tradeoffs in Harmonia axyridis

3 minute presentations

11:45	Anna Linton	Robbing behaviour of bald eagles
	Kyra Rolfe	On a collision course: reconciling wind and wildlife futures
	Raven Barbera	Egg Size Variation and Lifetime Reproductive Success in European Starlings
12:00 PM	Andrew Racz	Unraveling seasonal growth and fatty acid changes in estuarian biofilm
	Shab Molan	COVID-19 variant wave dynamics
	Richita Goli	Evaluation of Endophytic bacterial strains for plant growth and development in Pine and Spruce

Room A: Fisheries and Aquaculture

1:15 PM	Denman Moody	Barnacle-infested Yesso scallops: Shell colour and microbiome as potential influences
1:30	Joana Dutilh De Capitani	What happens to marine biota after we stop bottom trawling
1:45	Korrina Gichrist	Yesso scallop larval rearing: microbiome and husbandry practices
2:00	Joseph Nolan	Measures of Smoltification in Aquaculture Chinook Salmon

3 minute presentations

2:15	James Dennis-Orr	Investigating the Impacts Early Microbiota Disruption have on Pacific oyster, Crassostrea gigas, Survivorship against Bacterial Inoculation of Vibrio spp
	Samuel Detillieux	Microbiome Enrichment, Host Genetics, and Long-Term Resilience of Pacific Oysters

Lunch Break BMSC Cafeteria - 12:15 - 1:15 PM



Room C: Climate Change and Changing Distributions

3 minute presentations

1:15 PM	Megan Duchesne	Fit the bill: Rapid adaptation in a changing community
	Elliot Porcher	Is colour a good metric of stress in coralline algae?
	Alexandra Wiebe	Identification of the loci involved in ocean acidification resistance in Pacific oysters (<i>Crassostrea gigas</i>)
1:30	Brooke Chapman	Ocean acidification influences gene expression in 'resilient' and 'susceptible' lineages of late life-history stage Pacific oysters (<i>Crassostrea gigas</i>)
	Kiara Kattler	Disparity between acclimation rates in climate change experiments and predicted rates of ocean warming
	Zoe Penno	Investigating Terrestrial Predation in the Intertidal Zone
1:45	Lucy Burns	Arctic Lake Methane Cycling: Whos Who?
	Breanna Lambert	Understanding Trophic Dynamics in a Canadian Freshwater Jellyfish <i>Craspedacusta sowerbii</i> Population Through Zooplankton Analysis
	Codey Reumkens	Ecology of two <i>Haematoloechus</i> spp. in Invasive Bullfrogs on Vancouver Island