

Emily M. Adamczyk

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Research interests: Temporal and spatial variation of invertebrate and microbial diversity in eelgrass ecosystems.

EDUCATION

- 2022 **University of British Columbia**, PhD in Zoology
Dissertation: Effects of human activities, environment, and time on eelgrass-associated epifaunal communities
Advisors: Mary I. O'Connor and Laura Wegener Parfrey
Specializations: Marine ecology, intertidal and subtidal fieldwork, experimental design, project management, taxonomy, metagenomics, molecular techniques, bioinformatics, data wrangling and management, statistical analyses
- 2014 **University of California, San Diego**, MSc in Biology
Thesis: Effects of food web interactions and climate on $p\text{CO}_2$ in San Diego Reservoirs.
Advisor: Jonathan Shurin
Specializations: Aquatic ecology, lake and alpine fieldwork, taxonomy, light and fluorescence microscopy, water quality assessment, carbon/nitrogen analyses
- 2013 **University of California, San Diego**, BSc in General Biology, minor in Music
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COLLABORATIVE RESEARCH POSITIONS

- May – Sept 2018 **UBC BRITE Internship**. University of British Columbia in partnership with Parks Canada.
- Collaborated with scientists from Parks Canada, Department of Fisheries and Oceans, Florida State University, the Hakai Institute, Council of the Haida Nation, and Pacific Urchin Harvest Association on the Chii̱xuu Tll iinasdll (Nurturing Seafood to Grow) kelp forest restoration project in Gwaii Haanas National Park Reserve, Haida Gwaii
 - Developed and implemented multiple experiments (via SCUBA) to determine the short and long-term ecological effects of culling sea urchins
- Skills gained: Experimental design, data management (>1TB video data), video analysis, conservation and restoration ecology workflow, remote subtidal fieldwork
- 2018 – 2020 **Eelgrass wasting disease experiments**. University of British Columbia in Partnership with Cornell University and Friday Harbor Labs.
- Collaborated with scientists from Cornell University to understand the interactions of the protist pathogen *Labyrinthula zosterae* (causative agent of eelgrass wasting disease) and the eelgrass microbiome
- Skills gained: Experimental design, metagenomics, molecular techniques, bioinformatics
- August 2017 **Eelgrass nutrient indicator survey**. University of British Columbia in partnership with the Canadian Healthy Oceans Network (II).
- Led a team to sample 5 intertidal eelgrass meadows throughout Vancouver Island, BC, for invertebrate biodiversity surveys, eelgrass wasting disease monitoring, and collected shoots for carbon, hydrogen, and nitrogen analysis
- Skills gained: Project management, sampling protocol development, data management

- 2016 – 2018 **Eelgrass-associated invertebrate biodiversity surveys.** University of British Columbia in partnership with the Hakai Institute.
- Led a team to collect eelgrass samples from 6-10 subtidal meadows near Calvert Island, BC as part of a long-term monitoring project
- Skills gained: Project management, sampling protocol development, remote subtidal fieldwork, data management, dive accident management implementation, beach seining
- August 2016 **Comparative study between eelgrass communities of British Columbia and Japan.** University of British Columbia in partnership with Hokkaido University (Akkeshi Marine Station).
- Collaborated with a team to collect eelgrass from 5 intertidal meadows in Hokkaido, Japan, to compare with eelgrass-associated invertebrates and fish to fauna in BC
- Skills gained: Intertidal fieldwork, small-scale trawling, taxonomy
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PEER-REVIEWED PUBLICATIONS

- Adamczyk, E. M.,** O'Connor, M. I., Parfrey, L. W. Seagrass (*Zostera marina*) transplant experiment reveals core microbiota and resistance to environmental change. *Molecular Ecology*. doi.org/10.1111/mec.16641
- Ito, M. A., Namba, M., **Adamczyk, E. M.,** O'Connor, M. I., Nakaoka, M. Combination of interspecific and intraspecific comparisons revealed significant trait changes for non-native seagrass. *Submitted*.
- Graham, O. J., **Adamczyk, E. M.,** Schenk, S., Dawkins, P., ... Parfrey, L. W., Harvell, C. D. The role of the eelgrass microbiome in mediating risk of seagrass wasting disease. *Submitted*.
- Simon, A. D. F., **Adamczyk, E. M.,** ...Starzomski, B. M. Toward an atlas of Salish Sea biodiversity: the flora and fauna of Galiano Island, British Columbia, Canada. Part I. Marine zoology. *Biodiversity Data Journal*. doi.org/10.3897/BDJ.10.e76050
- Elias, M., Kandel, M., Mansourian, S., Meinen-Dick, R., Crossland, M., Joshi, D., Kariuki, J., Lee, L. C., McElwee, P., Sen, A., Sigman, E., Singh, R., **Adamczyk, E. M.,** ... Winowiecki, L. 2021. Ten people-centered rules for socially sustainable ecosystem restoration. *Restoration Ecology*. doi.org/10.1111/rec.13574
- Lee, L. C., McNeill, D., Ridings, P., Featherstone, M., Okamoto, D. K., Spindel, N. B., Galloway, A. W. E., Saunders, G. W., **Adamczyk, E. M.,** Reshitnyk, L., Pontier, O., Post, M., Irvine, R., Wilson, N., Bellis, V. 2021. Chiixuu TII iinasdll: Indigenous ethics and values lead to ecological restoration for people and place in Gwaii Haanas. *Ecological Restoration*. doi.org/10.3368/er.39.1-2.45
- Murphy, G. E P., Dunic, J. C., **Adamczyk, E. M.,** Bittick, S. J., Côté, I. M., Cristiani, J., Geissinger, E. A., Gregory, R. S., Lotze, H. K., O'Connor, M. I., Araújo, C. A. S., Rubidge, E. M., Templeman, N. D., and M. C. Wong. 2021. From coast to coast to coast: Ecology and management of seagrass ecosystems across Canada. *FACETS*. doi.org/10.1139/facets-2020-0020
- Stark, K. A., Thompson, P. L. Yakimishyn, J., Lee, L., **Adamczyk, E. M.,** Hessing-Lewis, M., O'Connor, M. I. 2020. Beyond a single patch: local and regional processes explain diversity patterns in a seagrass epifaunal metacommunity. *MEPS*. doi.org/10.3354/meps13527
- Segovia, B. T., Sanders-Smith, R., **Adamczyk, E. M.,** Forbes, C., Hessing-Lewis, M., O'Connor, M. I., Wegener Parfrey, L. 2020. Microeukaryotic communities associated with the seagrass *Zostera marina* are spatially structured. *Journal of Eukaryotic Microbiology*. doi.org/10.1111/jeu.12827
- Iacarella, J. C., **Adamczyk, E.,** ...Baum, J. K. 2018. Anthropogenic disturbance homogenizes seagrass fish communities. *Global Change Biology*. doi:10.1111/gcb.14090
- Adamczyk, E. M.** and J. B. Shurin. 2015. Seasonal changes in plankton food web structure and carbon dioxide flux from Southern California reservoirs. *PLoS ONE* 10(10): e0140464. doi:10.1371/journal.pone.0140464
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TECHNICAL REPORTS

Nagel, E. J., Murphy, G., Fast, J., Bittick, S. J., **Adamczyk, E. M.**, O'Connor, M. I., Wong, M. C., Lotze, H. K. 2021. Application of a coastal human impact metric and nitrogen loading model to ten eelgrass (*Zostera marina*) meadows in British Columbia.

SELECTED TALKS AND PRESENTATIONS

- Lee, L.C., Okamoto, D. K., Galloway, A.W. E., Spindel, N.B., **Adamczyk, E. M.**, Bellis, V. 2020. Chiixuu Tll iinasdll: Nurturing seafood to grow in Gwaii Haanas. *Parks Canada Gwaii Haanas Speaker Series*.
- Adamczyk, E.M.**, O'Connor, M.I., and L.W. Parfrey. 2019. Eelgrass transplant experiment reveals insight to microbial community assembly. *100th Annual Meeting of the Western Society of Naturalists*.
- Adamczyk, E.M.** 2019. Kelp forest restoration in Gwaii Haanas, Haida Gwaii. *UBC Biodiversity Legendary Internal Seminar Series*.
- Adamczyk, E. M.**, and M. I. O'Connor. 2018. Seasons of seagrass: Seasonal and temporal dynamics of *Zostera marina* communities. *99th Annual Meeting of the Western Society of Naturalists*.
- Adamczyk, E. M.**, and M. I. O'Connor. 2018. Identifying human impacts on eelgrass faunal biodiversity in British Columbia, Canada. *4th World Conference on Marine Biodiversity*.
- Adamczyk, E. M.**, M. L. Campbell, and M. I. O'Connor. 2017. Identifying human impacts on eelgrass faunal biodiversity in Barkley Sound, Vancouver Island. *Canadian Society for Ecology & Evolution Meeting*.
- Adamczyk, E. M.** and M. I. O'Connor. 2016. A stitch in time: Weaving together species interactions in the Salish Sea. *Salish Sea Ecosystem Conference*.
- Adamczyk, E. M.** and J. B. Shurin. 2014. Impacts of seasonal variation in trophic interactions and climate on carbon dioxide flux from San Diego reservoirs. *99th Annual Meeting of the Ecological Society of America*.
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INVITED WORKSHOPS AND WORKING GROUPS

- 2019 **IMERSS Visioning Retreat, Galiano Island, BC, Canada**
- Collaborated with naturalists and scientists throughout the Salish Sea to establish a community-based research institute on Galiano Island, BC.
- 2017 **Workshop, ZEN (Zostera Experimental Network) Seagrass Phenology, Vancouver, BC, Canada**
- Collaborated with scientists from Canada, Japan, USA, and Sweden to gather for data and information to write a manuscript on *Zostera marina* community phenology based on the Plankton Ecology Group model (Sommer et al. 1986)
- 2017 **COMPASS and Data Management workshop, CHONe II Meeting, Gatineau, QC, Canada**
- Participated in COMPASS (Communication Partnership for Science and the Sea) training in how to communicate science to the general public and refreshed data management skills in R (tidyverse packages).
- 2016 **Workshop, CHONe II / DEVOTES Indicators Workshop, Montreal, QC, Canada**
- Worked with other CHONe II students during DEVOTES training to better understand the effects of human activities and climate on marine ecosystems and biodiversity by assessing and selecting biological indicators.
- 2016 **Workshop, Eelgrass Faunal Monitoring, Victoria, BC, Canada**
- Collaborated on a BC-wide eelgrass fish and invertebrate survey network between multiple universities, Parks Canada, DFO, and various NGOs to assess the impact of human activities on eelgrass communities. *Manuscript published in Global Change Biology*.

- 2015, **Research Exchange, Hakai Institute Research Exchange, Nanaimo, BC, Canada**
- 2016 • Participated in a symposium where Hakai researchers and associate scientists presented current research on Calvert and Quadra Island, BC.
- 2016 **Workshop, Seagrass BC, Victoria, BC, Canada**
- Participated in a meeting with university researchers, DFO, Parks Canada, citizen scientists, and NGOs and discussed areas of collaboration between seagrass scientists throughout BC.
- 2015 **Network Meeting, NSERC Strategic Research Program - Canadian Healthy Oceans Network (CHONe II), Montreal, QC, Canada**
- Participated in the first CHONe II meeting with researchers and government scientists (39 researchers from 11 Canadian universities and multiple federal research labs) and discussed various projects, collaboration opportunities, and deadlines for deliverables.
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LEADERSHIP

- 2021 – present **IMERSS Board of Directors – Chair**, Galiano Island, BC
- 2020 – 2021 **IMERSS Marine Ecology Research Coordinator**, Galiano Island, BC
- 2020 – 2021 **IMERSS Communications Co-Coordinator**, Galiano Island, BC
- 2019 – present **Steering committee member for IMERSS** (Institute for Multidisciplinary Ecological Research in the Salish Sea), Galiano Island, BC
- 2017–2018 **Co-President of the UBC Zoology Graduate Student Association**, Vancouver, BC
- 2017–2018 **Social Media Co-coordinator, 2018 World Conference on Marine Biodiversity**
Montreal, QC
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OUTREACH AND PUBLIC TALKS

- 2021 **Science Odyssey: Human Science Library**, Symbiosis BC virtual mentoring event (1.5 hrs)
- 2019 **Marine ecology interpreter**, Galiano Island BioBlitz
Montague Harbor, Galiano Island, BC (4 hrs)
- 2019 **Open Science Network Mentor**, STEM Mentoring Event, David Thompson Secondary School, Vancouver, BC (4 hrs)
- 2019 (Invited) **YEET! Youth Innofest (Youth Exploration and Experimentation in Technology)**, “Community Ecology: Food webs and stable isotopes” (2.5 hrs)
New Westminster, BC
- 2019 (Invited) **Open Science Network public talk**, “Diving into seagrass: Exploring BC’s coastal marine biodiversity”, Vancouver, BC
- 2018, 2019 **Open Science Network Mentor**, STEM Mentoring Cafe, UBC Faculty of Pharmaceutical Sciences, Vancouver, BC (4 hrs)
- 2018 **Eelgrass ecosystem interpreter**, Gwaii Haanas Beach Walk
Haida Heritage Centre, Skidegate, Haida Gwaii, BC (3 hrs)
- 2018 (Invited) **Nature Vancouver – Marine Biology Section public talk**, “Seagrass ecosystems: Exploring marine biodiversity along BC’s coast”
Vancouver, BC
- 2018 (Invited) **Wonders of the Salish Sea public talk**, “Seagrass ecosystems in the Salish Sea”
Vancouver, BC
- 2017, 2018 **Open Science Network Mentor**, STEM Mentoring Event, Templeton Secondary School, Vancouver, BC (8 hrs)

- 2017 **‘Way Cool’ public talk**, “*Seagrass meadows are way cool because...*”
Beaty Biodiversity Museum at UBC, Vancouver, BC
- 2017 (Invited) **Co-leader - Eelgrass Citizen Science Workshop**, Friends of Semiahmoo Bay
White Rock, BC (4 hrs)
- 2017 **Public Outreach Volunteer**, Canadian Society for Ecology & Evolution (CSEE)
Victoria, BC (4 hrs)
- 2016 – 2021 **Science Fair Judge**, Greater Vancouver Regional Science Fair
University of British Columbia, Vancouver, BC (36 hrs)
- 2013 – 2015 **Aquarist Assistant**, Birch Aquarium at Scripps Institution of Oceanography
University of California, San Diego (250 hrs)

FELLOWSHIPS AND AWARDS

- 2019 University of British Columbia – Zoology Graduate Fellowship
2017 Women Divers Hall of Fame – Marine Conservation Scholarship
2015 University of British Columbia – Four Year Doctoral Fellowship

TEACHING AND MENTORING EXPERIENCE

Teaching Assistant

- Winter 2021 **UBC**, BIOL 140, Laboratory Investigations in Life Science
2020, 2021, 2022 **UBC**, MICB 447, Experimental Microbiology
2016, 2017, 2019 **UBC**, BIOL 402, Aquatic Ecology
Spring 2014 **UCSD**, BIEB 176, Conservation and the Human Predicament
Winter 2014 **UCSD**, BILD 3, Organismic and Evolutionary Biology
Fall 2013 **UCSD**, BIEB 102, Introductory Ecology – Organisms and Habitat

Guest Lecturer

- 2020 **University of British Columbia**, Aquatic Ecology
2020 **Quest University**, Community Ecology
2018, 2019, 2020 **Cornell University**, CORALS microbial community ecology section

Mentor

- 2020 – 2021 **IMERSS** Community Development Leaders (3 leaders)
2016 – present **UBC** Undergraduate Research Assistants (11 students); O’Connor and Parfrey labs
2014 – 2017 **UCSD Preuss School** High school student
2014 **UCSD** Undergraduate Research Assistants (5 students); Shurin Lab
2013-2014 **UCSD** BSc Environmental Systems intern (Co-advised by Dr. Jonathan Shurin)

CERTIFICATES AND QUALIFICATIONS

- SCUBA diving** *In the process of obtaining Canadian commercial diving certification*
- 2017 CAUS Level II (Qualified in Vancouver, BC)
Total dives >20m: 4
Total dive hours: 2
- renewed 2022 CAUS Level I (Qualified in Vancouver, BC)
2016, 2018 *Total dives <20m: 146*
Total dive hours: 107
- renewed 2022 Dive Accident Management
2016, 2018
- 2016, renewed 2022 Divers Alert Network– CPR/First Aid/AED/Emergency Oxygen

- 2013 PADI Rescue (Certified in San Diego, CA)
- 2012 PADI Enriched Air (Certified in San Diego, CA)
- 2010 PADI Advanced (Certified in Los Angeles, CA)
- 2009 PADI Open Water (Certified in Los Angeles, CA)

Technical skills

Advanced (5+ years):

R, git, Office, GSuite including Google Cloud products

Intermediate (1-3 years):

Adobe Illustrator and Photoshop

Beginner (6 months – 1 year):

QGIS, QIIME2

Languages

English (Mother tongue)

Spanish (Intermediate conversational)

German (Beginner conversational)

Other

Class 5 Canadian Driver's License and Vehicle

2022 Avalanche Safety Training (AST-1+) – Canada West Mountain School

2020 Safe Sport Training – Coaching Association of Canada

2017 Canadian Red Cross – Wilderness & Remote First Aid