BETH A. LAWRENCE

University of Connecticut Department Natural Resources & Environment Center for Environmental Science & Engineering

EDUCATION

- University of Wisconsin-Madison, Botany, Ph.D., 2011
- Oregon State University, Botany and Plant Pathology, M.S., 2005
- Cornell University, Natural Resources, B.S. Magna Cum Laude, 2001

PROFESSIONAL EXPERIENCE

- Associate Professor; Department of Natural Resources & the Environment, Center for Environmental Science & Engineering, University of Connecticut, Storrs, Connecticut (2022present)
- Assistant Professor; Department of Natural Resources & the Environment, Center for Environmental Science & Engineering, University of Connecticut, Storrs, Connecticut (2016-2022)
- Assistant Professor; Department of Environmental Science and Studies, DePaul University, Chicago, Illinois (2012- 2015)
- Postdoctoral Research Assistant; Center for Urban Environmental Research & Policy, Loyola University Chicago, Chicago, Illinois (2011-2012)
- Graduate Teaching Assistant; Oregon State University, University of Wisconsin-Madison (2005-2010)
- Research Technician & Field Crew Leader; Institute for Applied Ecology, Corvallis, Oregon (2002-2003)
- Biological Control Intern; CABI Bioscience, Delémont, Switzerland (2001)
- National Science Foundation (NSF) Research Experience for Undergraduates; Institute for Ecosystem Studies (2000)

AWARDS AND HONORS

- Excellence in Teaching Award (2023); University of Connecticut, College of Agriculture Health and Natural Resources Alumni (UCAHNRA)
- Society for Wetland Scientists 2022 Outstanding Educator Award
- Research Mentorship Excellence Award (2021); University of Connecticut, Office of Undergraduate Research
- Research Excellence Program (2021); University of Connecticut, Office of the Vice Provost for Research
- Early Career Teaching Excellence Award (2020); University of Connecticut, American Association of University Professors
- Provost's Letter of Commendation for Teaching Excellence (Fall 2016, Spring 2017, Fall 2018, Spring 2019, Fall 2020); University of Connecticut
- Best Student Oral Presentation (2009); Society for Wetland Scientists
- NSF Doctoral Dissertation Improvement Grant (2008)
- NSF Graduate Research Fellow (2003-2008)
- NSF Interdisciplinary Graduate Education Research Trainee (IGERT), Biodiversity Conservation and Sustainable Development in Southwest China (2006-2007)
- Best Student Oral Presentation; Society for Ecological Restoration (2005)

- Morris K. Udall Scholar, Excellence in National Environmental Policy (2000)

TEACHING EXPERIENCE

University of Connecticut courses taught (Instructor of record; semester system)

- ENVS 2000, Integrating Humans and the Environment (6 courses)
- NRE 3105, Wetland Biology and Conservation (5 courses)
- NRE 4094, Senior Seminar (2 courses)
- NRE 5695/5390, Advanced Wetland Ecology (4 courses)

DePaul University courses taught (Instructor of record; quarter system)

- Introduction to Environmental Science lecture (4 courses)
- Introduction to Environmental Science lecture w/ lab (4 courses)
- Environmental Data Analysis (2 courses)
- Environmental Literature Seminar (4 courses)
- Plant Identification (2 courses)
- Conservation Biology (4 courses)

<u>Teaching Assistant</u> (as a graduate^{*} or undergraduate^{*} student)

- *Ecology, Genetics, and Evolution; University of Wisconsin (UW)-Madison (3 courses)
- *Midwestern Ecological Issues- online course; UW-Madison (1 course)
- *Introductory Biology; UW-Madison (1 course)
- *Introductory Biology; Oregon State University (1 course)
- **Field Biology; Cornell University (1 course)

Teaching Innovations

- Collaborated with regional high school teachers to develop and disseminate a multi-media climate change teaching module that meets Next Generation Science Standards in a format that allows easy adoption by high school teachers throughout the region.
 - Cambrial, C, Lawrence, BA, Williams, K. 2020. Teaching module: Impacts of climate change on Long Island Sound salt marshes https://climate.uconn.edu/tools-assistance/teachers/
- Developed a case study on impact of sea level rise on coastal Connecticut for National Center for Case Study Teaching in Science database.
 - Lawrence, B.A., Field, C. Case study: The polar bear of the salt marsh? 2018. National Center for Case Study Teaching in Science collection: <u>https://www.nsta.org/ncss-casestudy/polar-bear-salt-marsh</u>

GRANTS

External Funding:

Current projects

- CT Sea Grant. \$150,000. Leveraging sediment addition experiments across the Long Island Sound to examine medium-term ecosystem responses. B. Lawrence (PI), C. Elphick, A. Helton, M. Huang. 2024-2026.
- USDA NIFA- Hatch. \$60,000. Ecosystem service tradeoffs in beaver-created wetlands across southern New England landscapes. B. Lawrence (PI), A. Helton. October 1, 2023-September 30, 2026.
- EPA Long Island Sound Study: Testing the effects of vegetation on saltmarsh ecology, services, and restoration success: from microbial ecology and biogeochemistry to wildlife conservation.

\$909,748. C. Elphick, **B. Lawrence (Co-PI)**, A. Helton, B. Steven, M. Huang. March 2023- Feb 2025.

- USDA Natural Resource Conservation Service- Conservation Improvement Grant: \$87,282.
 Biochar application strategies to optimize soil health and resiliency of organically-amended Connecticut agricultural soils. H. Gan, K. Guilard, B. Lawrence (Co-PI). October 1, 2021-September 30, 2023.
- Environmental Protection Agency- Long Island Sound Study. \$470,969. Evaluating thin layer placement in Long Island Sound marshes using a multi-scale approach. **B. Lawrence (PI), C.** Elphick, A. Helton, M. Huang. March 1, 2021- February 28, 2024.
- US Department of Agriculture (USDA) National Institute of Food and Agriculture (NIFA)-National Needs Fellowship. \$246,000. Training forest resources graduates for an exurban forest future. R. Fahey, A. Helton, B. Lawrence (Co-PI), M. McKinney, A. Morzillo, C. Rittenhouse, T. Rittenhouse, J. Vokoun, T. Worthley (Co-PIS). April 2020- March 2025.
- USDA NIFA- Hatch. \$60,000. Ecological restoration of commercial cranberry bogs: quantifying environmental outcomes in southern New England. **B. Lawrence (PI)**, C. Neill, J. Parent. October 1, 2019-September 30, 2023.

External proposals in review

- NSF NRT-HDR: Convergence Environmental Research and Graduate Education (ConvERGE): Fostering a paradigm shift to detect and anticipate environmental change. \$3,000,000. A. Helton, J. Knighton, B. Lawrence (Co-PI), A. Morzillo, C. Rittenhouse. September 2024- Dec 2028 (submitted Sept 2023)
- NSF MSB-NES: Collaborative Proposal: Using the past, present, and the future to investigate influences of global change agents on tree reproduction across the boreal forest. \$1,800,000. J. LaMontagne, B. Lawrence (Co-PI), M. Lucash. July 2024- December 2028 (submission planned Nov 13, 2023)

Prior external funding

- US Fish & Wildlife Service- Coastal Program. \$43,935. Starving for sediment: How do differential sediment levels effect coastal wetland restoration outcomes? Lawrence, B (PI). January 1, 2020- December 31, 2022.
- Illinois Tollway. \$298,000. Remediating runoff and creating renewable energy by harvesting invasive plants from Illinois Tollway detention basins **B. Lawrence (PI)**, S. Lishawa, D. Monks. May 7, 2019- November 6, 2022.
- USDA NIFA- McIntire-Stennis. \$44,028. Quantifying ecosystem services of forested wetlands in Connecticut. **B. Lawrence (PI)**, October 1, 2016- Sept. 30, 2021.
- EPA- Long Island Sound Study/ Connecticut Sea Grant, (with 25% match from Connecticut Institute for Resilience & Climate Adaptation -CIRCA). \$317,828. How will sea level rise-driven shifts in wetland vegetation alter ecosystem services? B. Lawrence (PI), A. Helton, C. Elphick (Co-PIs). March 1, 2017- February 28, 2020.
- Connecticut SeaGrant. \$2,981. Translating climate science to high school audiences: developing a regionally relevant climate change module for southern New England. **B. Lawrence (PI)**. November 30, 2018- September 1, 2019.
- US Geological Survey- Connecticut Institute of Water Resources. \$25,791. Quantifying road salt impacts on forested wetland structure and function in Eastern Connecticut. **B. Lawrence (PI)**, G. Robbins (Co-PI). March 1, 2018- February 28, 2019.

- EPA Great Lakes Restoration Initiative, \$649,695. Increasing biodiversity and habitat complexity in invaded wetlands. S. Lishawa (PI), N. Tuchman, D. Albert, A. Shrank, N. Reo, E. Clark, **B. Lawrence** (Co-PIs). 2016-2018.
- EPA Great Lakes Restoration Initiative, \$499,728. Furthering capacity to maintain high quality coastal wetlands in N. MI." S. Lishawa (PI), N. Tuchman, D. Albert, R. Zimmerman, B. Lawrence, K. Nadelhoffer (Co-PIs). 2014- 2017.

Internal Funding

University of Connecticut

- Center for Environmental Science & Engineering Faculty MiSER Grant. \$2000. How sweet is it? Quantifying the sugar signature of dominant salt marsh grass root exudates under changing environments. Nov 2022-May 2023.
- CAHNR Equipment Grant. \$27,407. Modernization of Outdoor Field Instruments for Natural Resources Undergraduate Education. Knighton, J., Helton, A., **B. Lawrence**, Ortega, M., Ren, W., Rittenhouse, T. Spring 2023.
- Office of the Vice Provost of Research (OVPR)- Research Excellence Program. \$25,000. Examining the role of plants on the pathways of sediment organic matter stabilization and mineralization in experimental wetlands. **Lawrence, B. (PI).** July 2021-June 2022.
- College of Agriculture Health and Natural Resources Equipment Grant, Portable Mass Spectrometer: \$47,500. Helton, A. (PI), Lawrence B. (Co-PI), Knighton, J. May 2022
- College of Agriculture Health and Natural Resources Equipment Grant, Unmanned Aerial System; \$61,230. Witharana, C. (PI), Meyer, T., Helton, A., Lawrence, Zhu, Z., Lawrence, B., Fahey, R., Concklin, M. (Co-PI-s). May 2021.
- College of Agriculture Health and Natural Resources Equipment Grant, ThermoFisher Gallery Discrete Analyzer, \$52,671. Helton, A. (PI), **Lawrence, B.**, Guillard, K., Brandt, J., Knighton, J. (Co-PI-s), May 2020.
- Connecticut Institute for Resilience and Climate Adaptation's (CIRCA) Matching Funds Program, \$79,458. How will sea level rise-driven shifts in wetland vegetation alter ecosystem services? **B. Lawrence (PI)**, A. Helton, C. Elphick (Co-PIs). 2017-2019
- Center for Environmental Science & Engineering Faculty Mini-Grant, \$2269.20. Do *Typha* management treatments alter net carbon balance in invaded Great Lakes coastal wetlands? B. Lawrence (PI), 2016-2017
- OVPR/AAUP Faculty Travel Awards, \$2000/year. 2017-2022

DePaul University

- Provost's Collaborative Research Fellowship Program, \$5000. What drives reproductive variability among individual trees? Testing the role of soil nutrients. LaMontagne (PI), **B.** Lawrence (Co-PI), 2015-2016.
- College of Science and Health Undergraduate Summer Research Program, \$1250. Greenhouse gas flux response to *Typha x glauca* management treatments in Great Lakes coastal wetlands. **B. Lawrence** (**PI**), 2015
- University Research Council, \$3500. Carbon storage and accrual rates in Great Lakes coastal wetlands. **B. Lawrence (PI)**, 2013- 2015
- College of Science and Health- Undergraduate Research Assistant Program, \$1350. How do plant functional traits modulate methane flux from wetlands? **B. Lawrence (PI)**, 2013

<u>Graduate School Research Funding</u> (2003-2010) External funds

- NSF Doctoral Dissertation Improvement Grant, \$15,000. Carbon cycling in *Carex stricta* dominated wetlands. J. Zedler (PI), B. Lawrence (Co-PI) (2008-2010)
- NSF Interdisciplinary Graduate Education Research Trainee, \$30,000. Biodiversity Conservation and Sustainable Development in Southwest China. (2006-2007)
- NSF Graduate Research Fellowship. \$90,000 (2003-2008)
- The Wetlands Foundation Travel Award (2008)
- Native Plant Society of Oregon Field Research Grant (2004)
- Ecological Society of America Plant Population Ecology Travel Grant (2004)

Internal funds

- ON and EK Allen Fellowship; UW- Madison, Botany Department (2009)
- Davis Foundation Research Grant; UW-Madison, Botany Department (2007, 2009)
- Raper Travel Award; UW-Madison, Botany Department (2007, 2008, 2010)
- Anita Summers Travel Grant; Oregon State University, Botany & Plant Pathology Department (2005)
- Bonnie C. Templeton Award for Plant Systematics; Oregon State University, Botany & Plant Pathology Department (2004)

PUBLICATIONS

Peer-reviewed journal articles (35) ** undergraduate/* graduate student

- *Barry, A, Ooi SK, Elphick, C. Helton, A, Steven, B, Lawrence, BA. 2023. Carbon dynamics vary among tidal marsh plant species in a sea-level rise experiment. Wetlands 43(7), p.78. <u>https://doi.org/10.1007/s13157-023-01717-z</u>
- Monks, A., Lishawa, S.C., Ohsowski, B.M., Schurkamp, S., Lawrence, BA. 2023. Complementarity of invasive *Typha* and *Phragmites* uptake and harvest of road salt and heavy metal pollutants in urban wetland detention basins. Ecological Engineering 194: 107058. https://doi.org/10.1016/j.ecoleng.2023.107058
- 3. Ochoa-Hueso et al. (>75 co-authors, including Lawrence, BA). 2023. The bioavailability and coupling of macro and micronutrients across global topsoils is driven by environmental context and atomic properties, but is altered by global change. Global Biogeochemical Cycles 37(6). https://doi.org/10.1029/2022GB007680
- Lishawa, S., Schrank, A., Lawrence, B., Monks, A., Albert, D. 2023. Aquatic connectivity treatments increase fish and macroinvertebrate utilization of *Typha* invaded Great Lakes coastal wetlands. Freshwater Biology 68(8) p. 1462-1477. <u>https://onlinelibrary.wiley.com/doi/10.1111/fwb.14141</u>.
- 5. *Puchkoff, A.L. and Lawrence, B.A., 2023. Corrigendum to "Experimental sediment addition in salt-marsh management: Plant-soil carbon dynamics in southern New England" [Ecological Engineering 175 (2022) 106495]. *Ecological Engineering*, *187*, p.106849.
- 6. *Ooi, SK, *Barry, A, **Lawrence, BA**, Elphick, CS, Helton AM. 2022. Vegetation zones as indicators of denitrification potential in salt marshes. Ecological Applications p.e2630. https://doi.org/10.1002/eap.2630
- *Puchkoff, A., Lawrence, BA. 2022. Experimental sediment addition in salt-marsh restoration: plant soil carbon dynamics in southern New England. Ecological Engineering 175, p. 106495. <u>https://doi.org/10.1016/j.ecoleng.2021.106495</u>
- 8. *Walker, S, Robbins, G., Helton, A., **Lawrence, BA**. 2021. Road salt inputs alter biogeochemistry but not plant community composition in exurban forested wetlands.

Ecosphere 12 (11):e03814. http://doi.org/10.1002/ecs2.3814

- 9. ^{*}Johnson, O., ^{**}Panda, A., Lishawa, S., **Lawrence, BA**. 2021. Repeated large-scale mechanical treatment of invasive *Typha* under increasing water levels promotes floating mat formation and wetland methane emissions. Science of the Total Environment https://doi.org/10.1016/j.scitotenv.2021.147920
- *Barry, A., *Ooi, S.K., Steven, B., Elphick, C., Helton, A., Lawrence, BA. 2021.Vegetation zonation predicts salt marsh carbon mineralization and microbial communities in southern New England salt marshes. Estuaries and Coasts <u>https://doi.org/10.1007/s12237-021-00943-0</u>
- **Granville, K., *Ooi, S.K., Koenig, L.E, Lawrence, BA, Elphick, C., Helton, A.M. 2021. Seasonal patterns of denitrification and N₂O production in a southern New England salt marsh. Wetlands 41, 7. <u>https://doi.org/10.1007/s13157-021-01393-x</u>
- 12. **Leeper, A.C., Lawrence B.A., LaMontagne, J.M. 2020. Plant-available soil nutrients have a limited influence on cone production patterns of individual white spruce trees. Oecologia https://doi.org/10.1007/s00442-020-04759-w
- **Donato, M., *Johnson, O., Steven, B., Lawrence, BA. 2020. Nitrogen enrichment stimulates wetland plant responses whereas salt amendments alter sediment microbial communities and biogeochemical responses. PLOS ONE <u>https://doi.org/10.1371/journal.pone.0235225</u>
- 14. *Johnson, O., Lishawa, S., Lawrence, B.A. 2019. Submerged harvest reduces invasive *Typha* and increases soil macronutrient availability. Plant and Soil 422: 157-167. https://doi.org/10.1007/s11104-019-04171-1
- 15. Bansal, S., Lishawa, S., Newman, S., Albert, D., Aneau, M., Chimney, M., Cressey, R., DeKeyser, S., Elgersma, K., Finkelstein, S.A., Freeland, J., Grosshans, R., Klug, P., Larkin, D., Lawrence, B.A., Linz, G., Marburger, J., Noe, G., Otto, C., Reo, N., Richards, J., Richardson, C., Rodgers, L., Schrank, A., Svedarsky, D., Tangen, B., Travis, S., Tuchman, N., van der Valk, A., Wilcox, D., Windham-Myers, L. 2019. *Typha* (cattail) invasion in North American wetlands: biology, regional problems, impacts, ecosystem services and management. Wetlands 39:645-684. https://doi.org/10.1007/s13157-019-01174-7
- 16. Lishawa, S.C., Lawrence, B.A., Albert, D., Larkin, D., Tuchman, N.C. 2019. Removal of invasive cattails and their litter increases taxonomic and phylogenetic diversity across two vegetation zones in Great Lakes coastal wetlands. Ecology and Evolution. <u>https://doi.org/10.1002/ece3.5188</u>
- 17. **Keyport, S., Carson B.D., **Johnson, O., **Lawrence, B.A.,** Lishawa, S.C., Tuchman, N.C., and Kelly, J.J. 2019. Effects of harvesting an invasive hybrid cattail on abiotic and biotic wetland properties. Restoration Ecology 27: 389-398.
- 18. Carson, B., Lishawa, S., Tuchman, N., Monks, A., **Lawrence, BA**. Albert, D. 2018. Harvesting invasive plants to reduce nutrient loads and produce bioenergy: an assessment of Great Lakes coastal wetlands. Ecosphere: *9*(6), p.e02320.
- 19. Bowles, M, **Lawrence**, **B**., Antlitz, D. 2017. Thinning effects on woody structure, canopy openness, and groundlayer diversity in a burned mesic silt-loam oak savanna. The Journal of the Torrey Botanical Society 144(2): 191-205.
- 20. Lawrence, B.A., Lishawa, S.C., **Hurst, N., **Castillo, B.T., and Tuchman, N.C. 2017. Wetland invasion by *Typha x glauca* increases soil methane emissions. Aquatic Botany 137: 80-87. doi: 10.1016/j.aquabot.2016.11.012
- 21. Lawrence, B.A., ^{*}Burke, K., Lishawa, S.C., & Tuchman, N.C. 2016. *Typha* invasion associated with reduced aquatic macroinvertebrate abundance in northern Lake Huron coastal wetlands. Journal of Great Lakes Research 42(6) 1412-1419. doi: 10.1016/j.jglr.2016.08.009

- 22. Klimas C, Williams A, **Hoff M, Lawrence B, **Thompson J, Montgomery J. 2016. Valuing ecosystem services and disservices across heterogeneous urban green spaces. Sustainability 8(9): 853. doi: 10.3390/su8090853.
- 23. Lawrence, B. A., Lishawa, S. C., **Rodriguez, Y., & Tuchman, N. C. 2016. Herbicide management of invasive cattail (*Typha* × *glauca*) increases porewater nutrient concentrations. Wetlands Ecology and Management 24: 457-467.
- Lishawa, S., Lawrence, B. A., Albert, D., Tuchman, N. 2015. Biomass harvest of invasive *Typha* promotes plant diversity in a Great Lakes coastal wetland. Restoration Ecology 23: 228-237.
- 25. Lawrence, B.A., T.J. Fahey, J.B. Zedler. 2013. Root dynamics of *Carex stricta*-dominated tussock meadows. Plant and Soil 1-2: 325-339.
- 26. Lawrence, B. A., Jackson, R. J., Kucharik, C. 2013. Testing the stability of carbon in *Carex stricta*-dominated sedge meadows. Applied Soil Ecology, 48-57.
- 27. Lawrence, B.A. and J.B. Zedler. 2013. Carbon storage by *Carex stricta* tussock: a restorable ecosystem service? Wetlands 33: 483-493.
- 28. Lawrence, B.A. and T.N. Kaye. 2011. Reintroduction of *Castilleja levisecta*: Effects of ecological similarity, source population genetics, and habitat quality. Restoration Ecology 19: 166-176.
- 29. Lawrence, B.A. and J.B. Zedler. 2011. Formation of tussocks by sedges: effects of hydroperiod and nutrients. Ecological Applications 21: 1745-1759.
- 30. Lawrence, B.A., H. Wu, Q. Liu. 2009. Developing an interdisciplinary restoration plan for Napahai Wetland, Yunnan, China. Ecological Restoration 27: 18-20.
- Lawrence, B.A. and T.N. Kaye. 2008. Direct and indirect effects of host plants: Implications for reintroduction of an endangered hemiparasitic plant (*Castilleja levisecta*). Madroño 55: 151-158.
- 32. Wagner, K., S. Gallagher, M. Hayes, **B.A. Lawrence**, and J.B. Zedler. 2008. Wetland restoration in the new millennium: Do research efforts match opportunities? Restoration Ecology 16: 367-372.
- Lawrence, B.A. and T.N. Kaye. 2006. Habitat variation throughout the historic range of golden paintbrush, a Pacific Northwest prairie endemic: Implications for reintroduction. Northwest Science 80: 140-152.
- 34. Lawrence, B.A. and T.N. Kaye. 2005. Growing *Castilleja* for restoration and the garden. Rock Garden Quarterly 63: 128-134.
- 35. Lawrence, B.A., F.C. Fisk, T.J. Fahey, and E.R. Suárez. 2003. Influence of non-native earthworms on mycorrhizal colonization of sugar maple (*Acer saccharum*). New Phytologist 157: 145-153.

Pre-Prints & Technical Reports

- Gorham, C., ^{*}Barry, A., **Lawrence B.A.**, Steven, B. 2018. Biogeography and edaphic factors structure coastal sediment microbial communities more than vegetation removal by sudden vegetation dieback. bioRxiv **doi:** https://doi.org/10.1101/405464
- Schuller, R., Showalter, R., Kaye, T., **Lawrence**, **B. A.** 2014. North Fork Silver Creek Research Natural Area: guidebook supplement 47. US Forest Service General Technical Report.
- Bowles, M., Lawrence, B. A. 2013. Assessing post-thinning savanna structure at Wolf Road Prairie Nature Preserve. Cook County Forest Preserve District Technical Report.
- Kaye, T., Lawrence, B.A. 2003. Fitness effects of inbreeding and outbreeding on golden paintbrush (*Castilleja levisecta*): implications for recovery and reintroduction. Washington Natural Heritage

Program Report.

Publicly Available Data Sets

- Lawrence, Beth; Walker, Samantha (2021), Road salt inputs alter biogeochemistry but not plant community composition in exurban forested wetlands, Dryad, Dataset, <u>https://doi.org/10.5061/dryad.q2bvq83ks</u>
- Lawrence, B., Helton, A., Elphick, C., Barry, A., Ooi, S. (2021), Effects of salt marsh vegetation zonation on carbon and nitrogen cycling in Connecticut, Dryad, Dataset, <u>https://doi.org/10.5061/dryad.vmcvdncs7</u>
- Donato, M., Johnson, O., Steven, B, Lawrence, BA (2020), Nitrogen enrichment stimulates wetland plant responses whereas salt amendments alter sediment microbial communities and biogeochemical responses, Dryad, Dataset, https://doi.org/10.5061/dryad.5hqbzkh3j
- Lishawa, S., Lawrence, B.A, Albert, A., Larkin, DJ, Tuchman, N.C. (2019), Invasive species removal increases species and phylogenetic diversity of wetland plant communities, Dryad, Dataset, <u>https://doi.org/10.5061/dryad.32h05c2</u>

Works in Review/Revision

- Lawrence, BA, Helton, A., Klionsky, M. Kolleger. S. Johnson, S., Meadows-McDonnell, M. Nelson, N. A framework to advance wetland restoration outcomes in the 21st century. Restoration Ecology (*in review*- submitted 3/23/24).
- Klionsky, S.M., Neill, C., Helton, A.M., Lawrence, B.A. Groundwater seeps are nitrogen removal hot spots in a nutrient-poor, restored wetland. Biogeochemistry (*in revision* submitted 1/30/24)
- Lishawa, S., Monks, A.M., Lawrence, B.A., Fegan, D.L., Clark, E. Muskrat disturbances and their analogues reduce invasive plant dominance in a Great Lakes coastal wetland. Freshwater Science (*in review* submitted 1/22/24)

Works in Prep (existing drafts- expect to submit within next 3 months)

- ^{**}Tienken, A., S. Klionsky, K. Maas, **Lawrence, BA.** Sediment addition stimulates nitrogen removal potential and bacterial diversity in a southern New England (USA) submerging marsh *Target journal:* Restoration Ecology
- Colarusso, P., Elphick, C., Johnson, B., **Lawrence, BA**, Shumchenia, E., Vincent, R., Winzeler, E., Libohova, Z. Assessing blue carbon stock uncertainty estimates for northeastern U.S. salt marsh and seagrass ecosystems. Target journal: Global change biology
- **Bisson, A., Meadows-McDonnell, M., Lawrence, BA. Impacts of salt marsh vegetation and sealevel rise on soil organic matter stability. *Target journal*: Plant and Soil

PRESENTATIONS

Invited Oral Presentations (25) ** undergraduate/* graduate student

- 1. Lawrence, B.A. Keeping salt marshes afloat: testing the effects of sediment addition on ecosystem processes. University of Auckland, School of Environment Seminar Series. May 3, 2023. Auckland, New Zealand.
- 2. Lawrence, B.A., C. Elphick, *F. Gigliotti, A. Helton, M. Huang, *M. Kollegger, *M. Meadows-McDonnell, N. Nelson, *A. Puchkoff, **A. Tienken. Evaluating thin layer placement in Long Island Sounds marshes using a multi-scale approach. Society of Wetland Scientists New England Chapter Meeting. October 29, 2022. University of New Hampshire, Durham N.H.

- 3. ^{*}Klionsky, S., Neill, C., Miller, H., Pulak, A., **Lawrence, B.** Restoring wetland vegetation on retired cranberry bogs. Living Observatory Summit: Conserving and Restoring Cranberry Farmland in Massachusetts; Virtual conference. May 7, 2021
- 4. **Lawrence, B.**, *Walker, S., Lishawa, S. Deicing salts as an emerging driver of wetland change. Evaluating wetland restoration under global change – how to improve best practices (Symposium). Society of Wetland Scientists (Virtual meeting). December 2020.
- 5. *Johnson, O., **Panda, A., Lishawa, S., Lawrence B. Response of biomass structure and greenhouse gas flux to repeated large-scale mechanical treatment of invasive Typha across variable water conditions; Practices for managing wetlands: Dispelling myths (Symposium). Society of Wetland Scientists (Virtual meeting). December 2020.
- 6. Lawrence, B., Williams, K. Salt marsh-climate change teaching module: Impacts of climate change on Long Island Sound salt marshes. Long Island Sound Study Teacher Webinar. August 18, 2020. Zoom webinar.
- 7. Lawrence, B. Wetland carbon services: implications for conservation and management. Governor's Council on Climate Change; Wetlands sub-Group. May 15, 2020. Zoom meeting.
- 8. Lawrence, B. How will sea-level rise driven shifts in wetland vegetation alter salt marsh ecosystem services? Eastern Connecticut University (Invited lecture). March 4, 2020. Willimantic, CT.
- 9. ^{*}Puchkoff, A., **Lawrence, B**. Saving salt marshes using dredge material? Long Island Sound Study Habitat Restoration & Stewardship Work Group Meeting. November 25, 2019. Old Field, NY.
- 10. Lawrence, B.A, *Barry, A., *Ooi, S., Helton, A., Elphick, C. How will sea level rise-driven shifts in wetland vegetation alter ecosystem services? Coastal and Estuarine Research Federation Biennial Conference- Advances in understanding sea level rise and coastal landscape change (Symposium). November 3, 2019. Mobile, AL.
- 11. **Lawrence**, **B**. Harvesting invasive *Typha* biomass: an innovative approach to coastal wetland restoration. International Association of Great Lakes Research; Great Lakes' Coastal Wetlands Innovative Research to Improve Restoration (Symposium). June 12, 2019. Brockport, NY.
- 12. Lawrence, B. Harvesting invasive *Typha* biomass: targeting the ecological mechanisms that drive invasion. Society for Wetland Scientists; Invasiveness in wetland plants of North America: what have we learned in 20 years (Symposium). May 30, 2019. Baltimore, MD.
- 13. Lawrence, B., Helton, A., Elphick, C. How will sea-level rise driven shifts in wetland vegetation alter carbon and nitrogen-based ecosystem services? Long Island Sound Study, Science Technical Advisory Committee meeting. November 16, 2018, Groton, CT.
- 14. Lawrence, B. Marsh madness: invasive macrophytes and ecosystem service tradeoffs during wetland restoration. Carey Institute of Ecosystem Studies Fall Seminar Series. November 2, 2018, Millbrook, NY
- 15. Lawrence, B., Helton, A., Elphick, C. How will sea-level rise driven shifts in wetland vegetation alter carbon and nitrogen-based ecosystem services? New York-Connecticut Sea Grant & Long Island Sound Study Principal Investigator Forum. August 6, 2018, Groton, CT
- 16. *Walker, S, Lawrence, B.A. Road deicing salt impact on the structure and function of forested wetlands in southern New England. Society of Wetland Scientists- New England Chapter Spring Meeting. May 5, 2018. Providence, Rhode Island
- 17. **Donato, M., **Lawrence, B.A**. Effects of plant traits and water quality on carbon gas fluxes from freshwater wetlands. Connecticut Association of Wetland Scientists. March 8, 2018.

- 18. Lawrence, B.A, ^{*}Johnson, O., Lishawa, S. Impacts of invasive *Typha* management on coastal wetland carbon dynamics. Society of Wetland Scientists Conference; Symposium on Wetland Carbon: Science to Guide Conservation and Restoration. June 7, 2017, San Juan, Puerto Rico.
- 19. Lawrence, B.A, Helton, A., Elphick, C. How does sea level driven-shifts in wetland vegetation alter carbon and nitrogen-based ecosystem services? Connecticut Institute of Resilience & Climate Adaptation (CIRCA) Forum. May 2017, Storrs, CT
- 20. Lawrence, B.A. Impacts of invasive cattail (*Typha*) management on ecosystem services. Connecticut Agriculture Experiment Station. March 29, 2017, New Haven, CT.
- 21. Lawrence, B.A. Integrating ecosystem engineers into ecological restoration. University of Connecticut Environmental Engineering Seminar. March 11, 2016. Storrs, CT.
- 22. Lawrence, B.A. Restoring plant community diversity, structure, and function. University of Connecticut Natural Resources and the Environment Seminar. June 11, 2015. Storrs, CT.
- 23. Lawrence, B.A.,^{**}Rodriguez, Y., Lishawa, S. Herbicide application of hybrid cattail increases porewater nutrient concentration. Loyola University Chicago Workshop on *Typha* Restoration and Biomass Utilization. June 1, 2015. Chicago, IL.
- 24. Lawrence, B.A., Lishawa, S., Albert. D., Tuchman, N. Converting invasive plants to bioenergy: an innovative approach to restoring Great Lakes coastal wetlands. Society for Wetland Scientists Conference; Symposium on Great Lakes Restoration Initiative. June 2013. Duluth, Minnesota.
- 23. **Lawrence, B.A.** Restoration of degraded communities. DePaul University. February 2, 2012. Chicago, IL.
- 25. Lawrence, B.A., Lishawa, S., Albert. D., Tuchman, N. Promoting biodiversity and biofuels in cattail-invaded wetlands. Northeast Illinois Invasive Plant Partnership. September 2012, Lisle, Illinois.

Symposia Organized (2)

- 1. Steinmueller, H., Lawrence, B., Bowes, K. Scaling up: Biogeochemical transformations shape ecosystem change. Society for Wetland Scientists Metting; Spokane, WA. June 27, 2023.
- Lawrence, B., Helton, A., Steinmueller, H. Wet & salty: coastal ecosystem science and management under rising tides. Joint Aquatic Sciences Meeting; Grand Rapids, MI (USA). May 22, 2022

Contributed Oral Presentations (63) ** undergraduate/* graduate student

- 1. ^{*}Klionsky, S., Neill, C., **Lawrence, B.** Groundwater discharge seeps are nitrogen removal hotspots in restored agricultural wetlands. RE3: Restore, Reclaim Rewild: Quebec City, Canada. June 15, 2023
- 2. *M. Meadows-McDonnell, Lawrence, B. How does texture of added sediment affect carbon sequestration of restored coastal salt marshes? RE3: Restore, Reclaim Rewild: Quebec City, Canada. June 13, 2023
- 3. Lawrence, B., C. Elphick, *F. Gigliotti, A. Helton, M. Huang, *M. Kollegger, *M. Meadows-McDonnell, N. Nelson. Quantifying how sediment placement in submerging salt marshes alters greenhouse gas emissions. iLeaps-Oz Flux Conference: Auckland, New Zealand. February 1, 2023.
- 4. LaMontagne, J. **Lawrence**, **B.**, T. Stoycheva, A. Leeper, K. Pearson, J. Phillips, P. Hanson. Experimental warming and elevated carbon dioxide jointly affect conifer reproduction in a boreal bog ecosystem. American Geophysical Union: San Francisco, CA. December 10, 2022.

- 5. *F. Gigliotti, *Kollegger, M., Lawrence, B.A., C. Elphick, A. Helton, M. Huang, *M. Meadows-McDonnell, N. Nelson. Testing the Efficacy of Targeted Saltmarsh Restoration at Great Meadows Marsh for a Globally Rare Species. Coastal and Estuarine Summit: Restore America's Estuaries. December 4-8, 2022. New Orleans, LA, USA.
- 6. ^{*}Kollegger, M., **Lawrence, B.A.**, C. Elphick, ^{*}F. Gigliotti, A. Helton, M. Huang, ^{*}M. Meadows-McDonnell, N. Nelson. How Does Sediment Addition at Great Meadows Marsh Alter Salt Marsh Vegetation, Porewater Chemistry and Greenhouse Gas Fluxes? Coastal and Estuarine Summit: Restore America's Estuaries. December 4-8, 2022. New Orleans, LA, USA.
- 7. Gan, H., Meinert, R., **Lawrence**, **B.**, Guillard, K. Commercial biochar effects on soil water and nutrient retention are affected by soil organic matter content. ASA, CSSA, SSSA Annual Meeting. November 6, 2022. Baltimore, MD, USA.
- 8. *Schurkamp, S., Lishawa, S., Monks, A., **Lawrence, BA**. Harvesting invasive plants to reduce salinization of freshwater systems. Joint Aquatic Sciences Meeting; Grand Rapids, MI USA. May 19, 2022
- 9. ^{*}Klionsky, S., Neill, C., **Lawrence, BA.** Influence of microtopography and plan community traits on denitrification potential in restored cranberry bogs. Joint Aquatic Sciences Meeting; Grand Rapids, MI USA. May 17, 2022
- 10. *Meadows-McDonnell, M, Lawrence BA. How do tidal restriction legacies affect soil organic matter signatures in a southern New England salt marsh? Joint Aquatic Sciences Meeting; Grand Rapids, MI USA. May 17, 2022
- 11. LaMontagne, J., **Lawrence, BA**, *Stoycheva, T., Leeper, A., Pearson, K., Phillips, J., Hanson, P. Experimental warming and elevated CO₂ changes reproductive output of black spruce. DOE SPRUCE All-Hands Meeting. May 5, 2022.
- 12. *Stoycheva, T., Leeper, A.C., Lawrence, B.A., Pearson, K.J., Nettles, W.R., Phillips, J.R., Hanson, P.J., LaMontagne, J.M.. Experimental warming and elevated CO₂ impacts on Eastern tamarack (*Larix laricina*) cone characteristics. Canadian Society for Ecology & Evolution; Virtual meeting. August 2021.
- 13. *Klionsky, S., Neill, C., Miller, H., Pulak, A., **Lawrence, B.** Restoring wetland vegetation on retired cranberry bogs. Society for Wetland Scientists; Virtual conference. June 2021
- 14. *Meadows-McDonnell, Hren, M., Lawrence, B. Tidal restriction legacies in salt marsh soil organic matter. Society for Wetland Scientists; Virtual conference. June 2021
- 15. Lawrence, B., Williams, L. Translating climate science to high school audiences: a salt marsh teaching module. Connecticut Conference on Natural Resources; Virtual conference. March 15, 2021
- *Meadows-McDonnell, Hren, M., Lawrence, B. Tidal restriction legacies in salt marsh soil organic matter. Connecticut Conference on Natural Resources; Virtual conference. March 15, 2021
- *Klionsky, S., Neill, C., Miller, H., Pulak, A., Lawrence, B. Restoring wetland vegetation on retired cranberry bogs. Connecticut Conference on Natural Resources; Virtual conference. March 15, 2021
- *Klionsky, S., Neill, C., Miller, H., Pulak, A., Lawrence B. Active restoration promotes wetland plant establishment on former riparian cranberry farms more effectively than passive retirement. American Geophysical Union; Virtual conference. December 13, 2020.
- 19. *Puchkoff, A., Lawrence, B. Plant-Soil Responses to Experimental Thin-Layer Placement in a Coastal Marsh. Society of Wetland Scientists Virtual Conference, December 1, 2020.

- *Puchkoff, A., Lawrence, B. Plant-soil responses to experimental thin layer placement in a Connecticut marsh. Society of Wetland Scientists Student Section Virtual Conference, June 10th, 2020.
- *Puchkoff, A., Lawrence, B. Plant-soil responses to experimental thin layer placement in a Connecticut salt marsh. New England Estuarine Research Society meeting. June 5, 2020. Zoom meeting. Awarded Best Graduate Student Oral Presentation.
- 22. LaMontagne, J., Lawrence, B., Iversen, C, King, A, Phillips, J, Nettles, WR, Hanson, P. Experimental warming and elevated CO₂ impact reproduction of boreal conifer trees. DOE SPRUCE All-Hands meeting. May 12, 2020. Zoom meeting.
- *Barry, A., Ooi, S., Helton, A., Elphick, C, Steven, B., Lawrence, B. Plants drive carbon turnover under sea-level rise. May 30, 2019. Society for Wetlands Scientists Annual meeting. May 30, 2019. Baltimore, Maryland.
- 24. *Ooi, S., *Barry, A., **Granville, K., **Lawrence, B**., Elphick, C., Helton, A. Using vegetation zones to predict salt marsh denitrification. Society for Wetlands Scientists Annual meeting. May 30, 2019. Baltimore, Maryland.
- 25. *Walker, S., Lawrence, B. Impacts of road salt on the function and structure of forested wetlands in southern New England. Society for Wetlands Scientists Annual meeting. May 30, 2019. Baltimore, Maryland.
- 26. *Barry, A., *Ooi, S., Helton, A., Elphick, C, Steven, B., **Lawrence, B**. Plants drive carbon turnover under sea-level rise. Connecticut Conference on Natural Resources. March 2019. Storrs, Connecticut.
- 27. **Bisson, A., **Lawrence**, **B**. Impacts of salt marsh vegetation and sea level rise on soil carbon stability. Connecticut Conference on Natural Resources. March 2019. Storrs, Connecticut.
- 28. **Granville, K., *Ooi, S., **Lawrence, B**., Elphick, C., Helton, A. Seasonal patterns of denitrification in salt marshes. Connecticut Conference on Natural Resources. March 2019. Storrs, Connecticut.
- 29. *Ooi, S., *Barry, A., **Granville, K., **Lawrence, B**., Elphick, C., Helton, A. Using vegetation zones to predict salt marsh denitrification. Connecticut Conference on Natural Resources. March 2019. Storrs, Connecticut.
- 30. *Walker, S., **Lawrence**, **B**. Road deicing salt impact on the structure and function of forested wetlands in southern New England. Connecticut Conference on Natural Resources. March 2019. Storrs, Connecticut.
- 31. *Barry, A., *Ooi, S., Helton, A., Elphick, C, Steven, B., **Lawrence**, **B**. Plants drive carbon turnover under sea-level rise. Long Island Sound Study Research Conference. March 2019. Port Jefferson, New York.
- 32. *Ooi, S., *Barry, A., **Granville, K., **Lawrence, B**., Elphick, C., Helton, A. Using vegetation zones to predict salt marsh denitrification. Long Island Sound Study Research Conference. March 2019. Port Jefferson, New York.
- 33. *Walker, S., **Lawrence**, **B**. Road deicing salt impact on the structure and function of forested wetlands in southern New England. Northeastern Aquatic Biologist Conference. February 2019. Saratoga Springs, New York.
- 34. *Barry, A., *Ooi, S., Elphick, C., Helton, A. Steven, B., Lawrence, B. Salt marsh vegetation influence on carbon-based services and microbial communities. Connecticut Symbiosis Symposium. October 2018. Connecticut Agricultural Experiment Station, New Haven, Connecticut.

- 35. **Leeper, A, **Lawrence**, **B**., LaMontagne, J. Soil nutrients and mast seeding patterns of white spruce. Canadian Society for Ecology and Evolution Annual conference. July 2018. Guelph, Ontario, Canada.
- 36. *Barry, A., *Ooi, S., Elphick, C., Helton, A. Steven, B., **Lawrence, B**. Salt marsh vegetation influence on carbon-based services and microbial communities. Society of Wetland Scientists Annual meeting. June 2018. Denver, Colorado.
- 37. *Johnson, O., Lishawa, S., Lawrence, B. How does invasive plant management affect carbon cycling in a Great Lakes coastal wetland? Society of Wetland Scientists Annual meeting. June 2018. Denver, Colorado.
- 38. Lawrence, B. Towards a conceptual framework for understanding tradeoffs in biodiversity and carbon function in coastal wetlands. Society of Wetland Scientists Annual meeting. June 2018. Denver, Colorado.
- 39. *Ooi, S., *Barry, A., **Lawrence, B**., Elphick, C., Helton, A. Potential denitrification rates vary with salt marsh vegetation zones. Society of Wetland Scientists Annual meeting. June 2018. Denver, Colorado.
- 40. *Walker, S., **Lawrence**, **B**. Road deicing salt impact on the structure and function of forested wetlands in southern New England. Society of Wetland Scientists Annual meeting. June 2018. Denver, Colorado.
- 41. *Walker, S., **Lawrence**, **B**. Road deicing salt impact on the structure and function of forested wetlands in southern New England. Society of Wetland Scientists- New England Chapter Spring Meeting. May 5, 2018. Providence, Rhode Island.
- 42. *Barry, A., *Ooi, S., Elphick, C., Helton, A. Steven, B., **Lawrence**, **B**. Salt marsh vegetation influence on carbon-based services. New England Estuarine Research Society Spring 2018 Meeting. April 27, 2018. Portsmouth, New Hampshire.
- 43. *Ooi, S., *Barry, A., **Lawrence, B**., Elphick, C., Helton, A. Potential denitrification rates vary with salt marsh vegetation zones. New England Estuarine Research Society Spring 2018 Meeting. April 27, 2018. Portsmouth, New Hampshire.
- 44. *Barry, A., Ooi, S., Elphick, C., Helton, A. Steven, B. Lawrence, B. Salt marsh vegetation influence on carbon-based services. Connecticut Conference on Natural Resources. March 12, 2018. Storrs, Connecticut.
- 45. **Donato, M., **Lawrence**, **B**. Effects of plant traits and water quality on carbon gas fluxes from freshwater wetlands. Connecticut Conference on Natural Resources. March 12, 2018. Storrs, Connecticut.
- 46. *Johnson, O., Lishawa, S., Lawrence, B. Freshwater wetland carbon response to adaptive management. Connecticut Conference on Natural Resources. March 12, 2018. Storrs, Connecticut.
- 47. *Ooi, S., *Barry, A., **Lawrence, B**., Elphick, C., Helton, A. Potential denitrification rates vary with salt marsh vegetation zones. Connecticut Conference on Natural Resources. March 12 2018. Storrs, Connecticut.
- 48. *Walker, S., **Lawrence**, **B**. Road deicing salt impact on the structure and function of forested wetlands in southern New England. Connecticut Conference on Natural Resources. March 12, 2018. Storrs, Connecticut.
- 49. **Donato, M., **Lawrence**, **B**. Effects of plant traits and water quality on carbon gas fluxes from freshwater wetlands. Connecticut Association of Wetland Scientists. March 8, 2018.
- 50. Lawrence, B., ^{**}Rodriguez, Y. Lishawa, S. Herbiciding hybrid cattail increases porewater nutrient concentration. Society for Ecological Restoration- Midwestern Section. March 2015. Chicago, Illinois.

- 51. Lawrence, B., **Hurst, N. Lishawa, S. Wetland invasion by *Typha x glauca* increases soil methane emissions. Wisconsin Wetlands Association, February, 2015. Madison, Wisconsin.
- 52. **Lawrence**, **B**., Lishawa, S. Tuchman, N. Albert, D. Converting invasive plants to bioenergy: an innovative approach to restoring Great Lakes coastal wetlands. Society for Wetland Scientists. June 2013. Duluth, MN.
- 53. Lawrence, B., Lishawa, S. Tuchman, N. Albert, D. Promoting biodiversity and biofuels in cattail-invaded wetlands. Northeast Illinois Invasive Plant Partnership. September 2012, Lisle, IL.
- 54. **Lawrence**, **B.**, Zedler, J. Testing the stability of carbon in tussock sedge meadows. Ecological Society of America. August 2010, Pittsburgh, PA.
- 55. **Lawrence, B**., Zedler, J. Accelerating tussock formation to restore wetland structure and function. Society for Ecological Restoration- Midwest Great Lakes Chapter, April 2010, Madison, WI.
- 56. Lawrence, B., Zedler, J. Testing the stability of carbon in tussock sedge meadows. University of Wisconsin-Madison Arboretum Science Day, February 2010, Madison, WI.
- 57. **Lawrence**, **B**., Zedler, J. Testing the stability of carbon in tussock sedge meadows. Wisconsin Wetlands Association, February 2010, Eau Claire, WI.
- 58. Lawrence, B., Zedler, J. Accelerating tussock formation for sedge meadow restoration. Society for Wetland Scientists, June 2009, Madison, WI.
- 59. Lawrence, B., Zedler, J. Restoring an ecosystem engineer: *Carex stricta* tussock formation. University of Wisconsin-Madison Arboretum Science Day, March 2008, Madison, WI.
- 60. Lawrence, B., Zedler, J. *Carex stricta* tussock formation: Effects of hydroperiod and nutrient addition. Wisconsin Wetlands Association, February 2008, Oconomowac, WI.
- 61. **Lawrence**, **B**., Zedler, J. Restoring topographic heterogeneity to sedge meadows: *Carex stricta* tussock formation. University of Wisconsin-Madison Arboretum Science Day, May 2007, Madison, WI.
- 62. Lawrence, B., Kaye, T. Predicting endangered species reintroduction success: common garden experiments with the golden paintbrush (*Castilleja levisecta*). Ecological Society of America, August 2005, Montreal, Quebec, Canada.
- 63. **Lawrence**, **B**., Kaye, T. Golden paintbrush (*Castilleja levisecta*) common garden studies: selecting seed sources and reintroduction sites to support recovery of an endangered prairie species. Society for Ecological Restoration, April 2005, Seattle, WA.

Poster presentations (39) ^{**}undergraduate student, ^{*}graduate student

- **Arteaga-Payares, S., *F. Gigliotti, A. Helton, C. Elphick, *M. Kollegger, *M. Meadows-McDonnell, N. Nelson, Lawrence, B.A.. How does crab activity in sediment-amended salt marsh restorations alter the flux rates of greenhouse gasses? UConn Frontiers in Undergraduate Research. April 15, 2023. Storrs, CT. USA
- 2. **Mack, C., *F. Gigliotti, A. Helton, *M. Kollegger, *M. Meadows-McDonnell, N. Nelson, Lawrence, B.A.. How do sediment additions to submerging saltmarshes alter methane dynamics? UConn Frontiers in Undergraduate Research. April 15, 2023. Storrs, CT. USA
- 3. *Stoycheva, T., Lawrence, B.A., Leeper, A.C., Pearson, K.J., Phillips, J.R., Hanson, P.J., LaMontagne, J.M., Experimental warming and elevated CO₂ affect black spruce cone characteristics. Ecological Society of America Conference (Montreal, Quebec). August 2022.
- 4. *Tienken, A., **Lawrence, BA.** Thin-layer placement stimulates denitrification in Long Island Sound salt marsh. Joint Aquatic Sciences Meeting (Grand Rapids, MI USA). May 2022.

- *Kollegger, M., Nelson, N., Meadows-McDonnell, M., Gigliotti, F., Huang, M., Elphick, C., Lawrence, BA, Helton A. Managing coastal marshes in the face of sea level rise: thin layer placement and soil pore water chemistry. Joint Aquatic Sciences Meeting (Grand Rapids, MI USA). May 2022
- Nicolette, N., *Meadows-McDonnell, M., *Kollegger, M., *Gigliotti, F., Huang, M., Elphick, C., Helton, A., Lawrence, BA. Effects of thin layer placement restoration on plant growth in Long Island Sound salt marshes. Joint Aquatic Sciences Meeting (Grand Rapids, MI USA). May 2022
- 7. *Tienken, A., **Lawrence**, **BA**. Thin-layer placement stimulates denitrification in Long Islands Sound salt marsh. UConn Frontiers in Undergraduate Research. April 2022.
- 8. *Stoycheva, T., **Lawrence, B.A.**, Leeper, A.C., Pearson, K.J., Phillips, J.R., Hanson, P.J., LaMontagne, J.M. Warming and elevated CO₂ impact black spruce cone morphology. Midwest Ecology and Evolution Conference. (virtual conference). March 2022.
- *Stoycheva, T., Lawrence, B.A., Leeper, A.C., Pearson, K.J., Phillips, J.R., Hanson, P.J., LaMontagne, J.M. Warming and elevated CO₂ impact black spruce cone morphology. Midwest Ecology and Evolution Conference. North American Forest Ecology Workshop (virtual). June 2022.
- 10. **Tienken, A., **Lawrence, B**. Effects of tidal restoration on salt marsh grass zonation. UConn Frontiers in Undergraduate Research (virtual conference). March 19, 2021.
- 11. **Tienken, A., **Lawrence**, **B**. Effects of tidal restoration on salt marsh grass zonation. Connecticut Conference on Natural Resources (virtual conference). March 15, 2021.
- 12. LaMontage, J., *Leeper, A., **Lawrence**, **B**. Testing drivers of individual-level asynchrony in mast-seeding patterns. British Ecological Society (virtual conference). December 2020.
- LaMontage, J., Lawrence, B., Iversen, C., King, A., Phillips, J.R., Nettles, W.R., Hanson, P.J. Experimental warming and elevated CO₂ impact reproduction of boreal conifer trees. Ecological Society of America (virtual conference). August 2020.
- 14. **Frutos, P., **Lawrence**, **B**. How does wetland restoration alter organic matter accumulation and microbial activity? UConn Frontiers in Undergraduate Research. November 2019, Storrs, CT.
- 15. **Bisson, A., **Lawrence**, **B**. Impacts of salt marsh vegetation and sea-level rise on soil carbon stability. Society for Wetland Scientists Annual Meeting. May 30, 2019.
- 16. **Liu, F. **Lawrence, B.** How does sea level rise alter salt marsh plant biomass allocation and nitrogen content? UConn Frontiers in Undergraduate Research. April 11, 2019, Storrs, CT
- 17. **Bisson, A., **Lawrence**, **B**. Impacts of salt marsh vegetation and sea-level rise on soil carbon stability. UConn Frontiers in Undergraduate Research. April 11, 2019, Storrs, CT.
- *Walker, S., Lawrence B. Pennsylvania Botany Symposium. Road deicing salt impacts on forested wetland seedbanks in southern New England, Penn State, College Park, PA (November 2018)
- **Liu, Y. Lawrence, B. UConn Frontiers in Undergraduate Research. Road salt impacts on soil carbon mineralization in roadside forested wetlands of eastern Connecticut, Storrs, CT (October 2018)
- 20. *Ooi, S, *Barry A, Steven B, Elphick C, Helton A, **Lawrence**, **B**. Society of Ecological Restoration- New England Chapter Meeting. Effects of salt marsh tidal restoration on soil microbial process rates, New Haven, CT (October 2018). *Awarded Best Graduate Student Poster*.

- 21. *Walker, S., Lawrence, B. Society of Ecological Restoration- New England Chapter Meeting. Road deicing salt impacts on forested wetland seedbanks in southern New England, New Haven, CT (October 2018)
- 22. **Donato, M., **Lawrence**, **B**. Society for Wetland Scientists Annual Meeting. Effects of plant traits and water quality on carbon fluxes in freshwater wetlands, Denver, CO (June 2018)
- 23. **Donato, M. Lawrence, B. UConn Frontiers in Undergraduate Research. Effects of plant traits and water quality on carbon fluxes in freshwater wetlands, Storrs, CT (April 2018)
- 24. **Leeper, A., Lawrence, B., LaMontagne, J. International Association for Landscape Ecology Annual Meeting. Soil nutrient availability does not influence mast seeding dynamics of white spruce, Chicago, IL (April 2018)
- 25. Lawrence, B., Helton, A., Elphick, C. Connecticut Institute of Resilience & Climate Adaptation (CIRCA) Forum. How does sea level driven-shifts in wetland vegetation alter carbon and nitrogen-based ecosystem services? Storrs, CT (May 2017).
- 26. ^{*}Johnson, O, **Lawrence**, **B**., Lishawa, C. Connecticut Conference on Natural Resources. Freshwater wetland carbon response to invasive plant management. Storrs, CT (March 2017).
- 27. **Kamba, K., Lawrence, B., Magle, S. DePaul Science Showcase. Understanding how plant diversity impacts wildlife species richness in Chicago area forested greenspaces. Chicago, IL (November 2015).
- 28. **Carter, E., **Lawrence**, **B**., Magle, S. International Urban Wildlife Conference, Linking mammalian habitat use and vegetation structure in Chicago, Chicago, IL (May 2015).
- 29. **Chandler, J., **Lawrence**, **B**., DePaul Science Showcase, Greenhouse gas flux from a restored urban wetland, DePaul University. (November 2014).
- 30. **Carter, E., **Lawrence**, **B**., Magle, S. DePaul Science Showcase, Linking mammalian habitat use to vegetation structure in the Chicagoland region. (November 2014).
- 31. **Kenny, L., **Lawrence, B.**, DePaul Science Showcase, Root aerenchyma varies among wetland plants, DePaul University. (November 2014).
- 32. **Rodriguez, Y., **Lawrence**, **B**., Chicago Area Undergraduate Research Symposium, How do management treatments influence invasive cattail (*Typha X glauca*) and nutrient cycling in wetlands?, Chicago, Illinois. (April 2014).
- 33. **Hurst, N., **Lawrence**, **B.**, Chicago Area Undergraduate Research Symposium, How does water level decline and *Typha* invasion change soil carbon storage in Northern Great Lakes coastal wetlands?. (April 2014).
- 34. **Rodriguez, Y, **Lawrence**, **B.**, DePaul Science Showcase, How do management treatments influence invasive cattail (*Typha X glauca*) and nutrient cycling in wetlands?, College of Health and Science, DePaul University. (2013).
- 35. **Hurst, N., **Lawrence**, **B**., DePaul Science Showcase, How does water level decline and *Typha* invasion change soil carbon storage in Northern Great Lakes coastal wetlands?, College of Health and Science, DePaul University. (2013).
- 36. Lawrence, B. and J. Zedler. Restoring an ecosystem engineer: *Carex stricta* tussock composition and formation. The Ecological Society of America, August 2008, Milwaukee, WI.
- Lawrence, B. and J. Zeder. Biodiversity conservation and sustainable livelihoods: Napahai wetland, northwest Yunnan, China. IGERT -Sustainability Conference, October 2007, Fairbanks, AK.
- 38. Lawrence, B. et al. An interdisciplinary approach to biological conservation and sustainable development in southwest China. Ecosummit, May 2007, Beijing, China.

39. Lawrence, B. and T. Kaye. Fitness effects of inbreeding and outbreeding on golden paintbrush (*Castilleja levisecta*): implications for recovery and reintroduction. Ecological Society of America, August 2004. Portland, OR.

<u>Guest Lectures</u> (7)

- Lawrence, B. Wetlands and Ecosystem Services. University of Connecticut, NRE 2215-Introduction to Water Resources Seminar. April 27, 2021. (Remote via Husky CT)
- Lawrence, B. Wetlands and Ecosystem Services. University of Connecticut, NRE 2215-Introduction to Water Resources Seminar. April 14, 2020. (Remote via Husky CT)
- Lawrence, B. Wetlands and Ecosystem Services. University of Connecticut, NRE 2215-Introduction to Water Resources Seminar. April 23, 2019. Storrs, CT
- Lawrence, B. Forested Wetlands. University of Connecticut, NRE 2455- Forest Ecology Seminar. November 11, 2018. Storrs, CT
- Lawrence, B. Wetlands and Ecosystem Services. University of Connecticut, NRE 2215-Introduction to Water Resources Seminar. April 9, 2018, Storrs, CT
- Lawrence, B. Wetland vegetation. University of Connecticut, LAND 3330- Planting Design. March 6, 2018, Storrs, CT
- Lawrence, B. Wetlands and ecosystem services. University of Connecticut, NRE 2215-Introduction to Water Resources Seminar. April 6, 2017, Storrs, CT

Science communication- Popular articles about research

- "Digging into the finer details of retired cranberry bog restorations." UConn Today (February 21, 2022), available at: <u>https://today.uconn.edu/2022/02/digging-into-the-finer-details-of-retired-cranberry-bog-restorations/</u>
- "Too much salt: Good for winter travel, but with consequences for environmental and human health." UConn Today (January 11, 2022), available at: <u>https://today.uconn.edu/2022/01/too-much-salt-good-for-winter-travel-but-with-consequences-for-environmental-and-human-health/</u>
- "The Goldilocks effect: Adding the right amount of sediment to salt marshes keeps coastlines afloat." UConn Today (January 1, 2022), available at: <u>https://today.uconn.edu/2022/01/the-</u> goldilocks-effect-adding-the-right-amount-of-sediment-to-salt-marshes-keeps-coastlines-afloat/
- "Changes to coastal wetlands could be altering carbon capture capacity." UConn Today (October 19, 2021), available at: <u>https://today.uconn.edu/2021/10/changes-to-coastal-wetlands-could-be-altering-carbon-capture-capacity/</u>
- "Learning how salt marsh plants may signal carbon capture capacity." UConn Today (June 22, 2021) available at: <u>https://today.uconn.edu/2021/06/learning-how-salt-marsh-plants-may-signal-carbon-capture-capacity/</u>
- "Fellowship supports diversity in marine, coastal research." Connecticut Sea Grant Wracklines (Fall 2020). <u>https://seagrant.uconn.edu/wp-content/uploads/sites/1985/2020/12/wracklines-F2020-fellowship-winners.pdf</u>
- "New Sea Grant Fellowship supports diverse undergraduate researchers." UConn Today (July 27, 2020). <u>https://today.uconn.edu/2020/07/new-sea-grant-fellowship-supports-diverse-undergraduate-researchers/?utm_source=faculty-staff-daily-digest&utm_medium=email&utm_campaign=daily
 </u>
- "Researcher finds harvesting invasive species promotes biodiversity but increases methane emissions." Naturally@UConn article (January 1, 2020), available at: <u>https://naturally.uconn.edu/2020/01/28/beth-lawrence/</u>

- "Connecticut's Marshes: Past, Present, and Uncertain Future." UConn Today article (November 15, 2018), available at: <u>https://today.uconn.edu/2018/11/connecticuts-marshes-past-present-uncertain-future/</u>
- "Scientists investigate effects of sea level rise on coastal wetlands." Naturally@UConn article (July 4, 2017), available at: <u>https://naturally.uconn.edu/2017/07/04/scientists-investigate-effects-of-sea-level-rise-on-coastal-wetlands/</u>
- MENTORSHIP: Dedicated to recruiting diverse students from underrepresented groups (women, minorities, first generation college students) and facilitating their high achievement in the sciences; recent research mentor for 2 PhD, 4 MS, 4 REU, and >15 undergraduate researchers from diverse backgrounds.

Graduate Student Major Advisor (7 total)

PhD students (2)

- Sarah Klionsky, University of Connecticut (2019-present)
- Madeline Meadows-McDonnell, University of Connecticut (2019-present)

MS students (5)

- Olivia Lemieux, MS Student, University of Connecticut (2023-present)
- Lily Orr, MS Student, University of Connecticut (2020)
- Anna Puchkoff, MS Student, University of Connecticut (2018-2020)
- Aidan Barry, MS Student, University of Connecticut (2017-2019)
- Samantha Walker, MS Student, University of Connecticut (2017-2019)
- Olivia Johnson, MS Student, University of Connecticut (2016-2018)

Graduate Student Committee Member (18 total)

PhD students (8)

- Matt Sobota, University of Connecticut, NRE (2024-present)
- Kelsey Miles, University of Connecticut, EEB (2023-present)
- Madeline Kolleger, University of Connecticut, NRE (2023-present)
- Anika Agrawal, University of Connecticut, NRE (2022-present)
- Andrew Fallon, University of Connecticut (2021-2024)
- Franco Gigllioti, PhD, University of Connecticut (2020-present)
- Lisa Haber, Virginia Commonwealth University (2018- present)
- Jason Lech, University of Connecticut (2016-2022)

MS students (10)

- Teodora Stoycheva, DePaul University (2021-2022)
- Alaina Bisson, University of Connecticut (2021-2022)
- Sam Schurkamp, Loyola University Chicago (2020-2022)
- Nicole Dahrouge, University of Connecticut (2020-2022)
- Sean Ooi, MS Student, University of Connecticut (2017-2019)
- Jill Pastick, MS Student, University of Connecticut (2017-2018)
- Alexandra Hibbard, MS Student, University of Connecticut (2016-17)
- April Doroski, MS Student, University of Connecticut (2016-17)
- Anna Braum, MS Student, Northwestern University (2012-14)
- Kimberly Greene, MS Student, Loyola University Chicago (2011-13)

Undergraduate Research Projects Mentored (independent study projects not included)

- 2023: Stefania Payares-Arteaga: *How does crab activity in sediment-amended salt marsh restorations alter the flux rates of greenhouse gases?* (UConn, Work-Study-Research Program):
- 2022: Chase Mack: *How do sediment additions to submerging saltmarshes alter methane dynamics?* (UConn, Summer Undergraduate Research Fellow, Honors Program)
- 2021: Drew Tienken: *How does thin-layer placement restoration alter denitrification and microbial community composition?* (UConn, Summer Undergraduate Research Fellow)
- 2020: Drew Tienken: *Scaling salt marsh ecosystem services* (UConn, CT Sea Grant Undergraduate Research Fellowship)
- 2019: Abha Panda: *Effects of harvesting invasive hybrid cattail (Typha x glauca) on soil methane flux in coastal wetlands* (University of Michigan Biological Station REU program)
- 2019: Paulina Frutos: *Ecological drivers of microbial diversity and function in a restored freshwater tidal marsh* (UConn, IDEA grant)
- 2018: Yi Liu: Road salt impacts on forested wetland carbon mineralization (UConn)
- 2018-19: Alaina Bisson: *How do decomposition rates differ among vegetation zones in Connecticut coastal wetlands?* (UConn, Summer Undergraduate Research Fellow)
- 2017-18: Mary Donato: *The effect of salt water intrusion on freshwater wetland carbon emissions* (UConn, Summer Undergraduate Research Fellow)
- 2017: Chengcheng Xu: Design concept of an automated irrigation system for simulating saltwater intrusion in a mesocosm experiment (UConn, 3+X program)
- 2015-16: Olivia Johnson: Greenhouse gas flux response to harvest of Typha x glauca in a Great Lakes coastal wetland (DePaul University)
- 2015-16: Matt Connors: *Quantifying greenhouse gas flux of restored vs unrestored wetlands: a case study at Prairie Wolf Slough* (DePaul University)
- 2015-16: Ramsey Millison: Assessing wildlife habitat use in forested urban greenspaces in Chicagoland (DePaul University)
- 2015-16: Katie Kamba: Understanding how plant diversity impacts wildlife species richness in Chicago area forested greenspaces (DePaul University)
- 2014-15: Elizabeth Carter- *Linking urban wildlife habitat use with vegetation community structure in Chicagoland forested greenspaces* (DePaul University)
- 2014-15: Peter McCollam- *Quantifying greenhouse gas flux in a restored prairie: comparing static chamber design* (DePaul University)
- 2014: Lisa Kenny- *Investigating the relationship between methane flux and root porocity* (DePaul University)
- 2013: Ofelia Ouroumova *Comparing root porocity across 12 wetland plant species* (DePaul University)
- 2013-14: Yarency Rodriguez- *How do wetland management treatments influence water quality?* (DePaul University/ University of Michigan Biological Station REU program)
- 2013-14: Jonathan Chandler- Estimating greenhouse gas fluxes at a restored urban wetland across a hydrologic gradient (DePaul University)
- 2013-14: Nia Hurst- *How do Great Lake water level declines and invasion by Typha influence carbon storage in coastal wetlands?* (DePaul University/ University of Michigan Biological Station REU program)
- 2013: Vasiliki Kourkouvis- *Investigating the relationship between methane flux and root porocity* (DePaul University)
- 2011: Buck Castillo- *How does Typha invasion alter methane flux in Great Lakes coastal wetlands?* (University of Michigan Biological Station REU program)

Mentored Students Grants & Fellowships

- Sarah Klionsky (PhD Student)
 - o 2021- NSF Research Traineeship- Team TERRA (\$34,000)
 - 2021- Garden Club of America Fellowship in Ecological Restoration (\$8000)
 - o 2021 & 2022- Phipps Conservatory Botany in Action Fellow (\$16,000)
 - o 2021- Ecological Society of America Graduate Student Policy Award
- Madeline Meadows McDonnell (PhD student)
 - 2024: The Wetlands Foundation (\$1500)
 - o 2021-2022: NSF Research Traineeship- Team TERRA (\$34,000)
 - o 2021- Society of Wetland Scientists (SWS) Biogeochemistry Summer Grant (\$1000)
 - o 2021- Geological Society of America Research Grant (\$2500)
 - o 2021- CT Association of Wetland Scientists Michael Leflor Grant (\$1500)
 - o 2021- New England Botany Club Research Grant (\$1500)
 - o 2021- Sigma Xi Research Grant (\$1000)
 - 2019-2024: NSF Graduate Research Fellowship (~\$100,000)
- Andrew Tienken (BS Honor's Student)
 - o 2021- CT Association of Wetland Scientists Michael Leflor Grant (\$1500)
 - o 2021- Garden Club of America Scholarship in Environmental Studies (\$3000)
 - 2021- UConn's Summer Undergraduate Research Fellowship (\$4500)
 - o 2021-2022- UConn University Scholar
 - o 2020- Connecticut Sea Grant Undergraduate Research Fellowship (\$5000)
- Anna Puchkoff (MS Student)
 - o 2020- SWS Biogeochemistry Summer Research Grant (\$1000)
 - o 2019- UConn's Ecology & Evolutionary Biology's Botany Award (\$1000)
 - o 2019- Society for Wetland Scientists (SWS) Research Award (\$1500)
 - 2019- SWS New England Chapter Student Research Grant (\$1000)
- Paulina Frutos (BS Student)
 - o 2019- UConn's IDEA Grant (\$4000)
- Alaina Bisson (BS Student)
 - o 2018- UConn's Summer Undergraduate Research Fellowship (\$4000)
 - 2019- The Wetland Foundation Travel Award (\$800)
- Aidan Barry (MS Student)
 - o 2018- SWS New England Chapter's Student Research Grant (\$1000)
- Samantha Walker (MS Student)
 - o 2018- The Wetland Foundation Travel Award (\$800)
 - o 2017- UConn's Ecology & Evolutionary Biology's Botany Award (\$1000)
 - o 2017- SWS New England Chapter's Student Research Grant (\$1000)
- Olivia Johnson (MS Student)
 - o 2018- The Wetland Foundation Travel Award (\$1400)
 - o 2017- University of Michigan Biological Station's Bennett Fund (\$2256)
 - o 2017- Western Ag Innovations Student Research Award (\$1500)
- Mary Donato (BS Honor's Student)
 - o 2017- CT Association of Wetland Scientists Michael Leflor Grant (\$1000)
 - o 2017- UConn's Summer Undergraduate Research Fellowship (\$4000)

ACADEMIC SERVICE University of Connecticut Department (Natural Resources & the Environment-NRE)

- Scholarship Committee Chair (2021-present)
- Seminar Committee: Chair (2018-2019), Member (2016-2018, 2020-2021)
- Forest Research Committee (2017-present)
- Faculty Search Chair: Watershed Hydrologist position (2019)
- Evaluation of Teaching Committee Member (2018)
- Department Head Search Committee Member (2017)
- Graduate Appreciation Week Coordinator (2017)
- Mobile Lab Committee (2016)

College (College of Agriculture Health & Natural Resources- CAHNR)

- PLLA Faculty Search- committee member for Soil Health & Microbial Ecology search (2022)
- Scholarship Committee- NRE representative (2021-present)
- Diversity and Inclusion Committee Member (2019-2021)
- Capacity Grants Review Panel (2016, 2020)
- Dean Search Committee Member (2018)
- Faculty Advisory Committee, NRE Representative (2017-2019)
- Graduate Student Research Forum; oral presentation evaluator (2017, 2019)

University/Cross-College

- Mindfulness for Earth Working Group, member (2022-presnt)
- University Honors Program Board of Directors, CAHNR representative (2021-present)
- NSF NRT- Team TERRA
 - Curriculum committee member (2021-2022)
 - Recruitment committee member (2021-present)
 - Admissions committee member (2021-2022)
- Environmental Science Interdisciplinary Major Board Member (2020-present)
- CAHNR-CLAS Environmental Majors ad hoc committee (2020-2021)
- UConn Summer Undergraduate Research Fund reviewer panel (2020, 2022)
- UConn Research Excellence Program reviewer (2019, 2020)
- UConn@COP Fellow Review Panel (2019, 2021)
- UConn Center for Environmental Science and Engineering (CESE) Faculty Mini-grant Proposal reviewer (2017, 2019)
- UConn IDEA Grant reviewer (2017)

PROFESSIONAL ACTIVITIES

Scientific Outreach/Service

- Connecticut Inland Wetlands and Watercourses Act- Wetlands and Climate Change Resiliency Panelist (May 2022)
- Society for Wetland Science Biogeochemistry Section Chair (2020-present)
- US EPA New England Blue Carbon Mapping Working Group (2020-present)
- Audubon Society Salt Marsh Working Group (2019-present)
- Connecticut Audubon Society's 2019 State of the Birds Report, co-author of article "Charting the Course of Connecticut Salt Marshes in a Rising Sea" (Summer 2019)
- Future Farmers of America, Environmental and Natural Resources Career Development Event, Water quality volunteer (May 2019)

- Natural Resource Conservation Academy, Conservation Ambassador Program mentor for high school student (Summer 2018- SP 2019)
- Earth Day Volunteer at Center Elementary, Willington, CT. (April 2016- 2019, 2022)
- Women in STEM panel member for Manchester Community College students (December 2016, 2017)
- Chicago Wilderness Congress session coordinator- "Combining Ecological Restoration and Biofuel Production" (November 2013)

Ad hoc Reviewer

- NOAA Sea Grant Program (2019, 2023)
- USGS Institute of Water Resources (2018, 2019)
- Chilean Millennium Science Initiative, Natural and Exact Sciences Competition (January 2018, 2020)
- German Research Foundation, Emmy Noether Program (March 2018)
- National Science Foundation Ecosystems (2016), and NSF Population & Community Ecology (2015)

Peer Reviewer for following journals

American Journal of Botany Applied Vegetation Science Annals of Botany Aquatic Botany Aquatic Sciences Ecosystems Ecohydrology Ecology and Environment Environmental Management Estuaries and Coasts Geophysical Research Letters Hydrobiologia ISME Landscape Ecology Marine Environmental Research Plant Ecology PLOS ONE Restoration Ecology Rhodora Science of the Total Environment Wetland Ecology and Management Wetlands

Professional Affiliations

- Connecticut Association of Wetland Scientists
- Society for Ecological Restoration
- Society for Wetland Scientists

PROFESSIONAL DEVELOPMENT

- Workshop participant. Mindfulness for Earth, UConn Global Affairs. Two-day workshop in Old Saybrook, CT (October 2022).
- Workshop participant. Training and Leadership Coaching in BEDI- Belonging, Equity, Diversity & Inclusion via Thought Partner Solutions, online workshops (April-June 2022).
- Workshop participant. "Developing and building online assessments in HuskyCT" UConn's Center for Excellence in Teaching & Learning, online workshop (August 18, 2020)
- Workshop participant, "Fostering discussions in an online environment." UConn's Center for Excellence in Teaching & Learning, online workshop (March 18, 2020).
- Workshop participant, "Teaching remotely using Blackboard Collaborate." UConn Online (March 12, 2020)
- Workshop leader, "Developing a climate change teaching module for high school science teachers" UConn, Avery Point, CT (January 15, 2019)

- Workshop participant, "Effective Evaluation of Teaching" UConn's Center for Excellence in Teaching & Learning, Storrs, CT (May 14, 2018)
- Workshop participant, "CAREER Award Workshop," UConn's Office of the Vice President for Research, Storrs, CT (April 13, 2018)
- Workshop participant, "Search Committee Training," UConn's Office of Institutional Equity, Storrs, CT (February 28, 2018)
- Workshop participant, "Designing a Syllabus," UConn's Center for Excellence in Teaching & Learning, Storrs, CT (December 14, 2017)
- Workshop participant, "Husky CT Basics," UConn's Center for Excellence in Teaching & Learning, Storrs, CT (August 2016)
- Workshop participant, "National Center for Teaching Case Studies in Science, University of Buffalo, NY (May 16-20, 2016)
- Workshop participant, "Making Faculty Life Easier" College of Agriculture Health and Natural Resources, UConn, Storrs, CT. (January 2016)
- Workshop participant, "Interacting Effectively with International Students," Teaching and Learning Certificate Program, DePaul University, Chicago, IL. (April 2014).
- Workshop participant, "Responding to Plagiarism Workshop," Teaching and Learning Certificate Program. (February 2014).
- Workshop participant, "Scholarship of Teaching and Learning Fall Forum," DePaul University, Chicago, IL. (November 2013).
- Workshop participant, "Building your Teaching Portfolio," DePaul University, Chicago, Illinois. (December 2012).
- Biology Instructor; PEOPLE Program, UW-Madison (2009)
- Coursework, "The College Classroom"; UW-Madison Delta Program (2008)