Ariane Legaspi Peralta

Associate Professor

Department of Biology

East Carolina University

2023

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APPOINTMENTS

Aug. 2020- Present	Associate Professor, Department of Biology, East Carolina University Director, Interdisciplinary Doctoral Program in Biology, Biomedicine, and Chemistry (IDPBBC), Thomas Harriot College of Arts and Sciences, East Carolina University
Jan. 2014- Aug. 2020	Assistant Professor Department of Biology, East Carolina University
Dec. 2014- Dec. 2018	Visiting Research Assistant Professor Kellogg Biological Station, Michigan State University
Jan. 2013- Nov. 2014	Visiting Research Associate Kellogg Biological Station, Michigan State University
Dec. 2012- Dec. 2013	National Institute of Food and Agriculture Postdoctoral Fellow Department of Biology, Indiana University, Mentor: Jay T. Lennon, PhD
Dec. 2011- Nov. 2012	Postdoctoral Research Associate Kellogg Biol. Station, Michigan State Univ., Advisors: Sieglinde S. Snapp, PhD & Jay T. Lennon, PhD
	EDUCATION
Nov. 2011	Ph.D. in Ecology, Evolution, and Conservation Biology University of Illinois at Urbana-Champaign, Advisor: Angela D. Kent, PhD
July 2006	M.S. in Ecology and Evolutionary Biology University of Illinois at Urbana-Champaign, Advisor: Michelle M. Wander, PhD
May 2003	B.S. in Honors Biology and Chemistry, Distinction and Honors in Biology University of Illinois at Urbana-Champaign, Advisor: Martha U. Gillette, PhD
	PEER-REVIEWED PUBLICATIONS (*undergraduate co-author, §graduate student co-author)
2024	[37] Vance-Chalcraft H. R. Etheridge M. O'Driscoll A.L. Peralta C. Andersen§ F. Freeland§ L.P.

[37] Vance-Chalcraft, H., R. Etheridge, M. O'Driscoll, A.L. Peralta, C. Andersen[§], F. Freeland[§], J.P. Walker (2024) Investigating the development of team science skills and an improved understanding of multidisciplinary research through parallel research courses in Biology, Geology and Environmental Engineering. Scholarship and Practice of Undergraduate Research 7(2): 53-64.

[36] Scott, E.§, M.S. Brewer, A.L. Peralta, F.A. Issa (2024) The effects of social experience on host gut microbiome in male zebrafish (*Danio rerio*). The Biological Bulletin 244(3). https://doi.org/10.1086/729377

[35] Etheridge, J.R., J. Pascual-Gonzalez J. Hochard, A.L. Peralta, T.J. Vogel§ (2023) Predicting nitrate exposure from groundwater wells using machine learning and meteorological conditions. Journal of the American Water Resources Association. https://doi.org/10.1111/1752-1688.13175

[34] Weinfurther, K.D.§, A.M.M. Stuckert, M.E. Muscarella, A.L. Peralta, K. Summers (2023) Evidence for a parabasalian gut symbiote in egg-feeding poison frog tadpoles in Peru. Evolutionary Biology. 50:239–248. https://doi.org/10.1007/s11692-023-09602-7

[33] Lennon, J.T., S.D.W. Frost, N.K. Nguyen, A.L. Peralta, A.R. Place, K.K. Treseder (2023) Microbiology and climate change: a transdisciplinary imperative. mBio. e03335-22. https://doi.org/10.1128/mbio.03335-22

[32] Hochard, J.P., N. Abashidze, R. Bawa, J.R. Etheridge, Y. Li, A.L. Peralta, C. Sims, T. Vogel§ (2023) Air temperature spikes increase bacteria presence in drinking water wells downstream of hog lagoons. Science of the Total Environment. 161426 https://doi.org/10.1016/j. scitotenv.2023.161426

- [31] Swails, E.E., M. Ardón, K.W. Krauss, A.L. Peralta, R.E. Emanuel, A.M. Helton, J.L. Morse, L. Gutenberg, N. Cormier, D. Shoch, S. Settlemyer, E. Soderholm, B. Boutin, C. Peoples, S. Ward (2022) Response of soil respiration to changes in soil temperature and water table level in drained and restored peatlands of the Southeastern United States. Carbon Balance and Management 17:18. https://doi.org/10.1186/s13021-022-00219-5
- [30] Armstrong, L.§, A.L. Peralta, K.W. Krauss, N. Cormier, R.F. Moss, E. Soderholm, A. McCall, C. Pickens, M. Ardón (2022) Hydrologic restoration decreases greenhouse gas emissions from shrub bog peatlands in Southeastern U.S. Wetlands 42:81. https://doi.org/10.1007/s13157-022-01605-y
- [29] Kinsman-Costello, L., E. Bean, A. Goeckner[§], J.W. Matthews, M. O'Driscoll, M. Palta, A.L. Peralta, A. Reisinger, G. Reyes§, A. Smyth, M. Stofan§ (2022) Mud in the city: Effects of freshwater salinization on inland urban wetland nitrogen and phosphorus availability and export. Limnology and Oceanography Letters. 8(1) 112-130. https://doi.org/10.1002/lol2.10273
- 2021 [28] Rocca, J.D., M.E. Muscarella, A.L. Peralta, D. Izabel-Shen, M. Simonin (2021). Guided by microbes: applying community coalescence principles for predictive microbiome engineering. mSystems 6(4). https://doi.org/10.1128/mSystems.00538-21
 - [27] Koceia, M.E.*, R.B. Bledsoe§, C. Goodwillie, A.L. Peralta (2021), Distinct microbialcommunities alter litter decomposition rates in a fertilized coastal plain wetland. Ecosphere 12(6) e03619. https://doi.org/10.1002/ecs2.3619
 - [26] Graham, E.B., C. Averill, B. Bond-Lamberty, J.E. Knelman, S. Krause, A.L. Peralta, A. Shade. A.P. Smith, et al. (2021) Towards a unifying framework of disturbance ecology through crowd sourced science. Frontiers in Ecology and Evolution 9. https://doi.org/10.3389/fevo.2021.588940
- [25] Peralta, A. L., R. B. Bledsoe[§], M. E. Muscarella, M. Huntemann, A. Clum, B. Foster, B. Foster, S. 2020 Roux, K. Palaniappan, N. Varghese, S. Mukherjee, T. B. K. Reddy, C. Daum, A. Copeland, I.-M. A. Chen. N. N. Ivanova, N. C. Kyrpides, T. G. delRio, E.A. Eloe-Fadrosh (2020), Metagenomes from experimental hydrologic manipulation of restored coastal plain wetland soils (Tyrell County, NC). Microbiology Resource Announcements 9. https://doi.org/10.1128/MRA.00882-20
 - [24] Bledsoe, R.B.§, E.Z. Bean, S. Austin*, A.L. Peralta (2020). A microbial perspective on balancing trade-offs in ecosystem functions in a constructed stormwater wetland. Ecological Engineering. 158. https://doi.org/10.1016/j.ecoleng.2020.106000
 - [23] Goodwillie, C., M.W. McCoy, A.L. Peralta (2020) Long-term fertilization, mowing, and ditch drainage interact in the dynamics of a wetland plant community. Ecosphere 11(10): e03252. https://doi.org/10.1002/ecs2.3252
 - [22] Bledsoe, R.B.§, C. Goodwillie, A.L. Peralta (2020), Long-term nutrient enrichment of an oligotroph-dominated wetland increases bacterial diversity in bulk soils and plant rhizospheres. mSphere. 5(3). https://doi.org/10.1128/mSphere.00035-20
 - [21] Werba, J.§, A. Stucy§, A.L. Peralta, M.W. McCoy (2020) Effects of diversity and coalescence of species assemblages on ecosystem function at the margins of an environmental shift. PeerJ. 8:e8608. https://doi.org/10.7717/peerj.8608
 - [20] Wisnoski, N.I.§, M.E. Muscarella, M. Larsen, A.L. Peralta, J.T. Lennon (2020) Metabolic insight into bacterial community assembly across ecosystem boundaries. Ecology. 101(4):e02968. https:// doi.org/10.1002/ecy.2968
 - [19] Mueller, E.A.\$, N.I. Wisnoski\$, A.L. Peralta, J.T. Lennon (2020) Microbial rescue effects: how microbiomes can save hosts from extinction. Functional Ecology. 34:2055-2064. https://doi. org/10.1111/1365-2435.13493
 - [18] Curtis, W.S., J.R. Etheridge, F. Filho, P. Malali, A.L. Peralta (2020) Planning for future solar farm development in North Carolina: A geographic food-energy-water approach, Southeastern Geographer. 60(1):48-64. https://doi.org/10.1353/sgo.2020.0004
- 2019 [17] Hinckley, B.R.§, J.R. Etheridge, A.L. Peralta (2019) Storm event nitrogen dynamics in waterfowl impoundments. Water, Air, and Soil Pollution. 230:294. https://doi.org/10.1007/s11270-019-4332-5

[16] Hinckley, B.R.§, J.R. Etheridge, A.L. Peralta (2019) Wetland conditions differentially influence nitrogen processing within waterfowl impoundments. Wetlands 40:1117–1131. https://doi.org/10.1007/s13157-019-01246-8

Publications prior to tenure and promotion to Associate Professor at ECU

- 2019 [15] Sprunger, C., S.W. Culman, A.L. Peralta, S.T. DuPont, J.T. Lennon, S.S. Snapp (2019)
 Perennial grain crop roots and nitrogen management shape soil food webs and soil carbon dynamics. Soil Biology & Biochemistry 137. https://doi.org/10.1016/j.soilbio.2019.107573
 - [14] Matthews, J.W., S. McIntyre, A.L. Peralta, C. Rodgers (2019) Long-term assessment of alternative strategies for the restoration of floodplain forest in the presence of an invasive grass, *Phalaris arundinacea*. Wetlands 40:655–665. https://doi.org/10.1007/s13157-019-01204-4
- 2018 [13] Peralta, A.L., Y. Sun, M.D. McDaniel, J.T. Lennon (2018) Crop rotational diversity increases disease suppressive capacity of soil microbiomes. Ecosphere 9(5). https://doi.org/10.1002/ecs2.2235
 - [12] McCoy, K.A., A.L. Peralta (2018) Pesticides could alter amphibian skin microbiomes and the effects of *Batrachochytrium dendrobatidis*. Special Issue: Ecology of Amphibian-Microbial Symbioses. Frontiers in Microbiology 9:748. https://doi.org/10.3389/fmicb.2018.00748
- [11] Peralta, A.L., M.E. Muscarella, J.W. Matthews (2017) Wetland management strategies lead to tradeoffs in ecological structure and function. Elementa: Science of the Anthropocene 5:74. https://doi.org/10.1525/elementa.253
- 2016 [10] Peralta, A.L., E.R. Johnston*, J.W. Matthews, A.D. Kent (2016) Abiotic correlates of microbial community structure and nitrogen cycling functions vary within wetlands. Freshwater Science. 35(2):573–588. https://doi.org/10.1086/685688
- [9] Peralta, A.L., D. Stuart, A.D. Kent, J.T. Lennon (2014) A social-ecological framework for 'micromanaging' microbial services. Frontiers in Ecology and the Environment. 12(9):524–531. *featured on cover. https://doi.org/10.1890/130308
 - [8] Peralta, A.L., S. Ludmer*, J.W. Matthews, A.D. Kent (2014) Bacterial community response to changes in soil redox potential along a moisture gradient in restored wetlands. Ecological Engineering 73:246-253, https://doi.org/10.1016/i.ecoleng.2014.09.047
 - [7] Peralta, A.L., J.W. Matthews, A.D. Kent (2014) Habitat specialization along a wetland moisture gradient differs between ammonia oxidizing and denitrifying microorganisms. Microbial Ecology 68:339-350. https://doi.org/10.1007/s00248-014-0407-4

Publications prior to ECU

- [6] Peralta, A.L., S. Ludmer*, A.D. Kent (2013) Hydrologic history constrains microbial community composition and nitrogen cycling under experimental drying/wetting treatments. Soil Biology & Biochemistry 66:29-37. https://doi.org/10.1016/j.soilbio.2013.06.019
- [5] Peralta, A.L., J.W. Matthews, D.N. Flanagan, A.D. Kent (2012) Environmental factors at dissimilar spatial scales influence plant and microbial communities in restored wetlands. Wetlands 32:1125-1134. https://doi.org/10.1007/s13157-012-0343-3
- [4] Peralta, A.L., J.W. Matthews, A.D. Kent (2010) Microbial community structure and denitrification in a wetland mitigation bank. Applied and Environmental Microbiology 76:4207-4215. https://doi.org/10.1128/AEM.02977-09
- [3] Matthews, J. W., A.L. Peralta, P. Baldwin*, A. Soni*, A.D. Kent, A.G. Endress (2009) Local and landscape correlates of non-native species invasion in restored wetlands. Ecography 32:1031-1039. https://doi.org/10.1111/j.1600-0587.2009.05863.x
 - [2] Matthews, J. W., A.L. Peralta, D.N. Flanagan, P. Baldwin*, A. Soni*, A.D. Kent, A.G. Endress (2009) Relative influence of landscape versus local factors on plant community assembly in restored wetlands. Ecological Applications 19:2108-2123. https://doi.org/10.1890/08-1836.1
- 2008 [1] Peralta, A.L., M.M. Wander (2008) Soil organic matter dynamics under soybean exposed to elevated CO_a. Plant and Soil 303:69-81. https://doi.org/10.1007/s11104-007-9474-3

Manuscripts in review or in revision

Peralta, A.L. M.E. Muscarella, A. Stucy[§], J.A. Werba[§], and M.W. McCoy (In review) Bacterial composition reflects fine-scale salinity changes while phylogenetic diversity exhibits a strong salt divide. biorxiv pre-print https://doi.org/10.1101/2021.09.14.460410

Bledsoe, R.B.§, C.G. Finlay§, A.L. Peralta (In review) Plant-microbe-mediated decrease of greenhouse gases under dynamic wetland hydrology. biorxiv pre-print https://doi.org/10.1101/2020.06.29.178533

Publications not peer-reviewed

- 2019 Moysey, S., M.A. O'Driscoll, S. Mitra, J.R. Etheridge, A.L. Peralta, A.K. Manda, R. Wu (2019)
 Mixing zones as critical components of coastal watershed function. White paper solicited by the
 Department of Energy. https://doesbr.org/openwatersheds/Open_Watersheds_Low_Res.pdf
- Burton, J.L., M. Drigo, Y. Li, A. Peralta, J. Salzer, K. Varala, B. Hannon, and J.D. Westervelt (2012)
 A model of evaluating hunting and contraception as feral hog population control methods. In
 Ecologist-Developed Spatially Explicit Dynamic Landscape Models. Editors J.D. Westervelt and
 G.L. Cohen. Springer, New York.

GRANTS AND FELLOWSHIPS | RESEARCH

- 2024-2026 North Carolina Sea Grant: Evaluating the Influence of Sediment Microbial Community Composition and Salinity on Smooth Cordgrass (*Sporabolus alterniflorus*) Seedling Survival and Growth; Pl Gitman, Co-Pl Peralta (\$149,034)
- 2023-2026 NSF Excellence in Research: Evaluating Environmental Stressor Effects on Soil Bacterial Traits. Co-PI (\$769,173 total to PI Danielle Graham, Favetteville State University; \$285,645 ECU subcontract)
- 2021-2026 NSF Coastlines and People. "Focused CoPe: Supporting Environmental Justice in Connected Coastal Communities through a Regional Approach to Collaborative Community Science" Senior Person (\$4,999,056)
- 2021-2025 NSF Dynamics of Coupled Natural and Human Systems. "RUI: CNH2-L: An integrative analysis of perceptions, policy, and land use impact on coastal agricultural watershed resilience." PI (\$1,499,904)
- 2020-2024 US EPA, Science to Achieve Results Program, "Predicting drinking water contamination from extreme weather to reduce early life contaminant exposures." Co-PI (\$799,384 total, \$403,879 to ECU)
- 2019-2024 NSF DEB, Ecosystem Science Program. "CAREER: Microbial controls on carbon stabilization and storage." PI (\$593,852 + \$46,950 REPS supplement + \$28,263 ROA supplement) \$669,065
- 2019-2020 North Carolina Ocean Energy Program. "Biofouling of surfaces in the coastal water of North Carolina: a preliminary investigation." Co-PI (\$31,000)
- 2018-2020 NSF SBE Decision, Risk and Management Sciences Program. "2018 Hurricane Season: RAPID: Rural residents' self-protections to perceived and actual contamination risk in private drinking wells after Hurricane Florence." Co-PI (\$179,223)
- 2018-2020 DOE Joint Genome Institute Community Sequencing Program Award. "Biogeochemical tradeoffs of wetland soil microbiomes exposed to plant inputs and dynamic hydrology." PI (sequencing costs)
- 2018-2021 North Carolina DENR Department of Environmental Quality. "Reducing non-point sources of pollution and improving water quality in the Lick Creek Watershed." Co-PI (\$143,050)
- 2017-2018 North Carolina Ocean Energy Program. "An integrative environmental and ecological assessment of the Gulf Stream current environment of the coast of Cape Hatteras, NC. Co-PI (\$181,108)
- 2017-2020 US EPA, Science to Achieve Results Program-Integrating Human Health and Well-Being with Ecosystem Services. "Community-level management of human health risks from concentrated animal feeding operations with defensive natural capital investments," Co-PI (\$399,226)
- 2016-2018 Water Resources Research Initiative North Carolina Sea Grant. "Managing nitrogen removal capacity in a stormwater wetland." Sponsor for Graduate Student Fellowship R. Bledsoe (\$9,966)

2016-2019	North Carolina DENR, Department of Marine Fisheries Coastal Recreational Fishing Licenses. "Linking water quality, food quality, and larval fish condition to determine strategic habitat area quality." PI (\$161,877) (transferred from D. Kimmel)
2016-2019	NC Dept. of Justice Environmental Enhancement Fund. "The effects of stormwater control measures on Town Creek: Quantifying water quality improvements and stormwater reduction in an impaired urban watershed." Co-PI (\$110,209)
2015-2017	The Nature Conservancy. "Greenhouse gas monitoring in restored pocosin wetlands." Co-PI (\$88,363) (transfered from M. Ardón)
2015	ECU Center for Sustainability Interdisciplinary Summer Research Award. "Getting the 'N' out of Stormwater: Harnessing microbes for sustaining water quality and development," Co-PI (\$11,451)
2012-2015	National Institute of Food & Agriculture Postdoctoral Fellowship. "Land use legacies in soils: Effects of crop diversity on plant-soil-microbial interactions," PI (\$125,991; \$66,575 transfer to ECU)
2008, 2011	Ecology, Evolution, and Conservation Biology Graduate Summer Travel Grant, Univ. of Illinois
2004, 08-11	University of Illinois Graduate College Travel Grant
2008-2010	Ecology, Evolution, and Conservation Biology Summer Research Grant, Univ. of Illinois
2009-2011	Illinois Water Resources Center Research Assistantship
2007-2008	Ecology, Evolution, and Conservation Biology Research Assistantship, Univ. of Illinois
2002	Pfizer Summer Undergraduate Research Fellowship
2001-2002	Colgate-Palmolive Undergraduate Research Fellowship
	GRANTS TEACHING + TRAINING
2022-2027	US Department of Education. "Project edPIRATE (Educator Pipeline In Rural Action for Teaching" Senior Person (\$4,493,136)
2022-2026	GlaxoSmithKline Foundation. "Growing a Diverse Public Health Workforce for Rural North Carolina through Graduate School Pathways" Key Person & Program Co-Director (\$1,315,000)
2021-2026	NSF Research Traineeship Program. "NRT-HDR: Finding Signal in the Noise to Enable Science-Based Community Response to Change in Coastal Regions" Co-PI (\$1,999,736)
2020-2024	NSF DUE. "Team Experiences and Mentoring Strategies for Undergraduate Research." Senior Person $(\$1,632,581)$
	AWARDS
2022	East Carolina University, Centennial Award for Excellence in Leadership (highest awards given to ECU faculty and staff for excellence in service, leadership and spirit)
2021	East Carolina University, 5-Year Achievement Research and Creative Activity Award
2019	National Science Foundation Faculty Early Career Development (CAREER) Award
2018	East Carolina University 2017-2018 Scholar-Teacher Award
2017	East Carolina University Coastal Maritime Council Coastal Scholar Award
2010	John G. and Evelyn Hartman Heiligenstein Outstanding Teaching Assistant Award
2008	Student Presentation Award: 12th International Symposium on Microbial Ecology, Cairns, Australia
2008	Student Presentation Award, Illinois State Academy of Science Annual Meeting, Champaign, IL
2002-05,-08	List of Teachers Ranked as Excellent by Their Students
	INVITED PRESENTATIONS
2024	Plenary Speaker "Microbial Wetland Ecology and Environmental Justice" Association for the Sciences of Limnology and Oceanography. Madison, Wisconsin, USA. June 7, 2024.
	Invited Speaker, Microbiology Graduate Student Organization Invited Speaker, Interdepartmental Microbiology (IM) Retreat. Iowa State University. Ames, Iowa, USA. March 22, 2024.

Peralta, A.L. (2023) Microbes matter for sustaining nature-based solutions. Ecological Society of America Annual Meeting. Inspire Session: "Linking microbial evolution to ecosystem processes for all ecologists" Aug. 9, 2023.

Invited Panelist | Peralta, A.L. (2023) Pathways to STEM Leadership for Women of Color. Networks of Success Conference. Dartmouth College, Hanover, New Hampshire. July 26, 2023.

Invited Seminar | Peralta, A.L. (2023) Microbial-climate change feedbacks at the land-water interface. Department of Plant and Microbial Biology Seminar Series, North Carolina State University, Raleigh, NC. February 28, 2023.

Invited Seminar | Peralta, A.L. (2023) Microbial-climate change feedbacks in coupled natural and human systems. Department of Biological Sciences Seminar Series, Auburn University, Auburn, AL. February 16, 2023.

- Peralta, A.L. (2022) Wetland microbiome restoration for mitigating climate change. American Society for Microbiology Microbe Conference. Washington, D.C. Jule 10-14, 2022. Lightning presentation.

 Peralta, A.L. (2022) Microbial services (and dis-services) in human-dominated landscape. Microbes and Climate Change Mini-Conference. Washington, D.C. June 9, 2022.
- Plenary Speaker | Peralta, A.L. (2021) Linking research and teaching to understand microbialclimate change feedbacks. North Carolina Branch American Society for Microbiology Meeting. October 30, 2021.

Invited Seminar | Peralta, A.L. (2021) Multiple stressor effects on microbiomes in coupled natural and human systems. Duke Microbiome Center Seminar Series, Duke University, Durham, NC. October 18, 2021.

Peralta, A.L. (2021) Land use consequences and considerations for restoring wetland microbial functions. Society of Wetland Sciences Annual Meeting. Session: Microbes: Small Players with Big Impacts on Invasive Species Management and Wetland Restoration. Invited Talk. June 10, 2021.

Invited Seminar | Peralta, A.L. (2020) Past and present land use determine microbial community patterns and processes. University of California, Irvine, Department of Ecology and Evolutionary Biology Seminar. October 23, 2020.

Invited Seminar | Peralta, A.L. (2020) Consequences and considerations of multiple stressors on wetland soil microbiomes. Kent State University, Department of Biological Sciences Seminar. October 9, 2020.

Invited Seminar | Peralta, A.L. (2020) Microbiomes in coupled natural and human systems. University of North Carolina Charlotte, Department of Biology Seminar. January 24, 2020.

Peralta, A.L. (2019) Ongoing nutrient enrichment shifts microbial community patterns and processes in a coastal plain wetland. ModEx Approaches to Research on Shorelines (MARSh) workshop. Oak Ridge National Laboratory. September 19, 2019.

Peralta, A.L. (2019) Microbiomes in coupled natural and human systems. University of North Carolina Pembroke, Department of Biology Seminar. March 31, 2019.

Peralta, A.L. (2018) Microbial controls on wetland carbon stabilization and storage. East Carolina University, Department of Geological Sciences Seminar Series. October 26, 2018.

Peralta, A.L. (2018) Microbiomes in coupled natural and human systems. University of Kansas, Department of Ecology and Evolutionary Biology Seminar. February 5, 2018.

Peralta, A.L. and M.E. Muscarella (2017) How can we manage microbial functions to restore ecosystem services in human-dominated landscapes? Ecological Society of America Annual Meeting. Organized Oral Session: "Integrating Functional and Phylogenetic Diversity to Understand the Delivery of Ecosystem Services" Aug. 9, 2017.

Peralta, A.L. (2017) It's time to get out of our microbial silos. Ecological Society of America Annual Meeting. Ignite Session: "Integrating Microbial Silos to Enhance Ecosystem Services" Aug. 8, 2017 Peralta, A.L. (2017) Managing microbiomes to enhance water quality. East Carolina University, Coastal Water Resources Center Seminar Series. March 29, 2017.

Peralta, A.L. (2016) Managing microbiomes to enhance and restore ecosystem services. Virginia Polytechnic Institute and State Univ., Ecology & Evolutionary Biology Seminar Series. Oct. 27, 2016.

Peralta, A.L. (2016) Can social-ecological frameworks be used to enhance restoration of microbial ecosystem functions? Society of Wetland Scientists Meeting. Corpus Christi, TX. June 2, 2016.

Peralta, A.L. (2016) "Micromanaging" human-dominated ecosystems for enhanced microbial functions. Illinois Natural History Survey. Champaign, IL. January 19, 2016. 2015 Peralta, A.L. (2015) "Micromanaging" human-dominated ecosystems for enhanced microbial functions. Duke University Program in Ecology Seminar Series. December 1, 2015. Peralta, A.L. (2015) If you build it, will they come? Restoring ecosystems many microbes at a time. East Carolina University, Department of Biology. Nerd Nite - Homecoming. October 16, 2015. Peralta, A.L. (2015) Can social-ecological frameworks be used to enhance restoration of microbial functions? UNC Institute of Marine Science Seminar Series. September 17, 2015. Peralta, A.L. (2015) Microbial community structure and function in human-dominated landscapes: An interdisciplinary approach. Guest lecture for Explorations in Data Analyses for Metagenomic Advances in Microbial Ecology (EDAMAME) Workshop at Michigan State University, Hickory Corners. MI. June 25, 2015. Peralta, A.L., C.N. Balakrishnan, and S.M. Barribeau (2015) Social media and the (young) scientist. Research In Progress Seminar. Dept. of Biology, East Carolina University. 2014 Peralta, A.L. (2014) Microbial community structure and function in human-dominated ecosystems. Explorations in Data Analyses for Metagenomic Advances in Microbial Ecology (EDAMAME) Workshop, Kellogg Biology Station, Michigan State Univ. August, 2014 Placella, S.A., A.L. Peralta, and J.T. Lennon (2013) Dormancy dynamics of soil bacteria: Can 2013 moisture variability promote microbial diversity? National Cooperative Soil Science Conference & AFRI Project Directors Meeting, Annapolis, MD, USA, June 17-20, 2013. Peralta, A.L., J.W. Matthews, and A.D. Kent (2013) Land use legacies in restored wetlands: Implications for microbial community structure and nitrogen cycling function. Society of Wetland Scientists Annual Meeting. Duluth, MN, USA. April 2-6, 2013. Peralta, A.L. (March 2013) Microbial community structure and function in human-dominated ecosystems. Department of Biology, East Carolina University, Greenville, NC. 2012 Peralta, A.L. (July 2012) Soil ecology and soil organic matter management. Invited guest lecture presented to Michigan State University's International Agroecology, IPM, and Sustainable Agriculture Short Course, Kellogg Biological Station, Hickory Corners, MI. TEACHING EXPERIENCE Seminar in Interdisciplinary Biological Sciences, Instructor, Dept. of Biology, ECU (every semester) 2021-present 2021-present Microbial Ecology, Multi-disciplinary Team Science CURE, Instructor, Dept. of Biology, ECU (odd yrs) 2020-present Microbiome Analysis & Science Communication CURE, Instructor, Dept. of Biology, ECU (even yrs) 2020 Current Topics in Microbiome Science, Instructor, Dept. of Biology, East Carolina Univ. Microbiome Sequencing and Analysis CURE, Co-Instructor with R.B. Bledsoe, Dept. of Biology, ECU 2019 2017 Wetlands Ecology and Management, Instructor, Dept. of Biology, ECU ECU Bioinformatics Workshop, Guest Instructor, Dept. of Biology, ECU 2015-2019 Microbial Ecology, Instructor, Dept. of Biology, ECU (spring, odd years) Microbiology, Instructor, Dept. of Biology, East Carolina University (fall) 2014-present Honors Ecology and Evolution, Teaching Assistant, School of Integrative Biology, Univ. of Illinois 2009 2008 Ecology, Teaching Assistant, School of Integrative Biology, Univ. of Illinois 2004-2005 Introductory Soils Laboratory, Teaching Assistant, Dept. of Natural Res. and Envi. Sci., Univ. of Illinois 2002-2003 Accelerated Chemistry Laboratory I & II, Teaching Assistant, Dept. of Chemistry, Univ. of Illinois **MENTORING** (graduate students and postdocs) 2023-present (15) Kelsey Coates, NSF Graduate Research Fellow, PhD Student (10b) Colin Finlay, NSF Research Trainee, PhD Student, NSF National Research Trainee 2023-present (14) Michael Sioson, MS Student, "Employing microbial and salinity treatments to Sporobolus 2023-present

alterniflorus to promote coastal marsh restoration"

2023-present	(13) Daphka Joseph, MS Student, "Nutrient context influence on plant root decomposition and carbon storage potential"
2023-present	(12) Scott Siebor, MS Student, "Nutrient effects on wetland plant-bacterial-fungal relationships"
2022-present	(11) Dejah Smith, MS Student, "Microbiome exchange between human and non-human primates"
2021-2023	(10a) Colin Finlay, MS Student, "Redox effects on wetland microbial metabolic composition" (NC WRRI/Sea Grant Fellow)
2020-2022	(9) Daniya Stephens, MS Biology, "Long-term fertilization and hydrology interact to influence wetland plant and bacterial communities in a low-nutrient wetland"
2019-2022	(8) Aied Garcia, MS Biology, "Examining chronic nutrient enrichment effects on wetland plant-microbe interactions using a trait-based approach"
2017-present	(7) Thomas Vogel, PhD Candidate (co-advised by R. Etheridge, J. Hochard) "Wells, Water Quality, and Welfare: Examining Groundwater Quality and Economic Impacts in a Rural North Carolina Watershed
2015-2020	(6) Regina B. Bledsoe, PhD in Interdisciplinary Biological Sciences, "Manipulation fo flooding and nutrients influences plant-microbe interactions and wetland function" (NSF Graduate Research Fellow, NC WRRI/Sea Grant Fellow)
2014-2018	(5) Deborah Lichti, PhD in Interdisciplinary Biological Sciences (major advisor D. Kimmel), "Are all fish nurseries equal? Determining how food web dynamics affect fish nursery habitat"
2016-2018	(4) Brian Hinckley, MS Biology (co-advised by R. Etheridge), "Describing nitrogen dynamics in eastern North Carolina waterfowl impoundments by combining field- and laboratory-based approaches"
2015-2017	(3) Luise Armstrong, MS Biology (co-advised by M. Ardón), "Rewetting pocosin wetlands lowers greenhouse gas emissions"
2016-2017	(2) Alexandra Stucy, MS Biology, "Salinization impacts on historically freshwater bacterial communities"
2015-2016	Yanmei Sun, PhD, Postdoctoral Research Associate, "Crop diversity effects on soil microbial communities and disease suppressive function"
2014-2015	(1) Joshua Thigpen, MS Biology (co-advised by C. Goodwillie), "Effects of nutrient availability and disturbance on the composition and diversity of soil microorganisms"
	MENTORING (post-baccalaureates, undergraduates and high school students)
2023-present	(39) Tete Narh-Mensah, Undergraduate Reseearch Assistant
2023-present	(38) Sophia DeBruhl, Undergraduate Research Assistant, Honors College
2023-present	(37) Neill Garza Hernandez, Undergraduate Reseearch Assistant
2023-present	(36) Celina McCoy, Undergraduate Research Intern (Winston Salem State University Undergraduate)
2023-present	(36) Toby Gallegos, Undergraduate Reseearch Assistant
2022-present	(35) Glory Kidimbu, Undergraduate Research Assistant, Honors Thesis <i>Nutrient Enrichment Effects</i> on Wetland Soil Bacterial Traits
2022-present	(34) Kai Davis, Undergraduate Research Assistant, Honors Thesis Evaluating Plant-Microbe Associations in Response to Environmental Stressors to Enhance Wetland Restoration
2022	(33) Scott Siebor, Undergraduate Research Assistant
2022	(32) Ana Ramirez, Undergraduate Research Assistant
2021-2023	(31) Allison Walker, National Summer Undergraduate Research Project Intern, North Carolina State Univ. Honors Capstone Awardee 2022
2021-2022	(30) Ivan Martinez-Santoyo, Undergraduate Research Assistant
2021-2023	(29) Surinder Gill, Undergraduate Research Assistant, Honors Thesis Coastal Stressor Effects on Sediment and Salt Marsh Cordgrass (Spartina alterniflora) Root-Associated Microbiomes
2021-2022	(28) Dejah Smith, NSF Research Experience for Post-Baccalaureate Students Scholar
2021-2022 2020-2022	(27) Shajany Davis, Undergraduate Research Assistant (26) Virginia Rosas Acosta, Undergraduate Research Assistant

2022	(25) Charlotte Mesmer, Undergraduate Research Volunteer
2021	(24) Valari Vander-Heyden, Undergraduate Research Volunteer
2020-2021	(23) De'Monnie Williams, Undergraduate Research Assistant
2019-2020	(22) Daniya Stephens, Undergraduate Research Assistant
2017-2020	(21) Alexia Griffin, Undergraduate Research Assistant
2020	(20) Guadalupe Bernal, Cal Poly, National Summer Undergraduate Research Project Intern
2020	(19) Fechi Inyama, Harvard Univ., National Summer Undergraduate Research Project Intern
2020	(18) Ivanellis Rodriguez Torres, Univ. of Puerto Rico, National Summer Undergraduate Research Project Intern
2020	(17) Joseph Whittington, Undergraduate Research Assistant
2016-2019	(16) Megan Koceja, Undergraduate Research Assistant, Honors Thesis Consequences of long-term fertilization on wetland microbial function
2019	(15) Emma Richards, Undergraduate Research Assistant
2018-2019	(14) Allison Fisk, Undergraduate Research Assistant
2016-2018	(13) Samuel Austin, Undergraduate Research Assistant
2018	(12) Aied Garcia, Undergraduate Research Assistant
2018	(11) Diego Carreño, Undergraduate Research Assistant
2017	(10) David Morlock, Undergraduate Research Assistant
2016-2017	(9) Corey Forbes, Undergraduate Research Assistant
2015-2016	(8) Jonathan LeCrone, Undergraduate Research Assistant
2015-2016	(7) Morgan Beamon , Undergraduate Research Assistant
2016	(6) Julianna Haag, Undergraduate Research Assistant
2014-2016	(5) J. Spencer Wilkinson III, Undergraduate Research Assistant
2014-2015	(4) Casey Eakins, Undergraduate Research Assistant
2014-2015	(3) Katherine Dorronsoro, Undergraduate Research Assistant
2014	(2) Rene Vanek, Undergraduate Research Assistant
2014	(1) Sheridan Iroegbu, Undergraduate Research Assistant
	MENTORING (prior to ECU)
2013	Nicholas Nelson, Indiana University Jim Holland Summer Science High School Research Program
2012	Ebony Rodgers, Michigant State Univ. Undergraduate Research Apprentice
2010-2011	Sarah Ludmer (Undergraduate Research Assistant, Awarded Helen E. Hess Award for outstanding research and High Distinction in Integrative Biology, Univ. of IL)
2009-2010	Eric Johnston (Undergraduate Research Asst., Awarded Distinction in Integrative Biology, Univ. of IL)
2008-2009	Lauren Endriukaitis, Undergraduate Research Assistant, University of Illinois
2008-2009	Omar Sinno, Undergraduate Research Assistant, University of Illinois
2008-2009	Neil Gottel, Undergraduate Research Assistant, University of Illinois
	PROFESSIONAL SERVICE

manuscript and grant review

Ad hoc Journal Reviewer for Agronomy Journal, ASM Spectrum, ASM mSystems, Biogeochemistry, Ecology Ecosphere, Environmental Microbiology, Estuaries & Coasts, FEMS Microbial Ecology, Freshwater Biology, Freshwater Sciences, Functional Ecology, Global Change Biology, Hydrological Engineering, ISME-J, Journal of Applied Ecology, Journal of Environmental Quality, Plant and Soil, PLoS ONE, Proceedings of the Royal Society B: Biological Sciences, Scientific Reports, Science of the Total Environment, Soil Biology & Biochemistry, Water Resources Research, Wetlands

Panelist for National Science Foundation (2020 (x2); 2021 (x2); 2022 (x2); 2023 (x1); 2024 (x2) 2020-2024 2024

Participant, Workshop sponsored by the U.S. Department of Energy (DOE) Environmental System Science (ESS) Program "Critical Knowledge Gaps for Coastal Systems: Research Priorities for the U.S. South Atlantic and Gulf of Mexico" March 26-27, 2024. Rockville, MD.

2023	Panelist, Oak Ridge National Laboratory Terrestrial Ecosystem Science, Science Focus Area Review
2023	Panelist, Environmental Molecular Sciences Laboratory (EMSL) at the Pacific Northwest National Lab (PNNL) User Program
2022	Panelist for Department of Energy Biological and Environmental Research (BER)
2021	Panelist for NASA NSPIRES Plant Microbiome
2021-present	Subject Matter Editor, Ecosphere Agroecosystems Track
2017-2019	Panelist for National Science Foundation (2017 (x3); 2018 (x1); 2019 (x2)
2020	Reviewer for Department of Energy Subsurface Biogeochemistry Science Focus Area Review
2018	Panelist for National Institute of Food and Agriculture
2016	Ad hoc Reviewer for European Union BiodivERsA
2015-2017	Co-guest Editor, Elementa: Science of the Anthropocene Special Feature "Ghosts of land-use past: Do land-use legacy effects constrain the restoration of aquatic ecosystems?"
2014-16, 24	Ad hoc Reviewer for National Science Foundation
2014-2015	Panelist for National Science Foundation
	professional society leadership
2024-	Member, Triangle Center for Evolutionary Medicine (TriCEM) Advisory Board
2023-	Member, Connecting Microbiome Communities (CMiC) Steering Committee, special conference of
	the Society for Industrial Microbiology and Biotechnology
2022-2025	Member, Subcommittee for Minority Education, American Society for Microbiology
2023	Governance Leadership Committee, Ecological Society of America
2022-2023	Past Speaker of the Council, Ecological Society of America
2022	Speaker of the Council, Ecological Society of America
2021-2022	Member, Ecological Society of America Council Leadership Working Group Representative
2020-2021	Member, Ecological Society of America Governance Subcommittee. The subcommittee provided recommendations to re-structure ESA's governance with a goal to provide transparency, improve efficiency, as well as increase engagement of the membership.
2020-2022	Member, Society of Wetland Scientists Education and Outreach Committee
2020-2022	Program Committee Track Leader, American Society for Microbiology, Ecology, Evolution, Biodiversity
2020-present	Fundraising and Communications Advisor, Microbial Ecology Section, Ecological Society of America
2018-2022	Program Committee Member, American Society for Microbiology, Annual Microbe Meeting
2018-2019	Chair, Microbial Ecology Section, Ecological Society of America
2017-2018	Vice-Chair, Microbial Ecology Section, Ecological Society of America
2016-2017	Secretary, Microbial Ecology Section, Ecological Society of America
	professional society contributions
2023	Poster Judge, Microbiology Section, Annual Biomedical Research Conference for Minoritized Scientists (ABRCMS). Phoenix, AZ, USA. 16-17 November 2023.
2023	Panelist, Panel Discussion, Climate Change Track "Research Design for Climate Related Studies" at the American Society for Microbiology Microbe Conference. 18 June 2023.
2023	Organizer, In Depth Session "Microbiome management in a changing world" at the American Society for Microbiology Microbe Conference. 18 June 2023.
2022-2024	Mentor, American Society for Microbiology Future Leaders Mentoring Fellowship Program
2022	Science Advocate, American Society for Microbiology Climate Change and Microbes Online Hill Day
2021	Lead-organizer (w/ M. Muscarella) of Inspire Session "Community coalescence as a framework for managing microbes in natural, host, and engineered ecosystems" at the Ecological Society of America Annual Meeting.
	Co-organizer (w/ A. Romero-Olivares, V.B. Chaudhary, and Lily Khadampour (2021) Organized Session: Vital Connections for Women and Non-Binary BIPOC in Ecology. Ecological Society of America Annual Meeting. 2-6 August 2021.

2019	Co-organizer (w/ S. Prather, B. Merkel, K. Clark) of Workshop "Applying Art, Design, and Interactivity Principles to Enhance Science Communication" at the Ecological Society of America Annual Meeting
	Co-organizer (w/ L. Kinsman-Costello) of Session "The Novel Biogeochemistry of Ubiquitous Understudied Urban Wetlands" at the Ecological Society of America Annual Meeting
2016-2017	Participant, North Carolina Festival Invite-A-Scientist
2016	Panelist, North Carolina Wetlands Symposium, Restoration Panel
2015	Participant, Environmental North Carolina Stormwater Task Force
	Co-organizer (w/ S. Evans, J. Bowman) LTER All Scientist Mtg. Working Group: LTER based perspectives on microbial community structure, function, process
	Lead-organizer Ecological Society of America Organized Oral Session "Trait-based ecology at the micro-scale. Co-organized with J.T. Lennon, S.F. Paver
	community training mentoring
2020-	Advisor Board Member, Women and Non-Binary People of Color in Ecology and Evolutionary Biology Slack Group
2020-2021	Mentor for the National Summer Undergraduate Research Project (NSURP.org) - A community-driven initiative to create rewarding remote summer research opportunities for BIPOC undergraduate students in the microbial sciences.
2018-2022	Co-lead of <u>ourNCwater</u> Initiative, community engagement with residents aimed to understand their concerns regarding contamination risk and behaviors they adopt to protect themselves
2015	Reviewer for INSTARS Society for Freshwater Sciences Diversity Program
2014	Co-organizer Joint Aquatic Sci. Meeting Special Session: "Ghosts of land-use past: Do land-use legacy effects constrain the restoration of aquatic ecosystems?"
2012	Co-organizer LTER All Scientist Meeting Working Group: Flooding farm fields, draining wetlands, and damming rivers: Effects of hydrologic regime change on nutrient cycling.
	Outreach Volunteer and Field Tour Guide for Kellogg Biological Station LTER
	Judge for Student Posters at the MSU Organic Food and Farming Reporting Session
	EAST CAROLINA UNIVERSITY SERVICE
2023	Member, Department of Department Biology Field Botany/Introductory Biology Assistant Teaching Professor Search Committee
2023-	Facilitator, Professional development for faculty and graduate students based on the Center for the Improvement of Mentored Experiences in Research (CIMER) evidence-based research mentoring curriculum
2023-	Co-leader of Faculty Research Mentoring Network
2023-	Co-Director, NC GlaxoSmithKline Foundation Summer Immersion Program
2022-2023	Member, Dept. Biology Ecology & Evolution of Infectious Disease/Macroecology Search Committee
2022	Chair, Search Committee for Teaching Assistant Professor - Microbiology, Dept. of Biology
2021-2024	Member, Personnel Committee, Dept. of Biology
2021-22	Member, Regional Resilience Task Force
2021-23	Member, Dean of Graduate School Search Committee
2021-22	Member, Department of Coastal Studies Search Committee
2021-	Graduate Pathways Program (Fayetteville State University-ECU Summer Research Program)
2020-2026	Director, Interdisciplinary Doctoral Program in Biology, Biomedicine, and Chemistry
2020-2023	Member, University Research and Creative Activities Committee
2020-2021	Faculty Mentor, ECU Grad Promoting Inclusion through Research, Action, Teaching, and Education (PIRATE) Talks Committee
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2018-2020	Admissions Committee, Coastal Resource Management/Integrated Coastal Sciences PhD Program, Integrated Coastal Programs, East Carolina University
2018-2020	Admissions Committee, Coastal Resource Management/Integrated Coastal Sciences PhD Program,

2014-16,17	Committee Member, Biology Graduate Program Committee, Dept. of Biology
2016-2019	Member, East Carolina University Student Academic Appellate Committee
2016	Estuarine Ecology Search Committee, Dept. of Biology, East Carolina University
2015-Present	Member, Genomics Core Committee, Dept. of Biology, East Carolina University
2015	Workshop co-leader, Preparing and Inspiring Readiness for Achieving Teaching Excellence in Science – North Carolina public school teacher training workshops
2015	Member, Department Biology Microbiology Search Committee
	UNIVERSITY OF ILLINOIS SERVICE
2011	Graduate Student Representative, Program in Ecology, Evolution and Conservation Admissions
2004, 07-11	Committee Member, Annual Graduate Student Symposium Graduate Students in Ecology and Evolutionary Biology Univ. of Illinois, Urbana, IL
2008-2009	President, Graduate Students in Ecology and Evolutionary Biology Univ. of Illinois, Urbana, IL
2007-2011	Science Outreach Volunteer to Campus Middle School for Girls (Urbana, IL)
2007-2011	Science Outreach Volunteer, Orpheum Children's Science Museum (Urbana, IL)
	PROFESSIONAL DEVELOPMENT TRAINING
2024	MicroBio-LEAP Training-of-Leaders (ToL) Scholars Program, American Society for Microbiology
2024	Entering Research Curriculum Development Institute, Center for the Improvement of Mentored Experiences in Research. January 11-12, 2024. University of Wisconsin, Madison, WI
2022	Research Mentoring Workshop, Center for the Improvement of Mentored Experiences in Research. November 8, 2022. East Carolina University, Greenville, NC
2022	Facilitating Entering Mentoring, Center for the Improvement of Mentored Experiences in Research. October 24-25, 2022. University of Wisconsin, Madison, WI
2021	Foundations in Historical and Institutional Racism Racial Equity Institute Training
2020	Adobe Creative Campus, Faculty Development Institute
2019	Department of Energy Joint Genome Institute Microbial Genomics and Metagenomics Workshop
2013	Software Carpentry Bootcamp, Bioinformatics Workshop, Bloomington, IN
2011	Mothur Workshop Participant, Bioinformatics Workshop, Romulus, MI
2010	Certificate in Business Administration, University of Illinois, Urbana, IL
2010	Stable Isotope Biogeochemistry, Michigan State University, East Lansing, MI
	PROFESSIONAL MEMBERSHIPS
Current	Ecological Society of America, American Society for Microbiology, Society of Wetland Scientists
Past	Soil Science Society of America, International Society for Microbial Ecology, Coastal and Estuarine Research Federation, Graduate Women in Science, American Geophysical Union
	OTHER PROFESSIONAL EXPERIENCE
2011	Harvest Assistant, Blue Moon Farm (Certified Organic Vegetable Farm), Urbana, IL
	Wine Consultant, Corkscrew Wine Emporium, Urbana, IL
1999-2007	Musician, Bass guitar player for the band The Beauty Shop, Champaign, IL
	Discography
	Yr Money or Yr Life: Mud/Parasol Records, USA (2000) & Shoeshine Records, United Kingdom (2002)
	Crisis Helpline: Shoeshine Records, United Kingdom (2004)
	Yard Sale: Snapper Records/Shoeshine Records, United Kingdom (2006)
	Just Some Demos EP: Independent release, USA (2007)
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Touring for national and international album promotionPerformed at music venues in the UK to promote Crisis Helpline (2002, 2004, 2005)
Performed at festivals and music venues in the UK to promote Yard Sale (2005, 2006)

Performed at music venues in the USA to promote album sales (2006)

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