

# Ariane Legaspi Peralta

Assistant Professor  
Department of Biology  
East Carolina University

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## APPOINTMENTS

- Jan. 2014– Present **Assistant Professor of Microbial Ecology**  
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
- Dec. 2011– Nov. 2012 **Postdoctoral Research Associate**  
Kellogg Biological Station, Michigan State Univ., Advisors: Sieglinde S. Snapp & Jay T. Lennon

## EDUCATION

- Nov. 2011 **Ph.D. in Ecology, Evolution, and Conservation Biology**  
University of Illinois at Urbana-Champaign, Advisor: Angela D. Kent
- July 2006 **M.S. in Ecology and Evolutionary Biology**  
University of Illinois at Urbana-Champaign, Advisor: Michelle M. Wander
- May 2003 **B.S. in Honors Biology and Chemistry, Distinction and Honors in Biology**  
University of Illinois at Urbana-Champaign, Advisor: Martha U. Gillette

## PUBLICATIONS (\*undergraduate co-author, §graduate student co-author)

- 2019 [15] Sprunger, C., S.W. Culman, A.L. Peralta, S.T. DuPont, J.T. Lennon, and 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, and C. Rodgers (In press) Long-term assessment of alternative strategies for the restoration of floodplain forest in the presence of an invasive grass, *Phalaris arundinacea*. *Wetlands*. <https://doi.org/10.1007/s13157-019-01204-4>
- 2018 [13] Peralta, A.L., Y. Sun, M.D. McDaniel and J.T. Lennon (2018) Crop rotational diversity increases disease suppressive capacity of soil microbiomes. *Ecosphere*. 9(5). <http://doi/10.1002/cs2.2235>
- [12] McCoy, K.A. and 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>
- 2017 [11] Peralta, A.L., M.E. Muscarella, and J.W. Matthews (2017) Wetland management strategies lead to tradeoffs in ecological structure and function. *Elementa: Science of the Anthropocene*. 5:74. <http://doi.org/10.1525/elementa.253>
- 2016 [10] Peralta, A.L., E.R. Johnston\*, J.W. Matthews, and A.D. Kent (2016) Abiotic correlates of microbial community structure and nitrogen cycling functions vary within wetlands. *Freshwater Science*. 35(2):573–588. <http://dx.doi.org/10.1086/685688>
- 2014 [9] Peralta, A.L., D. Stuart, A.D. Kent, and 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. <http://dx.doi.org/10.1890/130308>
- [8] Peralta, A.L., S. Ludmer\*, J.W. Matthews, and 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. <http://dx.doi.org/10.1016/j.ecoleng.2014.09.047>
- [7] Peralta, A.L., J.W. Matthews, and A.D. Kent (2014) Habitat specialization along a wetland moisture gradient differs between ammonia oxidizing and denitrifying microorganisms. *Microbial Ecology* 68:339-350. <http://dx.doi.org/10.1007/s00248-014-0407-4>

### **Publications prior to ECU**

- 2013 [6] Peralta, A.L., S. Ludmer\*, and A.D. Kent (2013) Hydrologic history constrains microbial community composition and nitrogen cycling under experimental drying/wetting treatments. *Soil Biology & Biochemistry* 66:29-37. <http://dx.doi.org/10.1016/j.soilbio.2013.06.019>
- 2012 [5] Peralta, A.L., J.W. Matthews, D.N. Flanagan, and A.D. Kent (2012) Environmental factors at dissimilar spatial scales influence plant and microbial communities in restored wetlands. *Wetlands* 32:1125-1134. <http://dx.doi.org/10.1007/s13157-012-0343-3>
- 2010 [4] Peralta, A.L., J.W. Matthews, and A.D. Kent (2010) Microbial community structure and denitrification in a wetland mitigation bank. *Applied and Environmental Microbiology* 76:4207-4215. <http://dx.doi.org/10.1128/AEM.02977-09>
- 2009 [3] Matthews, J. W., A.L. Peralta, P. Baldwin\*, A. Soni\*, A.D. Kent, and 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, and 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. and M.M. Wander (2008) Soil organic matter dynamics under soybean exposed to elevated [CO<sub>2</sub>]. *Plant and Soil* 303:69-81. <https://doi.org/10.1007/s11104-007-9474-3>

### **Manuscripts in review or in revision (^preprint available)**

Curtis, W.S., J.R. Etheridge, F. Filho, P. Malali, and A.L. Peralta (In revision) Planning for future solar farm development in North Carolina: A geographic food-energy-water approach.

Goodwillie, C., M.W. McCoy, and A.L. Peralta (In review) Long-term fertilization, mowing, and ditch drainage interact in the dynamics of a wetland plant community.

Hochard, J., C. Sims, J.R. Etheridge, M. Gomez<sup>§</sup>, Y. Li, A.L. Peralta, and T. Vogel<sup>§</sup> (In review) Prioritizing public and conservation investments to support human health at the rural-urban fringe

Hinckley, B.R.<sup>§</sup>, J.R. Etheridge, and A.L. Peralta (In review) Storm event nitrogen dynamics in waterfowl impoundments.

Hinckley, B.R.<sup>§</sup>, J.R. Etheridge, and A.L. Peralta (In review) Wetland conditions differentially influence nitrogen processing within waterfowl impoundments.

Koceja\*, M.E., R.B. Bledsoe<sup>§</sup>, C. Goodwillie, and A.L. Peralta (In review). Nutrient enrichment increases soil bacterial diversity and decomposition rates of different litter types in a coastal plain wetland. ^biorxiv preprint DOI: <https://doi.org/10.1101/732883>

Mueller, E.A.<sup>§</sup>, N.I. Wisnoski<sup>§</sup>, A.L. Peralta, and J.T. Lennon (In review) Microbial rescue effects: how microbiomes can save hosts from extinction. ^OSF preprint DOI [10.17605/OSF.IO/D2FK8](https://doi.org/10.17605/OSF.IO/D2FK8)

Walker, J. P., C. Goodwillie, K.L. Callis-Duehl, A.L. Peralta, and M. Farwell (In review) Demonstrated benefits of a long-term course-based undergraduate research experience.

Werba, J.<sup>§</sup>, A. Stucy<sup>§</sup>, A.L. Peralta, and M.W. McCoy (In review) Effects of diversity and coalescence of species assemblages on ecosystem function at the margins of an environmental shift.

Wisnoski, N.I.<sup>§</sup>, M.E. Muscarella, M. Larsen, A.L. Peralta, and J.T. Lennon (In review) Metabolic insight into bacterial community assembly across ecosystem boundaries. ^biorxiv preprint DOI: <https://doi.org/10.1101/758615>

### **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.
- book chapter 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

- 2019-2024 NSF DEB, Ecosystem Science Program. "CAREER: Microbial controls on carbon stabilization and storage." PI (\$593,852)
- 2019-2020 North Carolina Ocean Energy Program. "Biofouling of surfaces in the coastal water of North Carolina: a preliminary investigation." Co-PI (\$31,000)
- 2018-2019 NSF 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 (CAFOs) 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) (transferred 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 and Agriculture Postdoctoral Fellowship. "Land use legacies in soils: Effects of crop diversity on plant-soil-microbial interactions," PI (\$125,991; transferred \$66,575 to ECU)
- 2008, 2011 Ecology, Evolution, and Conservation Biology Graduate Summer Travel Grant
- 2004, 08-11 University of Illinois Graduate College Travel Grant
- 2008-2010 Ecology, Evolution, and Conservation Biol. Summer Research Grant
- 2009-2011 Illinois Water Resources Center Research Assistantship
- 2007-2008 Ecology, Evolution, and Conservation Biology Research Assistantship
- 2002 Pfizer Summer Undergraduate Research Fellowship
- 2001-2002 Colgate-Palmolive Undergraduate Research Fellowship

## AWARDS (as faculty)

- 2018 East Carolina University 2017-2018 Scholar-Teacher Award
- 2017 East Carolina University Coastal Maritime Council Coastal Scholar Award

## AWARDS (as student)

- 2010 John G. and Evelyn Hartman Heiligenstein Outstanding Teaching Assistant Award
- 2008 Student Presentation Awards for poster presentation: 12th International Symposium on Microbial Ecology, Cairns, Australia
- Illinois State Academy of Science Annual Meeting, Champaign, IL
- 2002, 2003, 2004-05\*, 08\* List of Teachers Ranked as Excellent by Their Students (\*semesters indicate instructor ratings were outstanding)

## TEACHING EXPERIENCE

- 2017 Wetlands Ecology and Management, Instructor, Dept. of Biology, East Carolina Univ.  
ECU Bioinformatics Workshop, Guest Instructor, Dept. of Biology, East Carolina Univ.
- 2015-present Microbial Ecology, Instructor, Dept. of Biology, East Carolina University (spring, alternate years)
- 2014-present Microbiology, Instructor, Dept. of Biology, East Carolina University (fall)
- 2009 Honors Ecology and Evolution, Teaching Assistant, School of Integrative Biology, University of Illinois
- 2008 Ecology, Teaching Assistant, School of Integrative Biology, University of Illinois
- 2004-2005 Introductory Soils Laboratory, Teaching Assistant, Dept. of Natural Resources and Environmental Sciences, University of Illinois
- 2002-2003 Accelerated Chemistry Laboratory I & II, Teaching Assistant, Dept. of Chemistry, University of Illinois

## INVITED PRESENTATIONS

- 2019 Peralta, A.L. (2019) Microbiomes in coupled natural and human systems. University of North Carolina Pembroke, Department of Biology Seminar. March 31, 2019.
- 2018 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.
- 2017 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.
- 2016 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 wetland restoration of microbial ecosystem functions? Society of Wetland Scientists Annual Meeting, Symposium. 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. (August 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.
- 2013 Placella, S.A., A.L. Peralta, and J.T. Lennon (2013) Dormancy dynamics of soil bacteria: Can 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.

2009 Peralta, A.L. (October 2009) Microbial community ecology. Invited guest lecture to Honors Integrative Biology-Ecology and Evolution course, University of Illinois, Urbana, IL.

## **PRESENTATIONS** (\*undergraduate co-author, <sup>§</sup>graduate student co-author)

2019 Peralta, A.L., R. Bledsoe<sup>§</sup>, M. Muscarella (2019). Consequences and considerations of multiple stressors on urban wetland microbiomes. Ecological Society of America Annual Conference. Louisville, KY. August 11-16, 2019. Oral presentation.

Hochard, J.P., J.R. Etheridge, A.L. Peralta, C.B. Sims (2019) Community-level management of human health risks from concentrated animal feeding operations (CAFOs) with defensive natural capital investments. Ecological Society of America Annual Meeting. Louisville, KY. August 11-16, 2019. Oral presentation.

Bledsoe, R.<sup>§</sup> and A.L. Peralta (2019) Long-term nutrient addition mediates plant-microbial associations by altering microbial metabolism. Mycological Society of America Conference, Minneapolis, MN. August 10-14, 2019. Poster presentation.

Bledsoe, R.<sup>§</sup> and A.L. Peralta (2019) Long-term nutrient addition mediates plant-microbial associations by altering microbial metabolism. Rhizosphere 5. Saskatoon, Saskatchewan, Canada. July 7-11, 2019. Poster presentation.

Etheridge, J.R., J.P. Hochard, A.L. Peralta, J.L. Kruse (2019) Private drinking water well contamination following Hurricane Florence. American Society of Agricultural and Biological Engineering Annual International Meeting. Boston, MA. June 7-10, 2019. Oral presentation.

Etheridge, J.R., B.R. Hinckley<sup>§</sup>, R. Mason III<sup>§</sup>, A.L. Peralta (2019) Managing waterfowl impoundment hydrology to provide habitat and reduce nutrient loss. American Ecological Engineering Society Annual Meeting. Asheville, NC. June 3-6, 2019. Oral presentation.

Bledsoe, R.<sup>§</sup> and A.L. Peralta. Shifts In microbial metabolism due to long-term fertilization alter plant-microbial associations (2019) American Society for Microbiology MICROBE 2019. San Francisco, CA. June 20-24, 2019. Oral and Poster presentation.

O'Driscoll, M.A., E.Z. Bean, M. Butler, C. Carwein, D. Elliott, L. Farley<sup>§</sup>, J. Gill, C. Humphrey, G. Iverson, L. Kirby, S. McMurry, A.L. Peralta, G. Stano (2019) Green stormwater infrastructure in urban coastal communities: University campus opportunities to enhance outdoor learning environments. National Watershed and Stormwater Conference. Charleston, SC. April 29-May 2, 2019.

Hochard, J.P., J.R. Etheridge, A.L. Peralta, C.B. Sims (2019) Casing out contaminants: Avoidance behavior along the hydrogeologic gradient. Integrated Assessment Models (IAMs) for Water Quality Workshop. Cornell University David R. Atkinson Center in Ithaca, NY. April 3-5, 2019.

Farley, L.<sup>§</sup>, S. McMurry<sup>§</sup>, M. O'Driscoll, C. Humphrey, A.L. Peralta, and G. Iverson (2019) Green stormwater infrastructure in urban coastal plain watersheds: ECU campus as an outdoor field laboratory Water Resources Research Institute of The University of North Carolina Annual Conference. Raleigh, NC. March 21-22, 2019. Poster presentation.

Mason III, R.<sup>§</sup>, J.R. Etheridge, B.R. Hinckley<sup>§</sup>, and A.L. Peralta. 2019. Interactions of land use and hydrologic management affect nitrogen cycling dynamics in a coastal watershed. Water Resources Research Institute of The University of North Carolina Annual Conference. Raleigh, NC. March 21-22, 2019. Poster presentation.

Etheridge, J.R., B.R. Hinckley<sup>§</sup>, R. Mason III<sup>§</sup>, A.L. Peralta, R. Smith, and T. Vogel<sup>§</sup> (2019) Identifying the causes of eutrophication and flooding in the Lake Mattamuskeet watershed. Water Resources Research Institute of The University of North Carolina Annual Conference. Raleigh, NC. March 21-22, 2019 Oral presentation.

- Vogel, T.<sup>§</sup>, J.R. Etheridge, A.L. Peralta, J.P. Hochard. (2019) Relating groundwater well depth to water quality in rural Eastern North Carolina. Water Resources Research Institute of The University of North Carolina Annual Conference. Raleigh, NC. March 21-22, 2019. Oral presentation.
- 2018 Peralta, A.L., J.R. Etheridge, and B.R. Hinckley<sup>§</sup> (2018) Harnessing hydrologic management to manipulate nutrient dynamics at the terrestrial-aquatic interface. American Geophysical Union. Washington, D.C. December 10-14, 2018. Oral presentation.
- Peralta, A.L., A. Stucy<sup>§</sup>, J. Werba<sup>§</sup>, and M.W. McCoy (2018) Salinization impacts on bacterial phylogeny-function relationships in historically freshwater ecosystems. American Society for Microbiology North Carolina Branch. October 27, 2018. Oral presentation.
- Bledsoe, R.<sup>§</sup>, C. Goodwillie, and A.L. Peralta, (2018) Long-term fertilization differentially influences bulk soil and rhizosphere microbial community composition. American Society for Microbiology North Carolina Branch. October 27, 2018. Poster presentation.
- Peralta, A.L., A. Stucy<sup>§</sup>, J. Werba<sup>§</sup>, and M.W. McCoy (2018) Salinization impacts on bacterial phylogeny-function relationships in historically freshwater ecosystems. Ecological Society of America Annual Meeting. New Orleans, LA. August 5-10, 2018. Oral presentation.
- Hinckley, B.<sup>§</sup>, J.R. Etheridge, and A.L. Peralta (2018) Nitrogen dynamics in waterfowl impoundments: Linking outlet concentrations to laboratory-based microbial activity. American Society of Agricultural and Biological Engineering Annual International Meeting. Detroit, MI. July 29 – August 1. Oral presentation.
- Tate, E.<sup>§</sup>, C. Goodwillie, and A.L. Peralta (2018) Functional trait analysis of a plant community response to long-term fertilization. Botanical Society of America meetings, July 2018, Rochester, MI.
- Bledsoe, R.<sup>§</sup>, E.Z. Bean, and A.L. Peralta (2018) Greenhouse gas potential of a constructed stormwater wetland. 12th International Symposium on Biogeochemistry of Wetlands. Coral Springs, FL, April 23-26, 2018. Poster presentation.
- Peralta, A.L., R. Bledsoe<sup>§</sup>, and E.Z. Bean (2018) How can we managed microbiomes for enhanced wetland function? 12th International Symposium on Biogeochemistry of Wetlands. Coral Springs, FL, April 23-26, 2018. Oral presentation.
- Austin, S.S.\*, R. Bledsoe<sup>§</sup>, and A.L. Peralta (2018) Examining seasonal nitrogen removal potential in a constructed stormwater wetland. Water Resources Research Institute of The University of North Carolina Annual Conference. Raleigh, NC. March 14-15, 2018. Poster presentation.
- Bledsoe, R.<sup>§</sup>, S.S. Austin\*, and A.L. Peralta (2018) Denitrification potential and greenhouse gas production in a constructed stormwater wetland. Water Resources Research Institute of The University of North Carolina Annual Conference. Raleigh, NC. March 14-15, 2018. Oral presentation.
- Hinckley, B.<sup>§</sup>, J.R. Etheridge, and A.L. Peralta (2018) Investigating precipitation and drawdown effects on nitrogen dynamics in waterfowl impoundments. Water Resources Research Institute of The University of North Carolina Annual Conference. Raleigh, NC. March 14-15, 2018. Oral presentation.
- Hinckley, B.<sup>§</sup>, J.R. Etheridge, and A.L. Peralta (2018) Examining the link between laboratory-based microbial activity and field-scale water quality changes. Water Resources Research Institute of The University of North Carolina Annual Conference. Raleigh, NC. March 14-15, 2018. Oral presentation.
- 2017 Peralta, A.L., E.Z. Bean, and J.P. Hochard (2017) Microbial community structure and water quality function in coastal urban water bodies experiencing environmental stressors. Biannual Coastal and Estuarine Research Federation Conference. Providence, RI. November 5-9, 2017. Oral presentation.
- Bledsoe, R.<sup>§</sup> and A.L. Peralta (2017) Integrating hydrology, plant communities, and microbial communities to enhance mitigation of greenhouse gas fluxes. Society of Freshwater Science Annual Meeting. Raleigh, NC. June 4-8, 2017. Oral presentation.
- Stucy, A.<sup>§</sup>, M.W. McCoy, and A.L. Peralta (2017) Salinization impacts on historically freshwater aquatic communities. Society of Freshwater Science Annual Meeting. Raleigh, NC. June 4-8, 2017. Poster presentation.
- Armstrong, L.<sup>§</sup>, M. Ardón, and A.L. Peralta (2017) Can hydrologic restoration decrease greenhouse gas fluxes from pocosin wetlands? Society of Freshwater Science Annual Meeting. Raleigh, NC. June 4-8, 2017. Poster presentation.
- Hinckley, B.<sup>§</sup>, J.R. Etheridge, and A.L. Peralta (2017) Examining nutrient dynamics in waterfowl impoundments in coastal North Carolina. Society of Freshwater Science Annual Meeting. Raleigh, NC. June 4-8, 2017. Oral presentation.

- C. Forbes\*, A. Stucy<sup>§</sup>, and A.L. Peralta (2017) Manipulating moisture and salinity to examine microbial nitrogen removal potential in constructed stormwater wetland sediments. Water Resources Research Institute of The University of North Carolina Annual Conference. Raleigh, NC. March 15-16, 2017. Poster presentation.
- Bledsoe, R.<sup>§</sup>, E.Z. Bean, and A.L. Peralta (2017) Managing nitrogen removal capacity in an undersized constructed stormwater wetland. Water Resources Research Institute of The University of North Carolina Annual Conference. Raleigh, NC. March 15-16, 2017. Poster presentation.
- 2016 Peralta, A.L., C. Eakins, R. Bledsoe<sup>§</sup>, and C. Goodwillie (2016) Investigating long-term nutrient additions on microbial life-history, biodiversity, and carbon mineralization. 16th International Symposium on Microbial Ecology, Montreal, Canada. 21-26 August 2016. Poster presentation.
- Bledsoe, R.<sup>§</sup> and A.L. Peralta (2016) Connecting microbial community structure to wetland hydrology and greenhouse gas fluxes. 16th International Symposium on Microbial Ecology, Montreal, Canada. August 21-26, 2016. Poster presentation.
- 2015 Peralta, A.L., C. Eakins, J. Thigpen<sup>§</sup>, and C. Goodwillie (2015) Investigating the impact of long-term nutrient additions on microbial biodiversity and carbon sequestration potential. Ecological Society of America Annual Meeting, Baltimore, MD. August 10-14, 2015. Oral presentation.
- Eakins, C.D. \*, K. Dorronsoro\*, Y. Sun, and A.L. Peralta (2015) Cultivating the unseen majority: Soil microbial response to long-term nutrient additions. Ecological Society of America Annual Meeting, Baltimore, MD. August 10-14, 2015. Poster presentation.
- Peralta, A.L., Y. Sun, and J.T. Lennon (2015) Disease suppressiveness of soil microbial communities affected by crop diversity. National Institute of Food and Agriculture Principle Director's Meeting, Washington, D.C. August 4-5, 2015. Poster presentation.
- Peralta, A.L. and Y. Sun (2015) Effects of crop diversity on plant-soil microbial interactions. Kellogg Biological Station Long-term Ecological Research All Scientist Meeting, East Lansing, MI. April 15-16, 2015. Poster presentation.
- Eakins, C.D. \*, K. Dorronsoro\*, Y. Sun, and A.L. Peralta (2015) Cultivating the unseen majority: Soil microbial response to long-term nutrient additions. ECUs Research and Creative Achievement Week, Greenville, NC. March 23-27, 2015. Poster presentation.
- 2014 Peralta, A.L. and J.W. Matthews (2014) Overcoming agricultural legacies when restoring wetland ecosystems: Can management strategy override land use history? Joint Aquatic Sciences Meeting, Portland, OR. May 18-24, 2014. Oral presentation.
- 2013 Peralta, A.L. and J.T. Lennon (2013) Land use legacies on soil microbial communities in human-dominated ecosystems. Ecological Society of America Annual Meeting, Minneapolis, MN. August 4-9, 2013. Oral presentation.
- Peralta, A.L. and S.S. Snapp (2013) Exploring soil carbon sequestration potential through plant-soil-microbial interactions. Kellogg Biological Station Long-term Ecological Research All-Scientist Meeting. East Lansing, MI. April 4-5, 2013. Poster presentation.
- Peralta, A.L., C.M. Ugarte, M.M. Wander, and A.D. Kent (2013) Tracking soil bacterial community response to organic management strategy. Indiana Small Farm Conference, Danville, IN. March 1-2, 2013. Poster presentation.
- 2012 Peralta, A.L., S.W. Culman, S.D. Sprunger, J.T. Lennon, and S.S. Snapp (2012) Microbial contributions to carbon sequestration potential in response to perennality. Soil Science Society of America Meeting, Cincinnati, OH. October 14-17, 2012. Poster presentation.
- Peralta, A.L., C.M. Ugarte, M.M. Wander, and A.D. Kent (2012) The biological basis of soil fertility: Microbial community response to organic management strategy. Ecological Society of America Annual Meeting, Portland, OR. August 5-10, 2012. Oral presentation.
- 2011 Peralta, A.L., J.W. Matthews, E. Johnston, S. Ludmer, and A.D. Kent (2011) Abiotic controls on community structure and function of nitrogen cycling microorganisms in wetland ecosystems. Ecological Society of America Meeting, Austin, TX. August 7-12, 2011. Oral presentation.
- Peralta, A.L., J.W. Matthews, E. Johnston, S. Ludmer, and A.D. Kent (2011) Linking microbial community structure to water quality function in restored floodplain wetlands. Midwest-Great Lakes Society for Ecological Restoration Chapter Annual Meeting. Springfield, IL, USA. April 1-3, 2011. Oral presentation.

- 2010 Peralta, A.L., J.W. Matthews, and A.D. Kent (2010) Linking microbial community structure to water quality function: Investigating nitrogen cycling influenced by hydrology in wetland ecosystems. Illinois Water Conference, Champaign, IL., October 3-5, 2010. Poster presentation.
- Peralta, A.L., J.W. Matthews, and A.D. Kent (2010) Linking microbial community structure to water quality function: Investigating nitrogen cycling influenced by hydrology in wetland ecosystems. The 13th International Symposium on Microbial Ecology, Seattle, WA, USA. August 22-27, 2010. Poster presentation.
- Peralta, A.L., J.W. Matthews, and A.D. Kent (2010) Investigating variation in microbial community composition along a moisture gradient. Emiquon Science Meeting 2010, Lewistown, IL. March 4, 2010. Poster presentation.
- Peralta, A.L., J.W. Matthews, and A.D. Kent (2010) Investigating variation in microbial community composition along a moisture gradient. 12th Annual Graduates in Ecology and Evolutionary Biology Symposium. Urbana, IL. February 6, 2010. Oral presentation.
- 2009 Peralta, A.L., J.W. Matthews, and A.D. Kent (2009) Microbial community dynamics related to nitrogen cycling during early floodplain development. Ecological Society of America Annual Meeting, Albuquerque, NM. August 2-7, 2009. Oral presentation.
- Peralta, A.L., J.W. Matthews, and A.D. Kent (2009) Microbial community dynamics related to nitrogen cycling during early floodplain development. Great Lakes Regional Biogeochemistry Symposium, Hickory Corners, MI. May 28-29, 2009. Poster presentation.
- A.D. Kent, A.L. Peralta, D.N. Flanagan, J.W. Matthews (2009) A soil microbial ecology perspective of wetland restoration. The 109th General Meeting of the American Society for Microbiology, Philadelphia, PA. May 17-21, 2009. Poster presentation.
- Peralta, A.L., J.W. Matthews, and A.D. Kent (2009) Microbial-mediated nitrogen cycling during early floodplain development. Planet U: The human story of climate change Conference. Urbana, IL. April 8, 2009. Poster presentation.
- Peralta, A.L., J.W. Matthews, and A.D. Kent (2009) Investigating nitrogen cycling during early floodplain development from a microbial community perspective. 2nd Annual Emiquon Science Meeting. Lewistown, IL. March 12, 2009. Poster presentation.
- Peralta, A.L., J.W. Matthews, and A.D. Kent (2009) Improving functional assessment of wetland restoration from a microbial community approach. 11th Annual Graduates in Ecology and Evolutionary Biology Symposium. Urbana, IL. February 7, 2009. Oral pres.
- 2008 Peralta, A.L., J.W. Matthews, D.N. Flanagan, A.G. Endress, and A.D. Kent (2008) A microbial community ecology approach to wetland mitigation assessment. The 12th International Symposium on Microbial Ecology, Cairns, Australia. August 17-22, 2008. Poster presentation.
- Peralta, A.L., J.W. Matthews, D.N. Flanagan, A.G. Endress, and A.D. Kent (2008) A community ecology approach to wetland mitigation assessment. Ecological Society of America Annual Meeting, Milwaukee, WI. August 3-8, 2008. Poster presentation.
- Kent, A.D., A.L. Peralta, D.N. Flanagan, and J.W. Matthews (2008) Wetland assessment from a soil microbial ecology perspective. American Society for Limnology and Oceanography Meeting, St. John's, Newfoundland. June 8-13, 2008. Oral presentation.
- Peralta, A.L., J.W. Matthews, and A.D. Kent (2008) Wetland mitigation bank assessment from a soil microbial ecology perspective. Illinois State Academy of Science Annual Meeting, Urbana, IL. April 4-5, 2008. Poster presentation.
- 2004 Peralta, A.L. and M.M. Wander (2004) Short-term changes in labile soil organic C and N fractions under soybeans exposed to elevated CO<sub>2</sub>. Soil Science Society of America Annual Meeting, Seattle, WA. October 31- November 3, 2004. Poster presentation.

## MENTORING

Current (ECU)

*Graduates:* Regina Bledsoe (PhD Student, current), Thomas Vogel (PhD Student, current, co-advised by R. Etheridge), Casey Eakins (MS Student, current), Ralph 'Trey' Mason III (MS Student, current, co-advised by R. Etheridge); *Undergraduates:* Alexia Griffin (2017-)



Past (ECU)

*Postdoc*: Yanmei Sun (2015-16); *Graduates*: Deborah Lichti (PhD IDPBS, 2018, co-advised by D. Kimmel), Brian Hinckley (MS Biology, 2018, co-advised by R. Etheridge), Luise Armstrong (MS Biology, 2017, co-advised by M. Ardón), Alexandra Stucy (MS Biology, 2017), Joshua Thigpen (MS Biology, 2015, co-advised by C. Goodwillie); *Undergraduate*: Megan Koceja (2016-2019), Emma Richards (2019), Allison Fisk (2018-2019), Aied Garcia (2018), Diego Carreno (2018), Michael Dozier (2017-18), Samuel Austin (2016-18), Corey Forbes (2016-17), David Morlock (2017), Stephen Glenn (2017), J. Spencer Wilkinson III (2014-16), Jonathan LeCrone (2015-16), Morgan Beamon (2015-16), Julianna Haag (2016), Casey Eakins (2014-15), Katherine Dorronsoro (2014-15), Rene Vanek (2014), Sheridan Iroegbu (2014)

Past (non-ECU)

*Undergraduates*: Ebony Rodgers (MSU Undergraduate Research Apprentice, Bennett College); Sarah Ludmer (Undergraduate Research Asst., Awarded Helen E. Hess Award for outstanding research and High Distinction in Integrative Biology, Univ. of IL); Eric Johnston (Undergraduate Research Asst., Awarded Distinction in Integrative Biology, Univ. of IL); Lauren Endriukaitis (Undergraduate Research Asst., Univ. of IL); Omar Sinno (Undergraduate Research Asst., Univ. of IL); Neil Gottel (Undergraduate Research Asst., Univ. of IL); High School Mentee: Nicholas Nelson (IU Jim Holland Summer Science Research Program, Bishop Noll Institute)

## PROFESSIONAL SERVICE

- Ongoing Co-PI of [ourNCwater](#) Initiative, community engagement with residents aimed to understand their concerns regarding contamination risk and behaviors they adopt to protect themselves  
Ad hoc Journal Reviewer for Agronomy Journal, 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, Scientific Reports, Science of the Total Environment, Soil Biology & Biochemistry, Water Research, Wetlands
- 2019- Fundraising and Communications Advisor, Microbial Ecology Section, Ecological Society of America
- 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
- 2018-21 Program Committee Member, American Society for Microbiology, Annual Meeting Microbe
- 2018 Co-organizer (w/ L. Kinsman-Costello) of Session “The Novel Biogeochemistry of Ubiquitous Understudied Urban Wetlands” at 12th International Symposium on Biogeochemistry of Wetlands  
Panelist for National Institute of Food and Agriculture
- 2014,15,17-19 Panelist for National Science Foundation
- 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
- 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?”
- 2016-2017 Participant, North Carolina Festival Invite-A-Scientist
- 2016 Panelist, North Carolina Wetlands Symposium, Restoration Panel  
Ad hoc Reviewer for European Union BiodivERsA
- 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  
Reviewer for INSTARS Society for Freshwater Sciences Diversity Program
- 2014-2016 Ad hoc Reviewer for National Science Foundation

- 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 Outreach Volunteer and Field Tour Guide for Kellogg Biological Station LTER  
Co-organizer LTER All Scientist Meeting Working Group: Flooding farm fields, draining wetlands, and damming rivers: Effects of hydrologic regime change on nutrient cycling.  
Judge for Student Posters at the MSU Organic Food and Farming Reporting Session

### **EAST CAROLINA UNIVERSITY SERVICE**

- 2019 Applied Ecologist Search Committee, Dept. of Coastal Studies, East Carolina University
- 2017- Veterans Affairs Liaison for Dept. of Biology
- 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 Workshop co-leader, Preparing and Inspiring Readiness for Achieving Teaching Excellence in Science – North Carolina public school teacher training workshops  
Microbiology Search Committee, Dept. of Biology, East Carolina University

### **UNIVERSITY OF ILLINOIS SERVICE**

- 2011 Graduate Student Representative, Program in Ecology, Evolution and Conservation, Graduate School Admissions Committee
- 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, University of Illinois, Urbana, IL
- 2007-2011 Science Outreach Volunteer to Campus Middle School for Girls (Urbana, IL)  
Science Outreach Volunteer, Orpheum Children’s Science Museum (Urbana, IL)

### **PROFESSIONAL DEVELOPMENT TRAINING**

- 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  
Stable Isotope Biogeochemistry, Michigan State University, East Lansing, MI

### **PROFESSIONAL MEMBERSHIPS**

Current: Ecological Society of America, American Society for Microbiology, Soil Science Society of America; Past: International Society for Microbial Ecology, Society of Wetland Scientists, 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)

#### ***Touring for national and international album promotion***

Performed 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)