

## KAITLIN J. FARRELL

Email: kfarrell@uga.edu  
Phone: 706-542-5342

Odum School of Ecology  
University of Georgia  
Athens, GA, USA

### EDUCATION

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- 2017 Ph.D. Ecology, University of Georgia, Athens, GA, USA. Advisor: Amy D. Rosemond  
Interdisciplinary Certificate in University Teaching
- 2012 M.S. Biology, Appalachian State University, Boone, NC, USA. Advisor: Robert P. Creed
- 2009 B.S. Environmental Biology, McGill University, Montreal, QC, Canada.

### PROFESSIONAL APPOINTMENTS

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- 2019 – present Academic Professional- Laboratory Coordinator, Odum School of Ecology (OSE),  
University of Georgia (UGA), Athens, GA, USA
- 2017 – 2019 Postdoctoral Associate, Department of Biological Sciences, Virginia Tech,  
Blacksburg, VA, USA. Advisor: Cayelan C. Carey

### PEER-REVIEWED PUBLICATIONS (<sup>U</sup> = mentored undergraduate student)

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- 2021 **Farrell, K.J.**, K.C. Weathers, S.H. Sparks, J.A. Brentrup, C.C. Carey, M.C. Dietze, J.R. Foster, K.L. Grayson, J.H. Matthes, & M.D. SanClements. Training macrosystems scientists requires both interpersonal and technical skills. *Frontiers in Ecology and the Environment* 19: 39-46. DOI: 10.1002/fee.2287.
- 2020 **Farrell, K.J.**, N.K. Ward, A.I. Krinos<sup>U</sup>, P.C. Hanson, V. Daneshmand, R.J. Figueiredo, & C.C. Carey. Ecosystem-scale nutrient cycling responses to increasing air temperatures vary with lake trophic state. *Ecological Modelling* 430: 109134. DOI: 10.1016/j.ecolmodel.2020.109134.
- Carey, C.C., **K.J. Farrell**, A.G. Hounshell, & K. O'Connell. Macrosystems EDDIE teaching modules significantly increase ecology students' proficiency and confidence working with ecosystem models and use of systems thinking. *Ecology and Evolution* 10: 12515-12527. DOI: 10.1002/ece3.6757.
- Creed, R.P., J. Skelton, **K.J. Farrell**, & B.L. Brown. Strong effects of a mutualism on freshwater community structure. In press, *Ecology*: e03225. DOI: 10.1002/ecy.3225.
- Henson, V.R., K.M. Cobourn, K.C. Weathers, C.C. Carey, **K.J. Farrell**, J.L. Klug, M.G. Sorice, N.K. Ward, & W. Weng. A practical guide for managing interdisciplinary teams: Lessons learned from coupled natural and human systems research. *Social Sciences* 9, 119. DOI: 10.3390/socsci9070119.
- Kincaid, D.W., W.S. Beck, J.E. Brandt, M.M. Brisbin, **K.J. Farrell**, K.L. Hondula, D.W. Kincaid, E.I. Larson, A.J. Shogren. Wikipedia can help resolve information inequality in the aquatic sciences. In press, *Limnology and Oceanography Letters*. DOI: 10.1002/lol2.10168.
- Weng, W, K. Boyle, **K.J. Farrell**, C. Carey, K. Cobourn, H. Dugan, P. Hanson, N. Ward, & K. Weathers. Coupling natural and human models in the context of a lake ecosystem: Lake Mendota, Wisconsin, USA. *Ecological Economics* 169: 106556. DOI: 10.1016/j.ecolecon.2019.106556.

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- 2019 **Farrell, K.J.**, A.N. Cramer, K.L. Hondula, S.K. Thompson, & J.A. Zwart. Support of early-career researchers supports the future of ASLO. *Limnology & Oceanography: Bulletin* 28: 34. DOI: 10.1002/lob.10295.
- Carey, C.C., N.K. Ward, **K.J. Farrell**, M.E. Lofton, A.I. Krinos<sup>U</sup>, R.P. McClure, K.C. Subratie, R.J. Figueiredo, J.P. Doubek, P.C. Hanson, P. Papadopoulos, & P. Arzberger. Enhancing collaboration between ecologists and computer scientists: lessons learned and recommendations for a path forward. *Ecosphere* 10: e02753. DOI: 10.1002/ecs2.2753.
- 2018 **Farrell, K.J.**, & C.C. Carey. Power, pitfalls, and potential for integrating computational literacy into undergraduate ecology courses. *Ecology and Evolution* 8: 7744-7751. DOI: 10.1002/ece3.4363.
- Farrell, K.J.**, A.D. Rosemond, J.S. Kominoski, S.M. Bonjour<sup>U</sup>, J. Rüegg, L.E. Koenig, C.L. Baker, M.T. Trentman, & T.K. Harms. Variation in detrital resource stoichiometry signals differential carbon to nutrient limitation for stream consumers across biomes. *Ecosystems* 21: 1676-1691. DOI: 10.1007/s10021-018-0247-z.
- Cobourn, K.M., C.C. Carey, K. Boyle, C. Duffy, H.A. Dugan, **K.J. Farrell**, L. Fitchett, P.C. Hanson, J.A. Hart, V.R. Henson, A.L. Hetherington, A.R. Kemanian, L.G. Rudstam, L. Shu, P.A. Soranno, M. Sorice, J. Stachelek, N.K. Ward, K.C. Weathers, W. Weng, & Y. Zhang. From concept to practice to policy: modeling coupled natural and human systems in lake catchments. *Ecosphere* 9: e02209. DOI: 10.1002/ecs2.2209.
- Engel, F., **K.J. Farrell**, I.M. McCullough, F. Scordo, B.A. Denfeld, H.A. Dugan, E. de Eyto, P.C. Hanson, R.P. McClure, P. Nöges, T. Nöges, E. Ryder, K.C. Weathers, & G.A. Weyhenmeyer. A lake classification concept for a more precise estimate of the dissolved inorganic carbon export from terrestrial ecosystems to inland waters. *The Science of Nature* 105: 25. DOI: 10.1007/s00114-018-1547-z.
- McCullough, I.M., H.A. Dugan, **K.J. Farrell**, A.M. Morales-Williams, Z. Ouyang, D. Roberts, F. Scordo, S.L. Bartlett, S.M. Burke, J.P. Doubek, F.E. Krivak-Tetley, N.K. Skaff, J.C. Summers, K.C. Weathers, & P.C. Hanson. Dynamic modeling of organic carbon fates in lake ecosystems. *Ecological Modelling* 386: 71-82. DOI: 10.1016/j.ecolmodel.2018.08.009.
- Song, C., W.K. Dodds, J. Rüegg, A. Argerich, C.L. Baker, W.B. Bowden, M.M. Douglas, **K.J. Farrell**, M.B. Flinn, E.A. Garcia, A.M. Helton, T.K. Harms, S. Jia, J.B. Jones, L.E. Koenig, J.S. Kominoski, W.H. McDowell, D. McMaster, S.P. Parker, A.D. Rosemond, C.M. Ruffing, K.R. Sheehan, M.T. Trentman, M.R. Whiles, W.M. Wollheim, & F. Ballantyne IV. Continental-scale decrease in net primary productivity in streams due to climate warming. *Nature Geoscience* 11: 415-420. DOI: 10.1038/s41561-018-0125-5.
- 2017 Dugan, H.A., S.L. Bartlett, S.M. Burke, J.P. Doubek, F.E. Krivak-Tetley, N.K. Skaff, J.C. Summers, **K.J. Farrell**, I.M. McCullough, A.M. Morales-Williams, D. Roberts, F. Scordo, Z. Ouyang, P.C. Hanson, & K.C. Weathers. Salting our freshwater lakes. *Proceedings of the National Academy of Sciences* 114: 4453-4458.
- 2016 Rüegg, J., W.K. Dodds, M.D. Daniels, K.R. Sheehan, C.L. Baker, W.B. Bowden, **K.J. Farrell**, M.B. Flinn, T.K. Harms, J.B. Jones, & L.E. Koenig. Baseflow physical characteristics differ at multiple spatial scales in stream networks across diverse biomes. *Landscape Ecology* 31: 119-136.

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- 2014 **Farrell, K.J.**, R.P. Creed, & B.L. Brown. Reduced densities of ectosymbiotic worms (Annelida: Branchiobdellida) on reproducing female crayfish. *Southeastern Naturalist* 13: 523-529.
- Farrell, K.J.**, R.P. Creed, & B.L. Brown. Preventing overexploitation in a mutualism: Partner regulation in the crayfish-branchiobdellid symbiosis. *Oecologia* 174: 501-510.
- 2013 Skelton, J., **K.J. Farrell**, R.P. Creed, B.W. Williams, C. Ames, B.S. Helms, J. Stoekel, & B.L. Brown. Servants, scoundrels, and hitchhikers: current understanding of the complex interactions between crayfish and their ectosymbiotic worms (Branchiobdellida). *Freshwater Science* 32: 1345-1357.
- 2012 Brown, B.L., R.P. Creed, J. Skelton, M.R. Rollins & **K.J. Farrell**. The fine line between mutualism and parasitism: Complex effects in a cleaning symbiosis demonstrated by multiple field experiments. *Oecologia* 170: 199-207.

### Manuscript Preprints

Emery, N.C., E. Crispo, S.R. Supp, A.J. Kerkhoff, **K.J. Farrell**, E.K. Bledsoe, K.L. O'Donnell, A.C. McCall, & M. Aeillo-Lammens. 2021. Training Data: How can we best prepare instructors to teach data science in undergraduate biology and environmental science courses? *bioRxiv Preprint*: 2021.01.25.428169. DOI: 10.1101/2021.01.25.428169.

Krinos, A.I.<sup>U</sup>, **K.J. Farrell**, V. Daneshmand, K.C. Subratie, R.J. Figueiredo, & C.C. Carey. 2019. Including variability in air temperature warming scenarios in a lake simulation model highlights uncertainty in predictions of cyanobacteria. *bioRxiv Preprint*: 734285. DOI: 10.1101/734285.

### Manuscripts in Review

Hounshell, A.G., **K.J. Farrell**, & C.C. Carey. Macrosystems EDDIE teaching modules increase students' ability to define, interpret, and apply concepts in macrosystems ecology. In review, *BioScience*. Manuscript # BIOS-20-0382.

### PUBLISHED TEACHING MODULES

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- 2020 Carey, C.C., **K.J. Farrell**, & A.G. Hounshell. Macrosystems EDDIE Module 4: Macro-Scale Feedbacks. *Environmental Data Initiative*. DOI: 10.6073/pasta/c2cabba0b755d852dabe74d181e2dc28
- 2019 **Farrell, K.J.**, & C.C. Carey. Macrosystems EDDIE Module 3: Teleconnections. *Environmental Data Initiative*. DOI: 10.6073/pasta/89ffc527545f581290a7c19c5cbb7163
- Carey, C.C., & **K.J. Farrell**. Macrosystems EDDIE Module 2: Cross-Scale Interactions. *Environmental Data Initiative*. DOI: 10.6073/pasta/28f233002e2e1b6c8d412992e378358f
- 2018 Carey C.C., S. Aditya, K. Subratie, R.J. Figueiredo, & **K.J. Farrell**. Macrosystems EDDIE Module 1: Climate Change Effects on Lake Temperatures. *Environmental Data Initiative*. DOI: 10.6073/pasta/f7c4c245f495d859dcaa4ff6794d1fac

### PUBLISHED DATA PRODUCTS

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- 2019 Carey C.C., A.B. Gerling, J.P. Doubek, K.D. Hamre, R.P. McClure, M.E. Lofton, & **K.J. Farrell**. Secchi depth data and discrete depth profiles of photosynthetically active

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radiation, temperature, dissolved oxygen, and pH for Beaverdam Reservoir, Carvins Cove Reservoir, Falling Creek Reservoir, Gatewood Reservoir, and Spring Hollow Reservoir in southwestern Virginia, USA 2013-2018. *Environmental Data Initiative*. DOI: 10.6073/pasta/e840c6c921afb43c32611b525de62b2

Carey C.C., M.E. Lofton, A.B. Gerling, R.P. McClure, J.P. Doubek, B.R. Niederlehner, & **K.J. Farrell**. Water chemistry time series for Beaverdam Reservoir, Carvins Cove Reservoir, Falling Creek Reservoir, Gatewood Reservoir, and Spring Hollow Reservoir in southwestern Virginia, USA 2013-2018. *Environmental Data Initiative*. DOI: 10.6073/pasta/08a8d297003c8e8593f888980f52bbcf

### TEACHING EXPERIENCE

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#### **Instructor of Record:**

2020 – present *Senior Seminar* (ECOL 4950, 1 credit hour), fall/spring semesters

2019 – present *Ecological Basis of Environmental Issues Lab* (ECOL 1000L, 1 credit hour), fall/spring/summer semesters

*Ecology Lab* (ECOL 3500L, ECOL 3500 co-requisite), fall/spring/summer semesters

*Honors Ecology Lab* (ECOL 3505L, ECOL 3505 co-requisite), fall semesters

*Graduate Teaching Seminar* (GRSC 7770, 1-3 credit hours), fall semesters

2018 – present *Ecological Basis of Environmental Issues Honors* (ECOL 1000H & 1000L, 4 credit hours), 8-week summer thru-term; UGA Interdisciplinary Field Program (IFP)

*Ecology of North America* (ECOL 4160), 8-week summer thru-term; UGA IFP

#### **Graduate Teaching Assistant/Co-Instructor:**

2016 *Ecological Basis of Environmental Issues Honors* (ECOL 1000H & 1000L, 4 credit hours), 8-week summer thru-term; UGA IFP

*Ecology of North America* (ECOL 4160), 8-week summer thru-term; UGA IFP

2015, 2016 *Freshwater Ecosystems* (ECOL 4310L/6310L, 4 credit hours), fall semester; OSE, UGA

2013 *Ichthyology* (ECOL 4050L/6050L, 4 credit hours), fall semester; OSE, UGA

#### **Curriculum Development:**

2019 – present Ecology lab (ECOL 1000L, 3500/3505L) curriculum, including online-asynchronous (Fall 2020) and hybrid/hyflex (Spring 2021) offerings, UGA

2017 – present UGA IFP ecology courses (ECOL 1000H, 1000L, 4160) with J.S. Kominoski, Florida International University

2017 – 2019 Macrosystems EDDIE (Environmental Data-Driven Inquiry & Exploration) module development with C.C. Carey, Virginia Tech

2015, 2016 Freshwater Ecosystems lab manual and teaching assistant manual development, UGA

2014 Ichthyology lab manual development, UGA

#### **Guest Lectures:**

2018 Freshwater Ecology (BIOL 4004), Virginia Tech

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	Freshwater Ecology (BI 364 and 364L), Fairfield University
2017	Freshwater Ecology (BIOL 4004), Virginia Tech
2016	Ecology and Adaptation (BIOL 131), Radford University
	Freshwater Ecosystems (ECOL 4310/6310), UGA
	Ecosystem Ecology (ECOL 4010/6010), UGA
2015	Behavioral Ecology (ECOL 4540), UGA
	Freshwater Ecosystems (ECOL 4310/6310), UGA
2014	Ecological Basis of Environmental Issues, Honors section (ECOL 1000H), UGA

### **Pedagogical Coursework:**

2015	Using Technology in College Classrooms (EDHI 9040), UGA
2014	Designing Courses for Significant Learning (GRSC 7900), UGA
2013	Graduate Seminar for Teaching and Laboratory Assistants (GRSC 7770), UGA

### **Student Mentorship:**

2019 - present	Teaching-related mentorship for ECOL 1000L and 3500/3505L teaching assistants (~15 graduate students each fall/spring semester; 2 students each summer)
2017 – 2019	Arianna Krinos (Virginia Tech '19)
2017	Mentor for BIOL 5174 students applying to NSF Graduate Research Fellowship Program (Virginia Tech)
2014	Olivia Mast (High school senior; Atlanta Girls' School '15)
2013	Sophia Bonjour (2013 NSF REU; Southern Illinois University '14)

### **AWARDS & HONORS**

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2021	Dean's Award, Odum School of Ecology, UGA
2021	Outstanding Faculty Instructor of the Year, OSE, UGA
2017	1 <sup>st</sup> Place Doctoral Research, OSE Graduate Student Symposium
2017	Excellence in Teaching Award nominee, UGA
2016	Outstanding Teaching Assistant Award, UGA
2016	Distinguished Graduate Student Teaching Award, OSE, UGA
2015	Frank Golley Memorial Scholarship, OSE, UGA
2013	2 <sup>nd</sup> Place Proposed Research, OSE Graduate Student Symposium
2010	Honorable Mention, National Science Foundation Graduate Research Fellowship Program
2009	Dean's Honour List (top 10% of graduating class), Faculty of Agricultural & Environmental Sciences, McGill University, Montreal, QC, Canada

### **GRANTS & FELLOWSHIPS**

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2017, 2014	Judy Meyer-Gene Helfman Graduate Travel Award, UGA (\$700 total)
2017, 2016	Aquatic Ecology Section Travel Award, Ecological Society of America (\$500 total)
2016	General Endowment Award, Society for Freshwater Sciences (\$1,000)
2015, 2016	Watershed UGA Mini-Grants for teaching, UGA (\$735 total)
2015 – 2017	Global Lakes Ecological Observatory Network (GLEON) Graduate Fellowship Program
2014 – 2016	Graduate School Travel Awards, UGA (\$1,475 total)
2012 – 2014	Scholar of Excellence Fellowship, UGA (\$38,000)
2012	Sigma Xi Grant-in-Aid of Research (\$800)
2010 – 2012	Graduate School & Student Association Research Grants, Appalachian State (\$1,215)

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2011 Master's Scholarship, North Carolina Assoc. of Environmental Professionals (\$1,000)

### INVITED WORKSHOP & SHORT COURSE PARTICIPATION

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- 2019 Biological and Environmental Data Education (BEDE) Network Workshop, Denison, OH, June 2019. (*Participant*)
- 2018 Ecological Dissertations in the Aquatic Sciences (Eco-DAS) Symposium, Honolulu, HI, October 2018. (*Participant & Presenter*)
- Smart and Connected Water Systems All-hands Meeting, Blacksburg, VA, May 2018 (*Presenter*)
- Environmental Data Initiative Data Publishing Workshop, Blacksburg, VA, May 2018 (*Participant*)
- Coupled-Natural Human System Lake Catchments Workshop, Sunapee, NH, May 2018 (*Participant & Presenter*)
- National Science Foundation Macrosystems Biology Principal Investigator Meeting, Arlington, VA, January 2018 (*Participant & Presenter*)
- 2017 Coupled-Natural Human System Lake Catchments Workshop, Madison, WI, May 2017 (*Participant*)
- GLEON-PRAGMA Lake Modeling Workshop, Gainesville, FL, April 2017 (*Participant*)
- Calibration Workflows for General Lake Model Users Workshop Madison, WI, January 2017 (*Participant*)
- 2015 UGA Communicating Science Workshop, Athens, GA, March 2015 (*Participant*)
- 2014 National Science Foundation Macrosystems Biology Principal Investigator Meeting, Arlington, VA, June 2014 (*Participant*)
- Cary Institute for Ecosystem Studies Fundamentals of Ecosystem Ecology Short Course, Millbrook, NY, January 2014 (*Participant*)

### INVITED PRESENTATIONS AND SEMINARS (presenters underlined)

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- 2020 Farrell, K.J., & K.C. Weathers. Lather, rinse, reuse- Are our archived data valuable or all wet? *Ecological Society of America*. Virtual conference, 5 Aug 2020. Inspire oral presentation.
- 2019 Carey, C.C., & K.J. Farrell. Integrating simulation modeling into undergraduate aquatic ecology courses increases students' understanding of global change on lakes. *Association for the Sciences of Limnology & Oceanography Aquatic Sciences Meeting*. San Juan, PR, 28 February 2019.
- 2018 Farrell, K.J. Interacting effects of climate and land use on nutrient cycling in eutrophic and oligotrophic lakes. *United States Environmental Protection Agency Nutrient Pollution Science Webinar Series*. 25 September 2018.
- Farrell, K.J., & C.C. Carey. Integrating simulation modeling into ecology curricula through hands-on teaching modules increases undergraduate students' understanding of macrosystems ecology. *Ecological Society of America*. New Orleans, LA, 7 August 2018.

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Weathers, K.C., P.C. Hanson, & **K.J. Farrell**. Team science and graduate student training: A network perspective. *National Science Foundation Macrosystems Biology Principal Investigator Meeting*. Arlington, VA, 9 January 2018.

**Farrell, K.J.**, & C.C. Carey. Macrosystems EDDIE: Developing the first macrosystems ecology curriculum for undergraduates using modeling, sensor data, and R. *National Science Foundation Macrosystems Biology Principal Investigator Meeting*. Arlington, VA, 9 January 2018.

- 2016 **Farrell, K.J.** Linking structure and function in freshwater ecosystems: a seminar in 3 acts. Department of Biology, Radford University, Radford, VA, 9 November 2016.

### CONTRIBUTED PRESENTATIONS (presenters underlined; <sup>U</sup> = mentored undergraduate student; <sup>G</sup> = mentored graduate student)

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- 2020 Hounshell, A.G., **K.J. Farrell**, & C.C. Carey. Hands-on modeling activities in Macrosystems EDDIE teaching modules increase undergraduate students' ability to define, interpret, and apply advanced concepts in the environmental sciences. *American Geophysical Union Fall Meeting*. Virtual conference, 15 Dec 2020. Poster presentation.

Carey, C.C., **K.J. Farrell**, A.G. Hounshell, & T. Moore. Macrosystems EDDIE teaching modules significantly increase ecology students' proficiency working with ecosystem models and use of systems thinking. *GLEON 21.5*. Virtual conference, 19 Oct 2020. Poster presentation.

**Farrell, K.J.**, C.C. Carey, & A.G. Hounshell. Hands-on ecosystem modeling activities increase students' understanding of macrosystems ecology. *Ecological Society of America*. Virtual conference, 3 Aug 2020. Poster presentation.

Brisbin, M.M., B. Grunert, W. Beck, J. Brandt, **K. Farrell**, K. Hondula, D. Kincaid, E. Larson, A. Shogren, & J. Zwart. WikiProject L&O: Promoting Wikipedia contributions to enhance communication and public impact *Ocean Sciences Meeting (OSM)*. San Diego, CA, 18 Feb 2020. Poster presentation.

- 2019 Hounshell, A.G., **K.J. Farrell**, and C.C. Carey. Macrosystems EDDIE: Using hands-on teaching modules to build computational literacy and water resources concepts in undergraduate curricula. *American Geophysical Union Fall Meeting*. San Francisco, CA, 9 December 2019. eLightning presentation.

Hondula, K.L., J.E. Brandt, **K.J. Farrell**, D.W. Kincaid, A. Shogren, J.A. Zwart. From classroom to community: Student contributions to WikiProject Limnology & Oceanography expand public education in the aquatic sciences. *American Geophysical Union Fall Meeting*. San Francisco, CA, 9 December 2019. eLightning presentation.

Carey, C.C., A.G. Hounshell, & **K.J. Farrell**. Integrating simulation modeling into undergraduate aquatic ecology courses increases students' understanding of global change on lakes. *GLEON 21 Meeting*. Huntsville, Ontario, Canada, 5 November 2019. Poster presentation.

**Zwart, J.A.**, W. Beck, J.E. Brandt, M.M. Brisbin, **K.J. Farrell**, K.L. Hondula, D.W. Kincaid, E.I. Larson, & A.J. Shogren. Curating open scientific information on Wikipedia: a case study of WikiProject Limnology and Oceanography. *Ecological Society of America*. Louisville, KY, 14 August 2019. Oral presentation.

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Henson, V.R., K. Cobourn, C.C. Carey, K. Weathers, **K.J. Farrell**, N. Ward, W. Weng, J. Klug, & M. Sorice. Managing interdisciplinary teams: Lessons learned from coupled natural and human systems modeling in lake catchments. *International Network for the Science of Team Science*. Lansing, MI, 21 May 2019. Oral presentation.

Carey, C.C. **K.J. Farrell**, & A.G. Hounshell. Macrosystems EDDIE: Building computational literacy and macrosystems ecology knowledge through hands-on teaching modules. *NSF Macrosystems Principal Investigators Meeting*. Boulder, CO, 16 May 2019. Poster presentation.

2018 **Farrell, K.J.** and C.C. Carey. Macrosystems EDDIE: Building computational literacy and macrosystems ecology knowledge through hands-on teaching modules. *GLEON 20 Meeting*. Rottneest Island, Australia, 4 December 2018. Poster presentation.

Cobourn, K.M., C. Carey, K. Boyle, C. Duffy, H.A. Dugan, **K. Farrell**, L. Fitchett, P.C. Hanson, V.R. Henson, M. Sorice, A. Kemanian, L. Shu, W. Weng, K.C. Weathers, & Y. Zhang. Modeling coupled natural and human systems in lake catchments reveals feedbacks among land-management decisions, water quality degradation, and altered property values. *American Geophysical Union Fall Meeting*. Washington, D.C., 10 December 2018. Poster presentation.

Orr, C.H., C. O'Reilly, C. Carey, R. Gougis, D.C. Soule, T. Meizner, **K. Farrell**, J. Klug, D. Richardson, N. Bader, D. Castendyk, W.J. Hunter, & K.C. Weathers, & C.H. Orr. Environmental data-driven inquiry and exploration (Project EDDIE): using large datasets to build quantitative literacy. *American Geophysical Union Fall Meeting*. Washington, D.C., 14 December 2018. eLightning presentation.

**Farrell, K.J.**, C.C. Carey, A.I. Krinos<sup>U</sup>, N.K. Ward, P.C. Hanson, R.J. Figueiredo, V. Daneshmand, & K. Subratie. Increasing air temperatures differentially alter intra- and inter-annual nitrogen and phosphorus cycling in a eutrophic and an oligotrophic lake. *Ecological Society of America*. New Orleans, LA, August 2018. Oral presentation.

Weng, W., K.J. Boyle, C. Carey, K.M. Cobourn, H. Dugan, **K. Farrell**, P. Hanson, S. Brahma, N. Ward, & K. Weathers. Coupling water quality numerical simulation and hedonic models to evaluate impact of changes in nutrient loading. *Agricultural & Applied Economics Association*. Washington, D.C., August 2018. Oral presentation.

Cobourn, K., C. Carey, K. Boyle, C. Duffy, H. Dugan, **K. Farrell**, L. Fitchett, P.C. Hanson, J.A. Hart, V.R. Henson, A. Hetherington, A.R. Kemanian, L.G. Rudstam, L. Shu, P.A. Soranno, M. Sorice, J. Stachelek, N.K. Ward, K.C. Weathers, W. Weng, & Y. Zhang. From concept to practice: an innovative framework for modeling coupled natural and human systems in lake catchments. *Universities Council on Water Resources*. Pittsburgh, PA, June 2018. Oral presentation.

Boyle, K., C. Carey, W. Weng, **K. Farrell**, P. Hanson, K. Cobourn, & S. Brahma. Coupling water quality numerical simulation and hedonic models to evaluate impact of changes in nutrient loading. *Universities Council on Water Resources*. Pittsburgh, PA, June 26, 2018. Oral presentation.

Song, C., W.K. Dodds, A. Argerich, C. Baker, W.B. Bowden, M. Douglas, **K.J. Farrell**, M.B. Flinn, E. Garcia, A. Helton, T. Harms, S. Jia, J. Jones, L. Koenig, J.S. Kominoski, W.H. McDowell, D. McMaster, S.P. Parker, A.D. Rosemond, C. Ruffing, K. Sheehan, M.T. Trentman, M. Whiles, W. Wollheim, & F. Ballantyne. Warming induces asymmetric



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convergence of stream metabolic balance. *Society for Freshwater Science*. Detroit, MI, May 2018. Oral presentation.

**Farrell, K.J.**, C.C. Carey, A.I. Krinos<sup>U</sup>, N.K. Ward, P.C. Hanson, R.J. Figueiredo, V. Daneshmand, & K. Subratie. GRAPLER platform accelerates whole-ecosystem simulation modeling to increase understanding of climate change impacts on lake nutrient cycling. *Pacific Rim Applications and Grid Middleware Assembly 34 Meeting*. Akihabara, Tokyo, Japan, May 2018. Poster presentation.

**Farrell, K.J.**, & C.C. Carey. Macrosystems EDDIE: Introducing undergraduate students to macrosystems ecology and simulation modeling through hands-on teaching modules. *National Science Foundation Macrosystems Biology Principal Investigator Meeting*. Arlington, VA, January 2018. Poster presentation.

2017 **Farrell, K.J.**, & C.C. Carey. Macrosystems EDDIE: Introducing undergraduate students to macrosystems ecology and simulation modeling through hands-on teaching modules. *GLEON 19 Meeting*. Mohonk, New York, November 2017. Poster presentation.

**Farrell, K.J.**, A.D. Rosemond, F. Ballantyne, J. Kominoski, S.M. Bonjour<sup>U</sup>, J. Rüegg, L.E. Koenig, C.L. Baker, M.T. Trentman, & T.K. Harms. Variation in resource stoichiometry signals differential carbon to nutrient limitation for stream consumers across biomes. *Ecological Society of America*. Portland, OR, August 2017. Oral presentation.

Carey, C.C., R.J. Figueiredo, P.C. Hanson, A.L. Hetherington, A.I. Krinos, K. Subratie, J.T. Sukumar, & **K.J. Farrell**. Ensemble-based simulation modeling reveals non-linear water quality responses to climate and land use change scenarios in a eutrophic lake. *Ecological Society of America*. Portland, OR, August 2017. Oral presentation.

Dugan, H., S.L. Bartlett, S. Burke, F. Krivak-Tetley, J.P. Doubek, N.K. Skaff, J. Summers, **K.J. Farrell**, I.M. McCullough, A. Morales, D. Roberts, F. Scordo, Z. Ouyang, P.C. Hanson, & K.C. Weathers. Salting freshwater lakes. *Ecological Society of America*. Portland, OR, August 2017. Oral presentation.

**Farrell, K.J.**, A.D. Rosemond, J. Rüegg, K. Gido, M.B. Flinn, M. Whiles, E. Garcia, A. Argerich, B. Penaluna, & M. Douglas. Testing effects of large consumers on stream ecosystem structure and function: Synthesis across the SCALER project. *Society for Freshwater Science*. Raleigh, NC, June 2017. Oral presentation.

Song, C., E. Garcia, A. Argerich, M. Whiles, W.K. Dodds, K. Gido, W.H. McDowell, J.S. Kominoski, D. McMaster, M.B. Flinn, M.T. Trentman, J. Rüegg, S.P. Parker, T. Harms, A.D. Rosemond, W.B. Bowden, K. Sheehan, L. Koenig, W. Wollheim, **K. Farrell**, C. Baker, J. Jones, M. Douglas, F. Ballantyne, A. Helton, & S. Jia. Interaction between physiology and environmental heterogeneity determines discrepancy in stream metabolism across spatial scales. *Society for Freshwater Science*. Raleigh, NC, June 2017. Poster presentation.

Craghead<sup>U</sup>, L.J., **K.J. Farrell**, S.K. Henderson<sup>U</sup>, & J.B. Deemy. Organic matter retention during baseflow as a function of stream substrate size. *Georgia Water Resources Conference*. Athens, GA, April 2017. Poster presentation.

Morales-Williams, A.M., **K. Farrell**, I. McCullough, D. Roberts, F. Scordo, Z. Yang, H. Dugan, P. Hanson, S. Bartlett, S. Burke, J. Doubek, F. Krivak-Tetley, N. Skaff, J. Summers, G. Hong, & K. Weathers. Source or sink? Integrating biogeochemical and

## KAITLIN J. FARRELL

kfarrell@uga.edu

landscape processes to model lake carbon budgets. *Association for the Sciences of Limnology & Oceanography*. Honolulu, HI, March 2017. Poster presentation.

**Farrell, K.J.**, I. McCullough, D. Roberts, A. Morales-Williams, Z. Yang, F. Scordo, H. Dugan, P. Hanson, S. Bartlett, S. Burke, J. Doubek, F. Krivak-Tetley, N. Skaff, J. Summers, & K. Weathers. Source or sink? Integrating biogeochemical and landscape processes to model lake carbon budgets. *OSE Graduate Student Symposium*. Athens, GA, January 2017. Oral presentation.

2016 **Farrell, K.J.**, A.D. Rosemond, F. Ballantyne IV, C. Song, & J.S. Kominoski. Go big or go home: Can we predict whole-stream ecosystem functions from small-scale measurements? *Ecological Society of America*. Ft. Lauderdale, FL, August 2016. Oral presentation.

Doubek, J.P., S.M. Burke, J.C. Summers, S.L. Bartlett, H.A. Dugan, F. Krivak-Tetley, N. Skaff, **K.J. Farrell**, I.M. McCullough, F. Scordo, P.B. Mills, P.C. Hanson, & K.C. Weathers. Cyanobacteria like it hot, nutrient-rich, and a little salty: increased chloride alters phytoplankton and zooplankton community structure in lakes and reservoirs. *GLEON 18 Meeting*. Gaming, Austria, July 2016. Poster presentation.

Dugan, H., S. Bartlett, S. Burke, J. Doubek, F. Krivak-Tetley, N. Skaff, J. Summers, **K. Farrell**, I. McCullough, A.M. Morales-Williams, D. Roberts, F. Scordo, Z. Yang, P. Hanson, G. Hong, & K. Weathers. Salting our freshwaters. *GLEON 18 Meeting*. Gaming, Austria, July 2016. Poster presentation.

Scordo, F., **K. Farrell**, I. McCullough, A. Morales-Williams, D. Roberts, Z. Yang, H. Dugan, P. Hanson, S. Bartlett, S. Burke, J. Doubek, F. Krivak-Tetley, N. Skaff, J. Summers, G. Hong, & K. Weathers. Source or sink? Integrating biogeochemical, trophic, and landscape processes to model lake carbon budgets. *GLEON 18 Meeting*. Gaming, Austria, July 2016. Poster presentation.

**Farrell, K.J.**, A.D. Rosemond, F. Ballantyne, C. Song, & J.S. Kominoski. Scaling of metabolism and nutrient uptake in a headwater stream network: What drives ecosystem processes at multiple measurement scales? *Society for Freshwater Science*. Sacramento, CA, May 2016. Oral presentation.

Dodds, W., W. Wollheim, A. Argerich, C. Baker, F. Ballantyne, B. Bowden, M. Evans-White, **K. Farrell**, M. Flinn, B. Frenette, E. Garcia, J. Guinnip, T. Harms, S. Hedden, S. Higgs, D. Hoeinghaus, J. Jones, L. Koenig, J.S. Kominoski, D. Larson, R. Lehrter, R. Mapes, W. McDowell, D. McMaster, S. Parker, B. Penaluna, A. Rosemond, J. Rüegg, J. Scott, K. Sheehan, A. Siders, C. Song, M. Spangler, R. Taylor, M. Trentman, & M. Whiles. Implications of spatial heterogeneity for scaling lotic metabolism. *Society for Freshwater Science*. Sacramento, CA, May 2016. Oral presentation.

Wollheim, W., W.K. Dodds, M. Whiles, K. Sheehan, R. Stewart, F. Ballantyne, C. Baker, W.B. Bowden, **K.J. Farrell**, M. Flinn, K. Gido, T. Harms, A. Helton, J. Jones, L. Koenig, W. McDowell, S. Parker, A. Rosemond, J. Rüegg, C. Song, M. Trentman, & J.S. Kominoski. Scaling laws for aquatic metabolism vs. watershed size. *Society for Freshwater Science*. Sacramento, CA, May 2016. Oral presentation.

**Farrell, K.J.**, and A.D. Rosemond. Assessing student preparedness for writing in the sciences: a case study from a joint undergraduate/graduate ecology course. *University System of Georgia Teaching and Learning Conference*. Athens, GA, April 2016. Poster presentation.

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kfarrell@uga.edu

- Farrell, K.J.**, A.D. Rosemond, F. Ballantyne, & J.S. Kominoski. Seen one stream & you've seen them all? The unique roles of different sized streams in river networks. *OSE Graduate Student Symposium*. Athens, GA, January 2016. Oral presentation.
- 2015 **Conn<sup>G</sup>, C.**, N. Tomczyk<sup>G</sup>, **K.J. Farrell**, & A.D. Rosemond. Freshwater ecosystems students document urban stream syndrome in UGA streams. *University of Georgia Office of Sustainability Semester in Review*. Athens, GA, December 2015. Poster presentation.
- Hernández Abrams<sup>G</sup>, D.**, **K.J. Farrell**, & A.D. Rosemond. Fecal bacteria and harmful algae: signs of climate change and urban development at UGA's Lake Herrick. *University of Georgia Office of Sustainability Semester in Review*. Athens, GA, December 2015. Poster presentation.
- Dodds, W.**, J. Rüegg, K. Sheehan, C. Song, F. Ballantyne, C. Baker, W. Bowden, **K. Farrell**, M. Flinn, E. Garcia, T. Harms, J. Jones, L. Koenig, J. Kominoski, W. McDowell, D. McMaster, S. Parker, M. Trentman, M. Whiles, W. Wollheim, A. Argerich, & B. Penaluna. Biome context and lotic ecosystem rates. *American Geophysical Union Fall Meeting*. San Francisco, CA, December 2015. Poster presentation.
- Dugan, H.**, S. Bartlett, S. Burke, J. Doubek, F. Krivak-Tetley, N. Skaff, J. Summers, **K. Farrell**, I. McCullough, A. Morales-Williams, D. Roberts, F. Scordo, Z. Yang, P. Hanson, & K. Weathers. Salting our freshwater: A macrosystems study of global chloride patterns and trends in lakes. *American Geophysical Union Fall Meeting*. San Francisco, CA, December 2015. Poster presentation.
- Song, C.**, A. Argerich, C. Baker, W. Bowden, W. Dodds, M. Douglas, **K. Farrell**, M. Flinn, E. Garcia, K. Gido, T. Harms, J. Jones, L. Koenig, J. Kominoski, K. McDonald, W. McDowell, D. McMaster, S. Parker, A. Rosemond, J. Rüegg, K. Sheehan, M. Trentman, W. Wollheim, & F. Ballantyne. Temperature sensitivity of stream gross primary production and respiration from the tropics to the arctic. *American Geophysical Union Fall Meeting*. San Francisco, CA, December 2015. Poster presentation.
- Farrell, K.J.**, & A.D. Rosemond. Utilizing annual data from an undergraduate ecology class to study changes in a monomictic reservoir. *GLEON 17 Meeting*, Chuncheon, South Korea, October 2015. Poster presentation.
- Dugan, H.**, S. Bartlett, S. Burke, J. Doubek, F. Krivak-Tetley, N. Skaff, J. Summers, **K.J. Farrell**, I. McCullough, A.M. Morales-Williams, D. Roberts, F. Scordo, Z. Yang, P.C. Hanson, G. Hong, & K. Weathers. A macrosystems study of global chloride trends, drivers, and ecological impacts in lakes. *GLEON 17 Meeting*, Chuncheon, South Korea, October 2015. Poster presentation.
- McCullough, I.**, **K.J. Farrell**, A. Morales-Williams, D. Roberts, F. Scordo, Z. Yang, H. Dugan, P. Hanson, S. Bartlett, S. Burke, J. Doubek, F. Krivak-Tetley, N. Skaff, J. Summers, G. Hong, & K. Weathers. Source or sink? Integrating biogeochemical, trophic and landscape processes to model lake carbon budgets under environmental change. *GLEON 17 Meeting*, Chuncheon, South Korea, October 2015. Poster presentation.
- Kominoski, J.S.**, A.D. Rosemond, **K.J. Farrell**, & D.W.P. Manning. Rivers without headwaters are like trees without branches: Integrating network-level ecological connectivity to enhance conservation. *Ecological Society of America*. Baltimore, MD, August 2015. Ignite oral presentation.

## KAITLIN J. FARRELL

kfarrell@uga.edu

- Farrell, K.J.**, A.D. Rosemond, J.C. Maerz, & P.M. Bumpers. Assessing the effects of altered larval salamander density on ecosystem processes in a headwater stream. *Society for Freshwater Science*. Milwaukee, WI, May 2015. Oral presentation.
- Rüegg, J.**, K. Sheehan, C. Baker, M. Daniels, W. Dodds, **K.J. Farrell**, M. Flinn, K. Gido, T. Harms, J. Jones, L. Koenig, J. Kominoski, W. McDowell, W. Bowden, A. Rosemond, M. Trentman, W. Wollheim, S. Parker. Baseflow patterns of geomorphic heterogeneity in stream networks across biomes. *Society for Freshwater Science*. Milwaukee, WI, May 2015. Oral presentation.
- Sheehan, K.**, W. Wollheim, **K.J. Farrell**, C. Song, J. Kominoski, M. Trentman, W. Dodds, A. Rosemond, F. Ballantyne, & J. Rüegg. Beyond our reach? Extrapolating network-scale aquatic metabolism from reach-scale observation. *Society for Freshwater Science*. Milwaukee, WI, May 2015. Oral presentation.
- 2014 **Farrell, K.J.**, A.D. Rosemond, F. Ballantyne, S. Bonjour<sup>U</sup>, & J.S. Kominoski. Spatial dynamics in organic matter stoichiometry in stream networks. *Joint Aquatic Sciences Meeting*. Portland, OR, May 2014. Oral presentation.
- Sheehan, K.**, W. Wollheim, J. Rüegg, & **K.J. Farrell**. Network scale modeling of dissolved oxygen in rivers from fine scale data: is the whole a sum of its parts? *Joint Aquatic Sciences Meeting*. Portland, OR, May 2014. Oral presentation.
- 2013 **Farrell, K.J.**, A.D. Rosemond, J.S. Kominoski, & F. Ballantyne. Effects of consumer community composition and feeding strategy on ecosystem-level processes: comparing streams within the SCALER project. *Society for Freshwater Science*. Jacksonville, FL, May 2013. Oral presentation.
- Farrell, K.J.**, A.D. Rosemond, J.S. Kominoski, & F. Ballantyne. Effects of consumer community composition and feeding strategy on ecosystem-level processes: an in-depth comparison of temperate mountainous and grassland streams within the SCALER project. *OSE Graduate Student Symposium*. Athens, GA, January 2013. Oral presentation.
- 2012 **Rüegg, J.**, W. Dodds, F. Ballantyne, C. Baker, W. Bowden, **K. Farrell**, M. Flinn, K. Gido, T. Harms, A. Helton, J. Jones, L. Koenig, J. Kominoski, W. McDowell, S. Parker, A. Rosemond, D. Russel, K. Sheehan, M. Whiles, & W. Wollheim. Scale, Consumers and Lotic Ecosystem Rates (SCALER). *LTER All Scientists Meeting*. Estes Park, CO, September 2012. Poster presentation.
- Brown, B.L.**, R.P. Creed, J. Skelton, **K.J. Farrell**, & M. Thomas. Fickle food on a shifting plate: Variable benefits and partner control mechanisms in a crayfish-annelid cleaning symbiosis. *Ecological Society of America*. Portland, OR, August 2012. Oral presentation.
- Farrell, K.J.**, R.P. Creed, & B.L. Brown. Microbial inhibition by crayfish hemolymph may explain symbiont loads and partner control behaviors in a cleaning symbiosis. *Society for Freshwater Science*. Louisville, KY, May 2012. Oral presentation.
- 2011 **Creed, R.P.**, **K.J. Farrell**, B.L. Brown, J. Lomonaco, & D. Young. Preventing overexploitation in a mutualism: Partner control in the crayfish-branchiobdellid symbiosis. *Ecological Society of America*. Austin, TX, August 2011. Poster presentation.
- Farrell, K.J.**, R.P. Creed, B.L. Brown, J. Lomonaco, & D. Young. Partner control in crayfish/ branchiobdellid symbioses: who's in charge? *North American Benthological Society*. Providence, RI, May 2011. Oral presentation.

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kfarrell@uga.edu

### PROFESSIONAL SERVICE & ACTIVITIES

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#### Professional Society Service & Leadership:

- 2017 – 2018 Ecological Society of America Early Career Ecologist Section (*Secretary & Treasurer*)
- 2016 – 2017 Ecological Society of America Early Career Mentoring Program (*Mentee review panel: 2017; Mentee: 2016*)
- 2012 – 2016 Society for Freshwater Science Student Resources Committee, Undergraduate Awards & Judging Committee (*Chair/Co-Chair: 2013-2016; Member: 2012-2013*)

#### Contributed Conference Workshops & Special Sessions:

- 2019 “Learn to Integrate NEON and GLEON Data into your Classroom using Macrosystems EDDIE.” Ecological Society of America Annual Meeting, Louisville, KY, August 2019 (*Workshop co-organizer*)
- 2018 “Introduction to Macrosystems EDDIE and Cross-Scale Interactions.” GLEON 20 Meeting, Rottneest Island, Australia, December 2018. (*Workshop co-organizer & presenter*)
- 2017 “Firming Up Your Soft Skills: A Crash Course in Team Science for Ecologists.” Ecological Society of America Annual Meeting, Portland, OR, August 2017 (*Workshop co-organizer and presenter*)
- 2016 “The GLEON Graduate Fellowship Program: Student Insights on a Model for Team Science and Interdisciplinary Research Training.” Ecological Society of America Annual Meeting, Ft. Lauderdale, FL, August 2016 (*Workshop co-organizer and presenter*)
- 2013 Progress and challenges in scaling pattern and process in aquatic ecosystems.” Society for Freshwater Sciences Annual Meeting, Jacksonville, FL, May 2013 (*Special session co-organizer and moderator*)

#### University Service & Leadership:

- 2019 – present Academic Programs Committee, OSE, UGA (*Ex-officio member*)
- 2019 – present Undergraduate Program Committee, OSE, UGA (*Ex-officio member*)
- 2019 – present Diversity Committee, OSE, UGA (*Member*)
- 2020 Public Service Professional Search Committee, OSE, UGA (*Member*)
- 2019 – 2020 Lecturer Search Committee, OSE, UGA (*Member*)
- 2016 – 2017 Graduate Program Committee, OSE, UGA (*Graduate Student Representative*)
- 2015 – 2016 Graduate Student Organization, OSE, UGA (*Co-Chair*)
- 2013 – 2016 Graduate Student Symposium Judging Committee, OSE, UGA (*Chair: 2014-2016; Member: 2013*)
- 2013 – 2014 Seminar Committee, OSE, UGA (*Graduate Student Representative*)
- 2013 – 2014 Graduate Student Invited Speaker Committee, OSE, UGA (*Chair*)
- 2012 – 2013 UGA Graduate Students & Post-docs in Science, UGA (*Ecology Representative*)

#### Diversity Initiatives:

- 2019 Safe Space Training, LGBT Resource Center, UGA
- 2018 Diversity Advocate certificate program, University Organizational & Professional Development, Virginia Tech
- 2018 Diversity Ally certificate program, University Organizational & Professional Development, Virginia Tech

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- 2016 Society for Freshwater Science Instars Mentoring Program (*Fellowship review panel coordinator*)  
2015 – 2017 UGA Women in Science (WiSci) student organization (*Member*)

### Journal Peer Review:

*Aquatic Sciences, Biological Invasions\**, *Ecology & Evolution, Freshwater Science, Hydrobiologia\**, *Journal of Applied Ecology\**, *Scientific Data, Water Resources Research*; \*co-reviewed with A.D. Rosemond during Ph.D.

### PUBLIC ENGAGEMENT & OUTREACH

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- 2020 UGA Ecology Parents & Family Day (*Contributor*)  
EcoReach Outreach at Clarke County School District Science Fair (*Contributor*)  
2019 – present WikiProject Limnology & Oceanography (*Organizer & Contributor*)  
2019 – 2020 STEMZone (*Volunteer feedback coordinator*)  
2019 Athens Vulture Festival (*Volunteer*)  
Rivers Alive (*Volunteer*)  
2016 Clarke Central High School Experience UGA Field Trip (*Career Panelist*)  
2016 Girl Scout Science Day, State Botanical Garden of Georgia (*Instructor*)  
2016, 2015 Environmental Science badge, Boy Scout Merit Badge Day, UGA (*Organizer & Instructor*)  
2015 3-Minute Thesis competition, UGA (*Participant*)  
2012 – 2016 EcoReach Environmental Outreach (*President & Program Coordinator*: 2014-2015; *Secretary*: 2012-2014), UGA  
2014 Hart County High School STEM Field Trip, UGA (*Guest Presenter*)  
2008 – 2009 Redpath Museum, McGill University (*Education Docent*)

### CURRENT PROFESSIONAL MEMBERSHIPS

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Ecological Society of America (ESA); 2014 – present  
Global Lakes Ecological Observatory Network (GLEON); 2014 – present

### LANGUAGES

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Spanish (fluent, written and spoken)