

Jennifer L Summers

EMAIL: jsumme24@vols.utk.edu; TEL: 864-872-1773

A. EDUCATION

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|-----------------------|----------------------------------|-------|-----------|
| Furman University, SC | Biology | B.A. | 2013 |
| Tulane University, LA | Ecology and Evolutionary Biology | Ph.D. | 2015-2017 |
| U of TN, Knoxville | Ecology and Evolutionary Biology | Ph.D. | 2017-2020 |

B. RESEARCH AND SYNERGISTIC ACTIVITIES

1. **Field work, lab work and data analysis for *Schoenoplectus americanus* seed bank study (Jan 2016-present)**
 - a. Managed extensive microsatellite data from *Schoenoplectus americanus* seed bank project
 - b. Conducted population genetic analyses with several platforms: R (Mantel tests, repeated measures ANOVA), Structure, Clumpak, GIS (genetic heat maps), Microsatellite Analyzer (MSA), GenePop, GenAlEx
 - c. Carried out 2 field seasons in Edgewater, MD collecting soil cores and extant samples
 - d. Sliced soil cores, sieved for seeds, and began germination trials with extracted seeds
 - e. Conducted greenhouse experiment exposing plants to triply crossed stressors simulating sea level rise
 - f. Genomics analyses for *S. americanus*:
 - i. Ploidy estimation using flow cytometry (Summer 2017)
 - ii. Genome sequencing and analysis (JGI CSP grant, Fall 2018)
 - iii. Transcriptomics/RNAseq analysis (Summer 2018 – Summer 2019)
 - iv. ddRAD and SNP calling, population genomics (Spring – Fall 2019)
2. **Intern at Oak Ridge National Lab (Summer 2019 – Winter 2019)**
 - a. Worked under David Weston and Travis Lawrence in the Biosciences Division at ORNL
 - b. Honed skills in Python, shell scripting, grep document editing, best practices for bioinformatics
 - c. Analyzed transcriptomics data *de novo*
 - d. Learned about pipelines used to analyze comparisons across *Sphagnum* genus
3. **Vice President of UTK EEB Graduate Student Organization (Summer 2018 – Summer 2019)**
 - a. Organized monthly meetings centered around professional development for graduate students
 - b. Managed budgets and organized social events for graduate students
 - c. Advocated for graduate student opinions and rights within the department
 - d. Represented EEB at the Graduate Student Senate as a Senator
4. **EKEE Ecology and Evolutionary Biology Graduate student outreach organization**
 - a. Developed modules to engage kindergarten through middle school students in scientific inquiry through the Boys and Girls Club
 - b. Organize public lectures on scientific topics
 - c. Visit local classrooms to give seminars on science and research
5. **GiST – Girls in Science and Technology at Tulane**
 - a. Designed modules for day-long camp for lower income young women from the New Orleans area to engage in science and learning activities
 - b. Modules: wildlife footprint traps, fish morphology, wetland diversity
6. **Stats Lunch organizer at Tulane University**
 - a. Developed and organized a semester-long lunch seminar on statistics for graduate students
 - b. Covered discussions of Bayesian statistics, ordination, and regression
7. **Hawaiian freshwater stream endemic fish study (March - April 2016)**

- a. Assisted with collection and processing of multi-species fish samples for 3 weeks in the freshwater streams of Oahu, Hawai'i
 - b. Collaborated with 4-man team and Hawaii's Division of Aquatic Resources to capture endemic and invasive fish via electrofishing and hand-netting
 - c. Identified, sorted and preserved thousands of fish and managed data entry and organization
- 8. **Northern Pike (*Esox lucius*) behavioral study on effects of hydrodams on fish stress, NSERC HydroNet Network, University of Montréal (June 2013 – August 2013)**
 - a. Assisted in graduate work in northern Ontario comparing the stress and behavior of northern pike between two rivers, one with and one without a hydrodam
 - b. Three months in the field working on two remote rivers angling for fish specimens and assisting in radio-tagging of fish and data management
- 9. **Agribusiness views on sustainability in Upstate South Carolina, Shi Center for Sustainability, Furman University (September 2012 – May 2013)**
Conducted interviews with farmers regarding their views on sustainable farming practices
- 10. **Sustainable development summary for Xela, Guatemala, Sustainable Development for Guatemala (DESGUA), Quetzaltenango, Guatemala (June 2012 – August 2012)**
 - a. Contributed to NGO's primary literature sources about sustainable agriculture and traditional Mayan agriculture for popular education of local youth
 - b. Co-founder of a city-wide sustainable business organization

C. OTHER PROFESSIONAL EXPERIENCE

- 1. University of Tennessee Knoxville Graduate Teaching Assistant (8/2017-5/2018)
 - BIO 240 Genetics Discussion
- 2. Tulane University Graduate Teaching Assistant (8/2016-05/2017)
 - EBIO 3080 Processes of Evolution Discussion
 - EBIO 3180 Plants and Human Affairs Lab Manager
- 3. Centre de Formation Fritz Lafontant, Corporant, Haiti (9/2013 – 8/2014) - Professor of natural sciences and Haiti Project Manager for Furman University
- 4. Furman University Organic Farm, Greenville SC (8/2012 - 5/2013) - Farm Research Assistant
- 5. Furman Housing Office Greenville, SC (8/2012 -5/2013) - Freshman Resident Advisor
- 6. FUnet Online News for Furman U, Greenville, SC (11/2009 - 05/2013) - Student Writer
- 7. Michelin North America Greenville, SC (5/2011 - 8/ 2011) - Media Intern

D. INVITED TALKS AND ACCEPTED PRESENTATIONS

- 1. Ecological Society of American annual meeting, Aug 13, 2019
- 2. Speaker at Tremont Young Women in Science Camp, Summer 2019
- 3. Graduate Student Seminar Talk, Fall 2018
- 4. UTK EEB Recruitment Weekend Lightning Talk, Spring 2018
- 5. Ecological Society of America annual meeting, Aug 2017
- 6. Remote Sensing & GIS Geoinformatics & Geostatistics Conference presenter, Aug 2016
- 7. SEC Women and Gender Studies Conference presenter, Fall 2012
- 8. Duke Endowment Conference on Sustainable Agriculture presenter, Fall 2012
- 9. Carolina Farm Stewards Sustainable Agriculture Conference, Fall 2012
- 10. Organic Growers' School Sustainable Agriculture Conference, Spring 2013
- 11. Guest lecturer in Furman Political Ecology course, presentation of research on Upstate SC, Spring 2013

E. RESEARCH AWARDS AND FUNDING

- 1. NSF INTERN Grant (Spring 2019 - \$50,000)

2. 2018 Outstanding Publication by a Graduate Student (UTK EEB Dept Award)
3. Student Faculty Grant (Fall 2017 – UTK, \$5000)
4. EEB Departmental Research Grant (Spring 2017 – Tulane, \$1200)
5. Teaching Assistant of the Year Award for Upper Level Course, Tulane (2016, 2017)
6. Humanities Council SC public research grant for research on Redcliffe Plantation in SC (2015, \$1100)
7. Furman Achiever Scholarship for academic merit (2009-2013, \$40,000)
8. Sarrine Scholarship for academic merit, SC State Award (2009-2013, \$4,000)
9. Palmetto Fellows Scholarship for academic merit, SC State Award (2009-2013, \$16,000)
10. SC State Tuition Grant (2009-2013, \$2000)
11. Furman Advantage Summer Research Grant (Summer 2012, \$2000)
12. Elizabeth Thackston Taylor Award for Excellence in Botany (May 2013)
13. Finalist for Furman University's Donaldson-Watkins Medal for General Excellence (May 2013)

F. RELEVANT WORKSHOPS, SKILLS AND GRADUATE COURSES

1. Python coding seminar, Oak Ridge National Lab, June 2019
2. Joint Genome Institute Annual Meeting & DOE Kbase Workshops, March 2019
3. Introduction to Modelling Workshop, NIMBioS, October 2018
4. Climate Adaptation Science Center Summer Intensive Workshop, August 2018
5. Search for Selection Workshop, NIMBioS, June 2018
6. R for Data workshop, Nicholls State University, Summer 2016
7. Ecological Analysis Course (R programming), Fall 2016
8. Wetlands Ecology Course, Fall 2016
9. Introduction to GIS Course, Summer 2016
10. Math Models in Ecology and Evolution Course, Spring 2016

G. PUBLICATIONS

1. **Summers, J. L.**, Bernik, B., Saunders, C. J., McLachlan, J. S., & Blum, M. J. (2018). A century of genetic variation inferred from a persistent soil-stored seed bank. *Evolutionary Applications*, 11(9), 1715-1731.
2. Ware, I.M., Fitzpatrick, C.R., Senthilnathan, A., Bayliss, S.L.J., Beals, K. K., Mueller, L.O., **Summers, J.L.**, Wooliver, R.C., Van Nuland, M.E., Kinnison, M.T., Palkovacs, E.P., Schweitzer, J.A., Bailey, J.K. (2018). Feedbacks link ecosystem ecology and evolution across spatial and temporal scales: Empirical evidence and some future directions. *Functional Ecology*, 3(1), 31-42.
3. Bealls, K., Moore, J.A., Kivlin, S.N., Bayliss, S.L.J., Lumibao, C.Y., Moorhead, L.C., Patel, M., **Summers, J.L.**, Ware, I.M., Bailey, J.K., Schweitzer, J.A. Predicting plant-soil feedback in the field: competitive interactions may reduce plant growth more than stress or disturbance.
4. **Summers, J.** (June 13, 2018) How to mentor undergraduates as a postgraduate, and why it's important [Blog post]. Retrieved from: <http://blogs.nature.com/naturejobs/tag/jenn-summers/>
5. **Summers, J.** (October 31, 2018) What zombie plants can teach us [Blog post]. Retrieved from: <https://blogs.scientificamerican.com/observations/what-zombie-plants-can-teach-us/>
6. **Summers, J.** (Nov. 25, 2018) Ask A Scientist: What would life look like if evolution wasn't occurring? [Blog post]. Retrieved from: http://www.utdailybeacon.com/opinion/columns/ask-a-scientist-what-would-life-look-like-if-evolution/article_c1b2a5a8-f0b7-11e8-ba40-b313892e7507.html
7. Summers, J. (Apr. 3, 2019) Ask A Scientist: Why is more not better when it comes to caffeine? [Blog post]. Retrieved from: http://www.utdailybeacon.com/opinion/columns/ask-a-scientist-why-is-more-not-better-when-it/article_c740c73e-5642-11e9-b661-fb68183f283f.html
8. Summers, J. (Feb. 6, 2019) Ask a Scientist: How does climate change affect me? [Blog post]. Retrieved from: http://www.utdailybeacon.com/opinion/columns/ask-a-scientist-how-does-climate-change-affect-me/article_d025d3e8-2a3d-11e9-b893-aff897d5f9c2.html