

Kendall Beals

PhD candidate

Department of Ecology and Evolutionary Biology

University of Tennessee, Knoxville

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EDUCATION

PhD candidate, University of Tennessee, 2016-present (expected graduation, April 2022)

Ecology and Evolutionary Biology

Advisor: Dr. Jennifer Schweitzer

Dissertation: Understanding plant phenotypic variation in natural and disturbed landscapes through plant-soil microbiome interactions

B.S., Dickinson College, 2013

Biology

Advisor: Dr. Scott Boback

RESEARCH, WORK EXPERIENCE

- 2016-present Graduate Teaching Assistant, Schweitzer lab, University of Tennessee, Dept. of Ecology and Evolutionary Biology
- 2015-2016 Lab manager, Rudgers and Whitney labs, University of New Mexico, Dept. of Biology
- 2014 Project manager and field technician, Poulsen lab, Duke University, Nicholas School of the Environment
- 2013 Field technician, Pockman lab, University of New Mexico, Dept. of Biology

PUBLICATIONS

(* Not yet published)

- *Kivlin, S.N., Harpe, R.V., Turner, J.H., Moore, J.A.M., Moorhead, L.C., **Beals, K.K.**, Hubert, M.M., Papes, M., Schweitzer, J.A. Arbuscular mycorrhizal fungal response to fire and urbanization in the Great Smoky Mountains National Park. *Elementa*. Accepted, in revision.
- Beals, K.K.**, Scarce, A.S., Swystun, A.T., Schweitzer, J.A. Belowground mechanisms for oak regeneration: Interactions among fire, soil microbes and plant community alter oak seedling growth. (2021). *Forest Ecology and Management*.
- Dickey, J.R., Swenie, R.A., Turner, S.C., Winfrey, C.C., Yaffar, D., Padukone, A., **Beals, K.K.**, Sheldon, K.S., Kivlin, S.N. (2021). The utility of macroecological rules for microbial biogeography. *Frontiers in Ecology and Evolution*.
- Beals, K.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: meta-analysis reveals that competition and environmental stress differentially influence PSF. (2020). *Frontiers in Ecology and Evolution*.
- Van Nuland, M.E., Vincent, J.B., Ware, I.M., Mueller, L., Bayliss, S.L., **Beals, K.K.**, Schweitzer, J.A., Bailey, J.K. Intraspecific trait variation across elevation predicts a widespread tree species' climate niche and range limits. (2020). *Ecology and Evolution*.
- Rosin, C., **Beals, K.K.**, Belovtich, M.W., Harrison, R.E., Pendred, M., Sullivan, M.K., Yao, N., Poulsen, J.R. Assessing the effects of elephant foraging on the structure and diversity of an Afrotropical forest. (2020). *Biotropica*.
- 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 future directions. *Functional Ecology*.
- Kivlin, S.N., Lynn, J.S., Kazenel, M.R., **Beals, K.K.**, Rudgers, J.A. (2017). Biogeography of plant-associated fungal symbionts in mountain ecosystems: A meta-analysis. *Diversity and Distributions*.

CONFERENCE PRESENTATIONS

(* lead presenter)

- ***Beals, K.K.**, Bailey, J.K., Schweitzer, J.A. 2021. Bouncing back from burn: examining asynchrony in soil microbial responses to wildfire over time. Oral presentation. Ecological Society of America. Virtual conference.
- ***Beals, K.K.**, Bailey, J.K., Schweitzer, J.A. 2021. Bouncing back from burn: examining asynchrony in soil microbial responses to wildfire over time. Invited oral presentation. National Park Service (National Capital Area) Science Spillover.
- ***Beals, K.K.**, Bailey, J.K., Schweitzer, J.A. 2021. Bouncing back from burn: long-term monitoring of GSMNP soil microbial stability from Chimney Tops 2 wildfire. Oral presentation. Great Smoky Mountains National Park Science Colloquium, Gatlinburg, TN.
- ***Beals, K.K.**, Bailey, J.K., Schweitzer, J.A. 2020. Fire induced changes to the soil microbiome shift plant phenotype. Poster presentation. Natural Areas Conference. Virtual conference.
- ***Beals, K.K.**, Lebeis, S.L., Bailey, J.K., Schweitzer, J.A. 2020. Importance of soil microbiome for plant phenotype differs among traits and plant species. Poster presentation. Ecological Society of America. Virtual conference.
- Scarce, A., Swystun, A., **Beals, K.K.**, Franklin, J., Hughes, K., Schweitzer, J.A. 2020. Oak regeneration after Chimney Tops II fire is influenced by pine seedling neighbors and soil microbes. Poster presentation. Exhibition of Undergraduate Research and Achievement Conference, Univ. of Tennessee.
- Scarce, A., Swystun, A., **Beals, K.K.**, Franklin, J., Hughes, K., Schweitzer, J.A. 2020. Oak regeneration after Chimney Tops II fire is influenced by pine seedling neighbors and soil microbes. Oral presentation. Great Smoky Mountains National Park Science Colloquium, Gatlinburg, TN.
- ***Beals, K.K.**, Moore, J.A.M., Moorhead, L., Hubert, M., Kivlin, S.N., Schweitzer, J.A. 2020. Burning questions: How wildfire alters ecosystem dynamics in a Southeastern forest through disruptions of plant-soil interactions. National Ecological Observatory Network.

Invited oral presentation. Boulder, CO.

***Beals, K.K.**, Bailey, J.K., Schweitzer, J.A. 2019. Burning questions: Importance of plant-soil microbiome interactions and how the Chimney Tops fire affects this ecological internet. Oral presentation. Science at Sugarlands, Great Smoky Mountains National Park, Gatlinburg, TN.

***Beals, K.K.**, Bailey, J.K., Schweitzer, J.A. 2019. Burning questions: the role of wildfire severity on plant function through disruptions of plant-soil interactions. Oral presentation. Ecological Society of America, Louisville, KY.

***Beals, K.K.**, Bailey, J.K., Schweitzer, J.A. 2019. Hidden players of plant function: variation in soil microbiome conditioning source influences phenotypic variation in a common perennial. Oral presentation. Soil Ecology Society, Toledo, OH.

***Beals, K.K.**, Bailey, J.K., Schweitzer, J.A. 2019. Understanding Chimney Tops 2 wildfire from the ground up: functional response of plant-soil interactions to fire. Oral presentation. Great Smoky Mountains National Park Science Colloquium, Gatlinburg, TN.

***Beals, K.K.**, Bailey, J.K., Schweitzer, J.A. 2018. Hidden players of plant function: the role of the soil microbiome on plant phenotype. Oral presentation. Ecological Society of America, New Orleans, LA.

Carter, T., **Beals, K.K.**, Schweitzer, J.A. 2017. Changing paradigms in the drivers of plant growth: importance of plant facilitation and the soil microbiome. Poster presentation. Exhibition of Undergraduate Research and Achievement Conference, Univ. of Tennessee.

GRANTS

Total: \$17,327

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| 2019 | Hesler Herbarium Student Research Award, University of Tennessee. DNA barcoding to identify the influence of fire and urbanization on <i>Solidago</i> spp. distribution and performance (\$1,100) |
| 2018 | Ecological, Evolutionary, and Conservation Genomics Award, American Genetic Association. Identifying the drivers of plant functional traits through exploration of the soil microbiome (\$9,927) |
| 2018 | Graduate Student Training Fellowship, Torrey Botanical Society. Studying the drivers of plant functional trait diversity through genomic analysis of the root-associated microbial environment (\$1,000) |
| 2018 | Student/Faculty Research Award, University of Tennessee. Does soil microbiome mediate plant functions across environmental gradients? Co-PI: Jennifer Schweitzer (\$4,800) |
| 2017 | Hesler Herbarium Student Research Award, University of Tennessee. Determining effects of plant-microbial soil feedbacks on plant function using <i>Solidago</i> (Asteraceae) from eastern Tennessee (\$500) |

AWARDS AND HONORS

- 2021 Cokkinias-Fite award for Outstanding Scholarly Achievement by a Graduate Student, Division of Biology, University of Tennessee (\$1000)
- 2020 Extraordinary Professional Promise, Chancellor's Honors Awards, University of Tennessee
- 2020 Sandy Echternacht Award: Outstanding Graduate Student based on Excellence in Research, Department of Ecology and Evolutionary Biology, University of Tennessee

TEACHING

Plant Ecology (EEB 433), University of Tennessee, 4 semesters
Field Ecology (EEB 415), University of Tennessee, 1 semester
Skills of Biological Investigation Laboratory (BIOL 159), University of Tennessee, 6 semesters
Cell, Genetic, and Physiology Laboratory (BIOL 101), University of Tennessee, 1 semester
Natural History of Vertebrates (BIOL 332), Dickinson College, 1 semester

STUDENT MENTORING

Alexandra Scarce, 2019-present

Current undergraduate student at University of Tennessee
Co-author of paper in prep
Great Smoky Mountains National Park Science Colloquium, oral presentation, 2020
Exhibition of Undergraduate Research and Achievement Conference, poster presentation, University of Tennessee, 2020

Alex Swystun, 2018-present

Currently a graduate student at University of North Carolina, Wilmington
Co-author of paper in prep
Great Smoky Mountains National Park Science Colloquium, oral presentation, 2020

Terrell Carter, 2017

Currently a post-baccalaureate intern at University of South Carolina
Exhibition of Undergraduate Research and Achievement Conference, poster presentation, University of Tennessee, 2017

PROFESSIONAL SERVICE

Journal Peer Reviewer

Plant and Soil
Soil Biology and Biochemistry
Frontiers in Forest and Global Change
Ecological Monographs

Kendall Beals, C.V.

Co-organizer: Women in Soil Ecology (WiSE) network

Network aimed at connecting women scientists to build a strong professional community of mentorship and support

200+ members (including graduate students, and all career stages of academic faculty, federal scientists and non-governmental scientists)

1,700+ Twitter followers

<https://womeninsoilecology.github.io/>