Joshua B. Grinath

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PROFESSIONAL APPOINTMENTS

2021 – Present	Assistant Professor Department of Biological Sciences Idaho State University, Pocatello, ID
2019 - 2021	Visiting Assistant Professor Department of Biological Sciences Idaho State University, Pocatello, ID
2017 – 2019	Postdoctoral Scholar Department of Biology Middle Tennessee State University, Murfreesboro, TN Advisor: C. R. Herlihy
2015 – 2017	Postdoctoral Research Associate Institute of Arctic & Alpine Research University of Colorado, Boulder, CO Advisor: K. N. Suding

EDUCATION

2007 – 2014	Ph.D., Ecology and Evolution Florida State University, Tallahassee, FL Dissertation Title: Predicting trophic cascades in an antagonistic/mutualistic web Advisors: N. Underwood & B. D. Inouye
2000 – 2004	B.S., Natural Resource Management - Applied Ecology Cornell University, Ithaca, NY *Magna cum laude,* Distinction in Research

PUBLICATIONS

Grinath, J. B. (2021) Chronic, low-level nitrogen deposition enhances abundances of ant-protected herbivores inhabiting an imperiled foundation species. ***Acta Oecologica*** 110:103706. https://doi.org/10.1016/j.actao.2021.103706

Grisnik, M.[1], **J. B. Grinath**, & D. M. Walker. (2021) The presence of *Pseudogymnoascus destructans*, a fungal pathogen of bats, correlates with changes in microbial metacommunity structure. ***Scientific Reports*** 11:11685. https://doi.org/10.1038/s41598-021-91118-1

Kay, C. B.[1], D. J. Delehanty, D. S. Pradhan, & **J. B. Grinath**. (2021) Climate change and wildfire-induced alteration of fight-or-flight behavior. ***Climate Change Ecology*** 1:100012. https://doi.org/10.1016/j.ecochg.2021.100012

Banaszak C.[1,3], **J. B. Grinath**[3], & C. R. Herlihy. (2020) Chilling consequences: earlier reproductive phenology of winter-adapted gladecress in a wetter, cooler climate. ***Plants, People, Planet*** 2:340-352. https://doi.org/10.1002/ppp3.10095

Rumble, L.[1], G. Taylor, **J. B. Grinath**, & A. B. Morris. (2020) Measuring spatial and temporal shifts in forest structure and composition in high elevation beech forests in response to beech bark disease in Great Smoky Mountains National Park. ***Forest Ecology and Management*** 461:117954. https://doi.org/10.1016/j.foreco.2020.117954

Grinath, J. B., L. Larios, L. R. Prugh, J. S. Brashares, & K. N. Suding. (2019) Environmental gradients determine the potential for ecosystem engineering effects. ***Oikos*** 128:994-1004. https://doi.org/10.1111/oik.05768

Grinath, J. B. (2019) Comparing predictive measures and model functions for estimating plant biomass: lessons from a sagebrush-rabbitbrush community. ***Plant Ecology*** 220:619-632. https://doi.org/10.1007/s11258-019-00940-1

Aber, J. W., K. Sadler, S. N. Hidayati, P. Phoebus, **J. B. Grinath**, R. El Kadiri, C. Harris, H. Momm, A. Reed, & A. Perry. (2019) Natural resource condition assessment for Russell Cave National Monument. Natural Resource Report NPS/RUCA/NRR-2019/1942. **National Park Service**, Fort Collins, Colorado.

Grinath, J. B. (2018) Short-term, low-level nitrogen deposition dampens a trophic cascade between bears and plants. ***Ecology and Evolution*** 8:11213-11223. https://doi.org/10.1002/ece3.4593

Grinath, J. B., N. Deguines, J. W. Chesnut, L. R. Prugh, J. S. Brashares, & K. N. Suding. (2018) Animals alter precipitation legacies: trophic and ecosystem engineering effects on plant community temporal dynamics. ***Journal of Ecology*** 106:1454-1469. https://doi.org/10.1111/1365-2745.12936

Griffith, K. A.[2,3], & **J. B. Grinath**[3]. (2018) Interactive effects of precipitation and nitrogen enrichment on multi-trophic dynamics in plant-arthropod communities. ***PLoS ONE*** 13(8):e0201219. https://doi.org/10.1371/journal.pone.0201219

Prugh, L. R., N. Deguines, **J. B. Grinath**, K. N. Suding, W. T. Bean, R. Stafford, & J. S. Brashares. (2018) Ecological winners and losers of extreme drought in California. ***Nature Climate Change*** 8:819-824. https://doi.org/10.1038/s41558-018-0255-1 ***See press coverage below

Grinath, J. B., B. D. Inouye, & N. Underwood. (2015) Bears benefit plants via a cascade with both antagonistic and mutualistic interactions. ***Ecology Letters*** 18:164-173. https://doi.org/10.1111/ele.12396 ***See press coverage below

Grinath, J. B., B. D. Inouye, N. Underwood, & I. Billick. (2012) The indirect consequences of a mutualism: comparing positive and negative components of the net interaction between honeydew-tending ants and host plants. ***Journal of Animal Ecology*** 81:494-502. https://doi.org/10.1111/j.1365-2656.2011.01929.x ***Highlighted by the journal editors

Abbot, P., **J. Grinath**, J. Brown[2], E. Peeden[2], D. Erickson[2], & I. Billick. (2008) Insect herbivore stoichiometry: the relative importance of host plants and ant mutualists. ***Ecological Entomology*** 33:497-502. https://doi.org/10.1111/j.1365-2311.2008.00993.x

Grinath, J. B. (*In Revision*) Bears alter plant stoichiometry via a density and trait-mediated cascade of antagonistic and mutualistic interactions. ***Ecology***.

Hill, S.[1], R. L. Hale, **J. B. Grinath**, B. Folk[2], R. Nielson[2], & K. Reinhardt. (*In Review*) Looking beyond leaves: variation in nutrient leaching potential of seasonal litterfall among different species within an urban forest. ***Urban Ecosystems***.

[1]Graduate and [2]Undergraduate co-authors, [3]Authors contributed equally to this work

POPULAR PRESS COVERAGE

Surviving the drought. '*MTSU On the Record' Radio Program, WMOT* (23 Oct. 2018) https://mtsunews.com/grinath-on-the-record-oct2018/

Big drought prompts surprises in this flowery hotspot. *Futurity* (30 Aug. 2018) https://www.futurity.org/california-drought-carrizo-plain-1852922/

An adorable rodent gives a glimpse into Earth's climate chaos. *Wired* (21 Aug. 2018) https://www.wired.com/story/giant-kangaroo-rat-climate-change/

California plain shows surprising winners and losers from prolonged drought. *ScienceDaily* (20 Aug. 2018) https://www.sciencedaily.com/releases/2018/08/180820113108.htm

So that's what bears do in the woods! *Botany One* (18 June 2015) https://www.botany.one/2015/06/so-thats-what-bears-do-in-the-woods/

When ant-eating bears arrive, a native plant thrives. *Fox News* (3 Feb. 2015) http://www.foxnews.com/science/2015/02/03/when-ant-eating-bears-arrive-native-plant-thrives/

Bears and ants. *Science Update: Radio News Feature of the AAAS* (30 Jan. 2015) http://www.scienceupdate.com/2015/01/bear-2/

How bears can help to change vegetative landscapes in national parks. *National Parks Traveler* (30 Jan. 2015) http://www.nationalparkstraveler.com/2015/01/how-bears-can-help-change-vegetative-landscapes-national-parks26203

Why black bears are nature's landscape architects. *takepart* (30 Jan. 2015) http://www.takepart.com/article/2015/01/30/why-black-bears-are-natures-landscape-architects

Florida's largest recorded black bear trapped and killed. *The Wildlife Society* (28 Jan. 2015) https://wildlife.org/floridas-largest-recorded-black-bear-trapped-and-killed/

Ant-eating bears help plants. *Science News* (27 Jan. 2015) https://www.sciencenews.org/blog/wild-things/ant-eating-bears-help-plants

Snack attack: bears munch on ants and help plants grow. *ScienceDaily* (22 Jan. 2015) http://www.sciencedaily.com/releases/2015/01/150122102639.htm

Как медведи помогают растениям. *Science and Life Russia* (15 Jan. 2015) https://www.nkj.ru/news/25635/

The ant, the plant, and the bear. *Science* 347:109. News In Brief (9 Jan. 2015)
http://www.sciencemag.org/content/347/6218.toc

Comment les ours protègent les plantes. *Futura-Sciences* (8 Jan. 2015)
https://www.futura-sciences.com/planete/actualites/vegetation-ours-protegent-plantes-56680/

An ant, a plant, and a bear, oh my. *Science* News (5 Jan. 2015)
http://news.sciencemag.org/environment/2015/01/ant-plant-and-bear-oh-my?rss=1

A war between ants, plants, bears and pests. *Nature World News* (5 Jan. 2015)
http://www.natureworldnews.com/articles/11645/20150105/war-between-ants-plants-bears-pests.htm

Bears munching on ants indirectly help plants. *Smithsonian* News (5 Jan. 2015)
http://www.smithsonianmag.com/smart-news/bears-munching-ants-indirectly-help-plants-180953803/?no-ist

FUNDED GRANTS

Extramural

2021 **Grinath, J. B. (PI)**, K. G. Turner (Co-PI), D. M. Delparte (Co-PI), K. A. Lohse (Co-PI), S. B. Buerki (Co-PI). *Challenges to sagebrush establishment: Ploidy level and resource co-limitation, competition, and multi-scale heterogeneity*. Project period: August 2021 – July 2023. Genes by Environment: Modeling, Mechanisms, Mapping (GEM3) Program, National Science Foundation – Idaho EPSCoR **($203,450)**

2021 **Grinath, J. B. (PI)**, K. G. Turner (Co-PI), K. Reinhardt (Co-PI), B. P. Finney (Co-PI), K. A. Lohse (Co-PI). *RAPID: Ecological memories and theory-guided recovery of post-fire steppe*. Project period: March 2021 – February 2022. Division of Environmental Biology, National Science Foundation **($199,998)**

2021 **Grinath, J. B. (PI).** *Post-burn establishment and growth of basin big sagebrush across ecological memories and seed mixes*. Project period: June 2021 – August 2021. Genes by Environment: Modeling, Mechanisms, Mapping (GEM3) Program, National Science Foundation – Idaho EPSCoR **($4,500)**

2020 **Grinath, J. B. (PI)**, A. Salmore (Co-PI). *Achieving multi-purpose roadside vegetation: reducing weed invasion and fire risk while enhancing pollinator habitat*. Project period: March 2021 – December 2023. Research Program, Idaho Transportation Department **($105,105)**

Intramural

2020 **Grinath, J. B. (PI)**, K. G. Turner (Co-PI), K. Reinhardt (Co-PI), B. P. Finney (Co-PI), K. A. Lohse (Co-PI). *Plant responses to fire and legacies of nitrogen enrichment and*

	shrub removal at ISU's Barton Road Ecological Research Area. Project period: January 2021 – May 2021. SBOE Undergraduate Research Funds, ISU Office for Research **($9,000)**
2020	**Grinath, J. B. (PI)**. *Initiating Scat POWER: Scat-based Public Opportunities in Wildlife Ecology Research*. Project period: May 2020 – December 2020. Synergistic Activity Grant, ISU Center for Ecological Research and Education **($2,125)**
2018	Grinath, A. S. (PI), R. S. Jones (Co-PI), & **J. B. Grinath (Co-PI)**. *3D Biology: Making claims in the midst of natural variation*. Project period: 2018 – 2019. Middle Tennessee State U. Digital Seed Grant Program **($1,500)**
2015	**Grinath, J. B. (PI)**, & K. N. Suding (Co-PI). *Synergistic effects of multiple resources on plant germination and growth*. Project period: 2015 – 2016. Team Grant Funds, U. Colorado Undergraduate Research Opportunity Program **($3,000)**

FELLOWSHIP AWARDS & HONORS

2019	Principal Investigator Fellowship, Rocky Mountain Biological Laboratory (RMBL) **($1,000)**
2018	Principal Investigator Fellowship, RMBL **($1,000)**
2011 – 2014	Science to Achieve Results (STAR) Graduate Fellowship, U.S. Environmental Protection Agency **($126,000)**
2009 – 2013	Graduate & Snyder Fellowships, RMBL **(4 awards totaling $2,450)**
2012	Biology Graduate Student Publication Award, FSU **($500)**

CONFERENCE PRESENTATIONS

2021	Ecological Society of America Annual Meeting (ESA), Virtual, Online. C. B. Kay, C. E. Dirickson, **J. B. Grinath**. Surviving flames and foes: ant responses to wildfire and predation in sagebrush steppe. (poster)
2020	ESA Annual Meeting, Virtual, Online. **J. B. Grinath**, R. C. Dixon, M. Cohen, C. R. Herlihy. Resisting invasion: effects of an exotic crop pest on native gladecress. (poster)
2020	ESA Annual Meeting, Virtual, Online. L. Charles, W. T. Bean, J. S. Brashares, L. R. Prugh, K. N. Suding, J. Chesnut, **J. B. Grinath**, L. Larios. The use of functional

	traits to predict grassland community responses to drought and small mammal pressure. (oral)
2019	Society for the Study of Evolution Annual Meeting, Providence, RI. C. Banaszak, **J. B. Grinath**, C. R. Herlihy. Earlier reproductive phenology of winter annual gladecress (*Leavenworthia stylosa*) in a cooler, wetter climate. (poster)
2018	ESA Annual Meeting, New Orleans, LA. **J. B. Grinath**. Cascading chemistry: indirect effects of ant-eating bears on plant carbon:nitrogen stoichiometry. (oral)
2018	II Joint Congress on Evolutionary Biology, Montpellier, France. C. Banaszak, **J. B. Grinath**, C. R. Herlihy. Costs and benefits of early flowering in the winter annual *Leavenworthia stylosa*. (poster)
2017	ESA Annual Meeting, Portland, OR. A. C. Churchill, **J. B. Grinath**, A. Beers, W. D. Bowman. Drivers of spatial heterogeneity in nitrogen processing among three alpine plant communities in the Rocky Mountains. (oral)
2016	ESA Annual Meeting, Ft. Lauderdale, FL. **J. B. Grinath**, N. Deguines, L. R. Prugh, J. S. Brashares, K. N. Suding. Lagged effects of precipitation drive plant community composition responses to ecosystem engineering. (oral)
2015	ESA Annual Meeting, Baltimore, MD. **J. B. Grinath**. Predicting effects of community structure on ecosystem functions across trophic levels. (oral)
2014	ESA Annual Meeting, Sacramento, CA. **J. B. Grinath**. Nitrogen deposition mediates the cascading effects of bears on plants. (poster)
2012	ESA Annual Meeting, Portland, OR. **J. B. Grinath**, B. D. Inouye, & N. C. Underwood. Cascading effects from bears to plants via a protection-service mutualism. (oral)
2012	Guild of Rocky Mountain Ecologists and Evolutionary Biologists Annual Meeting, Nederland, CO. **J. B. Grinath**, B. D. Inouye, & N. C. Underwood. A cascading combination of antagonistic & mutualistic ecological effects: black bears benefit plants. (oral)
2012	Southeastern Ecology and Evolution Conference (SEEC), Clemson, SC. **J. B. Grinath** & D. DeSantiago. Bottom-up and top-down effects on mutualist aphids and ants. (poster)
2011	SEEC, Auburn, AL. **J. B. Grinath**, B. D. Inouye, & N. C. Underwood. Cascading effects through a trophic mutualism:

	bears may benefit plants via ants and honeydew-producing insects. (oral)
2009	ESA Annual Meeting, Albuquerque, NM. **J. B. Grinath**, B. D. Inouye, N. C. Underwood, & I. Billick. Strong mutualistic interactions between ants and treehoppers affect their host plant and associated arthropod community. (oral)
2008	SEEC, Tallahassee, FL. **J. B. Grinath**. Mutualistic repercussions: consequences of ant/membracid interactions for an herbivorous beetle and the host plant (poster)
2005	Florida Exotic Plant Pest Council Annual Symposium, Key West, FL. P. Myers, **J. Grinath**, G. Schmitt, & C. Vandello. Field trials comparing chemical treatments for invasive *Lygodium microphyllum*. (oral)

RESEARCH EXPERIENCE

2008 – Present	Principal Investigator, RMBL, Gothic, CO Sagebrush-Rabbitbrush Ecosystem Studies
2019 – Present	Principal Investigator, ISU, Pocatello, ID Sagebrush Steppe Ecosystem Studies
2017 – Present	Principal Investigator, MTSU, Murfreesboro, TN Cedar Glade Ecosystem Studies
2015 – 2017	Research Associate: Carrizo Plain Ecosystem Study, CU Boulder, Boulder, CO Principal Investigators: Laura Prugh, Ph.D., Justin Brashares, Ph.D., & Katharine Suding, Ph.D.
2010	Research Assistant: ant studies, FSU, Tallahasse, FL Principal Investigator: W. Tschinkel, Ph.D.
2004 – 2007	Research Assistant & Lab Manager: honeydew mutualism studies, RMBL, Gothic, CO Principal Investigators: J. Reithel, Ph.D. & I. Billick, Ph.D.
2004 – 2005	Invasive Plant Technician, Florida State Parks Southeast Region 5, Hobe Sound, FL Principal Investigator: P. Myers, M.S.
2003 – 2004	Water Chestnut Study Intern, Cornell U. Cornell's Biological Field Station at Shackleton Point Bridgeport, NY Department of Natural Resources Principal Investigator: B. Blossey, Ph.D.
2002	Green Career Ladder Intern, Parks & People Foundation, Baltimore, MD. Garden Mosaics Project, Cornell U.

Principal Investigator: M. Krasny, Ph.D.

GRADUATE MENTORING

Committee Chair:

2021 – Present	Stewart, E. Master's student in Biology, ISU. Thesis topic: Restoring roadsides to reduce weed invasion and fire risk while enhancing pollinator habitat.
2020 – Present	Kay, C. Master's student in Biology, ISU. Thesis title: Harvester ant trophic and ecosystem engineering interactions with plants during post-fire steppe recovery.

Committee Member:

2021 – Present	Balkenbush, T. PhD student in Biology, ISU. Thesis topic: Plant population genetics and seedling dynamics.
2021 – Present	Jenkins, X. PhD student in Biology, ISU. Thesis topic: Paleo functional ecology.
2020 – Present	Rasmussen, A. M. Doctor of Arts student in Biology, ISU. Thesis topic: Drawing-to-learn: the sketchy side of science.
2020 – Present	Noel, K. Master's student in Biology, ISU. Thesis topic: Effects of climate change on chinook salmon diet and trophic level in the California Current.
2019 – Present	Tetreault, T. Master's student in Biology, ISU. Thesis topic: Changing phenology of alpine plants and pollinator visitation.
2019 – 2021	Grisnik, M. PhD student in Molecular Biosciences, MTSU. Dissertation topic: The bat microbiome and anti-fungal activity against the white nose pathogen.
2018 – 2019	Rumble, D. L. Master's student in Biology, MTSU. Thesis title: Measuring spatial and temporal shifts in Beech Gap forest structure and composition in response to Beech Bark Disease in Great Smoky Mountains National Park

Teaching Internship Supervisor:

2021 – Present	Brooks, J. PhD student in Biology, ISU. Topic: Incorporating argument-driven inquiry into insect taxonomy lessons.

UNDERGRADUATE MENTORING

I actively seek undergraduate students to mentor on research projects. As a mentor, I enjoy guiding students through the process of designing research projects, implementing lab and fieldwork, analyzing data, and finally sharing the results in written and oral communications. My goal is to help propel students into scientific careers.

2021 – Present	Dirickson, C. National Science Foundation - Research Experience for Undergraduates (NSF REU) Program, ISU

	Title: Effects of thatch ants on vegetation post-fire
2021 – Present	Roth, M. Career Path Intern (CPI), ISU Title: Collecting preliminary data for sagebrush steppe revegetation
2021	Weeks, M., B. Haile, & A. Cowley. SBOE Undergraduate Research Team, ISU Office for Research Title: Plant responses to fire and legacies of nitrogen enrichment and shrub removal at ISU's Barton Road Ecological Research Area
2021	Gorrell, A. Independent Research, ISU Title: Thatch ant reproduction and benefits for ant-eating bears
2020 – 2021	Dirickson, C. Independent Research & CPI, ISU Title: Gleaning digital herbarium records to evaluate the effects of invasive weevils on native cedar gladecress
2020	Haile, B. CPI, ISU Title: Insect collection curation to investigate plant-insect associations
2020	Kay, C. Summer research assistant and CPI, ISU Title: Investigating interactions between bears and ants
2019 – Present	Roth, M., C. Kay, C. Dirickson, M. Winnett, & M. Elliot. Volunteer research assistant team, ISU Title: Creating a global literature database to evaluate variation in the diets of bears
2018 – 2019	Dixon, R. Independent Research, MTSU Title: Assessing the effects of the invasive cabbage seedpod weevil (*Ceutorhynchus obstrictus*) on native cedar gladecress (*Leavenworthia stylosa*) - Undergraduate Research Experience and Creative Activity (URECA) Individual Grant
2018	Fletcher, B., S. Raney, R. Dixon, N. Schroth, & A. Letart. Volunteer research assistant team, MTSU Title: Arthropod assemblages of cedar glades and associated grassland barrens
2016 – 2017	Casto, G. Honors Thesis, U Colorado Title: Burrowing herbivore, precipitation and plant community effects on invasive grass germination - Undergraduate Research Opportunity Program (UROP) Individual Grant
2016 – 2017	Gabbert, W. Honors Thesis, U Colorado

	Title: Disentangling a plant-herbivore interaction: spittlebug responses to and effects on goldenbush - UROP Individual Grant
2015 – 2016	Casto, G., W. Gabbert, M. Bullock, & K. Vittoria. UROP Research Assistant Team, U Colorado Title: Synergistic effects of multiple resources on plant germination and growth
2013 – 2014	Griffith, K. Honors Thesis, Directed Individual Study, FSU Title: The effects of multiple drivers of global change on caterpillar abundances - Mentored Research and Creative Endeavors Award, FSU - Fisher Scholarship, FSU - Vaughn-Jordan Scholarship, FSU
2013 – 2014	Islam, M. UROP, Independent Research, FSU Title: Short term nitrogen deposition effects on leaf chemistry
2013 – 2014	Betters, M. J. UROP, Independent Research, FSU Title: Nitrogen deposition effects on a plant-herbivore-ant interaction
2013	Sanchez, J. A. NSF REU Program, Advanced Independent Research, RMBL Title: Chemical camouflage and the consequences of changing host plants in a treehopper-ant mutualism
2013	Roos, B. Independent Research, RMBL Title: Benefits of ant attendance for aphid colonies of varying density
2012 – 2013	Chandler, K. UROP, Independent Research, FSU Title: Nitrogen deposition influences bottom up effects on aphids through an interlinked food web.
2011	DeSantiago, D. Independent Research, RMBL Title: Causes of predation intensity in an ant/aphid mutualist system
2010	Bayer, C. Advanced Independent Research, RMBL Title: What's for lunch: deciphering ant omnivory on Lupine
2009	Lopez, M. Independent Research, RMBL Title: Reciprocal effects among the ant *Formica obscuripes* and the asters *Chrysothamnus viscidiflorus* and *Artemisia tridentata*

CLASSROOM TEACHING EXPERIENCE

Present	Instructor, General Entomology Lecture & Lab, BIOL 4431/4431L ISU

Present	Instructor, General Entomology Lecture & Lab, BIOL 5531/5531L ISU
2021	Instructor, Careers in Ecology & Conservation Biology, BIOL 1192 ISU
2021	Instructor, General Ecology Lecture & Lab, BIOL 2209/2209L ISU
2020	Instructor, Plant-Animal Interactions, BIOL 4442 ISU
2020	Instructor, Plant-Animal Interactions, BIOL 5542 ISU
2020 – 2021	Instructor, Statistics & Experimental Design Workshop, Undergraduate Summer Program, RMBL
2020	Instructor, Population Ecology Lecture & Lab, BIOL 4416/4416L ISU
2020	Instructor, Population Ecology Lecture & Lab, BIOL 5516/5516L ISU
2019 – Present	Instructor, Biometry Lab, BIOL 3316 ISU
2019	Co-Instructor, Biology II, BIOL 1102 ISU
2019	Co-Instructor, General Ecology Lecture & Lab, BIOL 2209/2209L ISU
2018 – 2019	Instructor, Biometry Lecture & Lab, BIOL 4350/4351 MTSU
2018 – 2019	Co-Instructor, Experimental Design, MOBI 7100 MTSU
2018	Co-Instructor, Speciation, BIOL 6200 MTSU
2017	Instructor, Biometry Lab, BIOL 4351 MTSU
2017	Co-Instructor, Multivariate Analysis in Biology, EBIO 5460 U Colorado
2014	Research Consultant, Conservation Biology, BSC 3052 FSU
2007 – 2011	Teaching Assistant, General Biology Lab I, BSC 2010L FSU
2009	Teaching Assistant, Conservation Biology, BSC 3052 FSU
2009	Teaching Assistant, General Ecology, PCB 3043 FSU
2008	Teaching Assistant, Animal Behavior, ZOO 4513 FSU

SEMINARS & INVITED PRESENTATIONS

2021	Spring Flora, BIOL 2214, ISU
2020	Biology Faculty Research Showcase, Idaho State U
2020	Fall Flora, BIOL 2213, ISU
2020	School of Natural Resources and the Environment Seminar Series, University of Arizona
2020	Summer 2020 Virtual Seminar Series, Rocky Mountain Biological Laboratory
2019	Ecology & Evolution Seminar Series, North Carolina State U
2019	Biological Sciences Seminar Series, Idaho State U
2019	Biology Seminar Series, California State U Long Beach
2018	Biology Seminar Series, Belmont University
2018	Exploring Life, BIOL 1030, MTSU
2017	Biology Seminar Series, MTSU
2016	Restoration Ecology, EBIO 4120/5460, U Colorado

2016	Ecology & Evolutionary Biology Brown Bag Seminar Series, U Colorado
2016	Ecology & Evolutionary Biology Quantitative Reading Group, U Colorado
2014	Seminar in Biological Frontiers, BSC 3930 FSU
2013	Seminar in Ecology & Evolutionary Biology, PCB 6938 FSU
2012	Conservation Biology, SUS 410 Colorado Mt. College

STATISTICS/MODELING SKILLS in R

Generalized linear modeling
Generalized additive modeling
Generalized linear mixed effects modeling
Permutational multivariate modeling
Multivariate ordination
Indicator species analyses
Structural equation modeling (using AMOS & R)
CATS modeling (Community Assembly by Trait Selection)

REVIEWER

I have reviewed 39 manuscripts for 17 journals:
Acta Oecologica (3), American Journal of Botany (2), American Journal of Undergraduate Research (1), Basic & Applied Ecology (1), Climate Change Ecology (1), Ecology (8), Ecology Letters (2), Ecological Entomology (1), Ecosphere (2), Ecosystems (2), Functional Ecology (2), Insectes Sociaux (2), Journal of Animal Ecology (3), Journal of Arid Environments (1), Myrmecological News (1), Oikos (1), Perspectives in Plant Ecology, Evolution & Systematics (2), Plant Ecology (3), Rangeland Ecology & Management (1)

I have also reviewed 2 research proposals for the National Science Foundation

SERVICE

2021	Organizer, Biology Undergraduate Summer Research Program (including Journal Club, Professional Development Seminar Series, Research Symposium), ISU
2021	Volunteer Study Participant, Nitrogen Cycle Modeling: Classroom Assessment, ISU
2020 – Present	Coordinator, Department of Biological Sciences Seminar Series, ISU
2020 – Present	Volunteer Study Participant, Becoming a Biologist: Engaging in the Practices and Discourses of Science, ISU
2020 – 2021	Biology Virtual Speed Networking Volunteer, ISU
2020	Volunteer Presenter, Pocatello Community Charter School field trip to ISU
2019 – Present	Graduate Education Committee, Biological Sciences, ISU
2019 – 2020	Diagnostic Committee member for 11 Graduate Students, Biological Sciences, ISU

2019	Biology Career Mixer Volunteer, ISU
2019	Biology Speed Networking Event Volunteer, ISU
2019	Biology Faculty Representative, Majors and Minors Fair, ISU
2019	Faculty Representative, Graduate Student Orientation, ISU
2019 – Present	Volunteer Consultant, Creating Lessons to Teach Ecology in Middle School, MTSU
2018	Exhibitor, MTSU booth at the ESA 2018 annual meeting
2010 – 2013	Organizer, Statistics Workshop in R, RMBL
2008 – 2013	Volunteer Presenter, Underwood Lab tours for Women in Math, Science and Engineering, FSU
2010 – 2012	Organizer, Undergraduate Volunteer Biology Discussion and Seed Sorting Group, FSU
2010	President, Ecology & Evolution Research Discussion Group, the ecology & evolution graduate student organization, FSU
2010	Graduate Student Representative on the Department of Biological Science Chair Search Committee, FSU
2008	Organizer, Southeastern Ecology and Evolution Conference, FSU

ART & OUTREACH

2021	Interviewee, Collaborative Conservation & Adaptive Strategy Toolbox (CCAST), US Fish & Wildlife Service
2020	Interviewee, Biological Illustration & Plant-Animal Interactions, ISU
2020	Interviewee, “Everything you need to know about Murder Hornets”, **Local News 8 ABC/Eyewitness News 3 CBS**
2019	Volunteer Field Trip Presenter, Undergraduate Rocky Mountain Ecosystems Course, RMBL
2018	Interviewee, “Surviving the drought”, MTSU on the Record program, **WMOT Radio**
2018	Volunteer Field Trip Presenter, Middle School Youth Program, RMBL
2018	Photo Contributor, **Journal of Ecology** website
2015	Photo Contributor, “An ant, a plant, and a bear, oh my”, **Science**
2015	Photo Contributor, “When ant-eating bears arrive, a native plant thrives”, **Fox News**
2014	Organizer, Wild & Scenic Film Fest, a festival promoting environmental awareness, Tallahassee, FL
2012 – 2014	Curator & Contributor, Bio-Art, a rotating biology-themed art exhibit, FSU
2011	Photo Contributor, Highlight in **Journal of Animal Ecology**
2011	Photo Contributor, “Robber bees, fat marmots, helpful fungus and other fun facts about our flora and fauna”, **Crested Butte Magazine**

2010	Photo Contributor, “Nature notes: Is the aphid insurance business just a racket?”, **Crested Butte News**
2008	Photo Contributor, “Picturing Science”, a mobile coffee house photographic exhibit, Tallahassee, FL
2004 – 2013	Volunteer, K-2 Kids Nature Camp, RMBL