**Elizabeth Ann Bowman**
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## I. Education

**PhD, Plant Pathology, University of Arizona**, School of Plant Sciences, May 2020
**Certificate in College Teaching**, Office of Instruction and Assessment

**M.S., Plant Pathology, University of Arizona,** School of Plant Sciences, May 2016

**B.S., Botany, Oregon State University**, College of Agriculture, May 2014 (*summa cum laude*)

## II. Appointments

**2020-2023** *Research Associate*, Brackenridge Field Laboratory, University of Texas
**2017-2020** *Teaching Assistant*, School of Plant Sciences, University of Arizona
**2014-2017** *National Science Foundation Graduate Research Fellow***,** University of Arizona
**2013-2014** *Research Intern*, Mycorrhizal Lab, USFS Pacific Northwest Research Station
**2012-2013** *Research Assistant*, Oregon Flora Project, Department of Botany and Plant Pathology, Oregon State University

## III. Publications (Peer-reviewed)

**Bowman, EA**, Hayden DR, and Arnold AE. 2020. Fire history and local factors shape ectomycorrhizal fungal communities associated with *Pinus ponderosa* in mountains of the Madrean Sky Island Archipelago. *Fungal Ecol*, submitted.

Daru, BH, **Bowman EA**, Pfister DH, and Arnold AE. 2018. Capturing the diversity of endophytic fungi preserved in herbarium specimens. *Phil. Trans. R. Soc. B*. 374: 20170395. DOI: http://dx.doi.org/10.1098/rstb.2017.0395.

**Bowman, EA** and Arnold AE. 2018. Distributions of ectomycorrhizal and foliar endophytic fungal communities associated with Pinus ponderosa along a spatially constrained elevation gradient. *Am J Bot* 105: 687-699. DOI: https://doi.org/10.1002/ajb2.1072

Huang Y-L, **Bowman EA**, Massimo NC, Garber NP, U'Ren JM, Sandberg DC, Arnold AE. 2018. Using collections data to infer biogeographic, environmental, and host structure in communities of endophytic fungi. *Mycologia* 110: 47-62. https://doi.org/10.1080/00275514.2018.1442078

Fraser, SJ, **Bowman EA**, Gianopulos NG, Newcombe G. 2016. *Xanthoria parietina* in the inland Pacific Northwest. *N Am Fungi* 11:1-12. DOI: http://dx.doi.org/10.2509/naf2016.011.002

## IV. Fellowships, Grants, and Awards

**2019** *GPSC Travel Grant*, University of Arizona, $750
**2017-2019** *William A. Hanacek Memorial Scholarship*, School of Plant Sciences, University of Arizona (UA), $12,000
**2018** *Forest Fungal Ecology Award*, Mycological Society of America, $1,250
**2018** *Travel Award*, School of Plant Sciences, UA, $500
**2017** *ARCS Foundation Award*, Bray/Kucera Scholar, UA, $10,500
**2014-2017** *National Science Foundation Graduate Research Fellowship*, Climate change and fungal symbionts of *Pinus ponderosa*, $132,000
**2014** *Robert L. Gilbertson Fellow*, School of Plant Sciences, UA, $1,000
**2013** *Jean Siddall Memorial Scholarship*, Department of Botany and Plant Pathology, Oregon State University (OSU), $1,000
**2013** *Merrill Family Foundation Scholarship*, College of Science, OSU, $2,000

**2013** *BSA PLANTS Travel Grant,* Botanical Society of America and NSF, $750

**V. Presentations (* = extramural)**

**2019** ***Bowman, Elizabeth A.** Distributions of symbiotrophic fungi associated with Ponderosa pine across an anciently fragmented landscape (oral presentation). University of Texas, Integrative Biology and Plant Biology, Austin, TX.

**2019** **Bowman, Elizabeth A.** Distributions of symbiotrophic fungi associated with Ponderosa pine across an anciently fragmented landscape (Departmental seminar). University of Arizona, School of Plant Sciences, Tucson, AZ.

**2019** ***Bowman, Elizabeth A.** and A. Elizabeth Arnold. Culture-free and culture-based approaches reveal similar drivers of endophyte community structure in southwestern montane forests (poster). Fungal Genetics Conferences, Asilomar, CA.

**2018** ***Bowman, Elizabeth A.** and A. Elizabeth Arnold. Ectomycorrhizal and foliar endophytic fungal communities of *Pinus ponderosa* in an anciently fragmented forest (poster). International Symbiosis Society Congress, Oregon State University, Corvallis, OR.

**2018** **Bowman, Elizabeth A.** Sensitivity of fungal symbionts to disturbance, environmental stress, and isolation: a perspective from anciently fragmented forests (Departmental seminar). University of Arizona, School of Plant Sciences, Tucson, AZ.

**2017** ***Bowman, Elizabeth A.** and A. Elizabeth Arnold. Ectomycorrhizal and foliar endophytic fungal communities differ in sensitivity to climate-related factors along a spatially constrained elevation gradient (oral presentation). Yosemite Symbiosis Workshop, Wawona, CA.

**2017** **Bowman, Elizabeth A.** and A. Elizabeth Arnold. Fungal symbionts of forest trees in the context of climate change (poster). College of Agricultural and Life Sciences Poster Forum, University of Arizona, Tucson, AZ.

**2016** ***Bowman, Elizabeth A.** and A. Elizabeth Arnold. Fungal symbionts of forest trees in the context of climate change (poster). Conference of the Mycological Society of America. Berkeley, CA.

**2016** **Bowman, Elizabeth A.** Fungal symbionts of forests trees in the context of climate change (Departmental seminar). University of Arizona, School of Plant Sciences. Tucson, AZ.

**VI. Teaching**

*Teaching assistantships*

**Spring 2020** PLS170C2, Biotechnology, Teaching assistantship
Online writing intensive course for ~150 undergraduate students. Graded homework, quizzes, discussions, and research papers (0.5 FTW).

**Fall 2018** MIC 205L, Biology of Microorganisms Laboratory, Teaching assistantship
Taught twice weekly labs; graded labs and exams; Designed and wrote final practical exam (0.5 FTE)

**Spring 2018** ACBS/PLS 312, Animal and Plant Genetics, Teaching assistantship
Taught weekly labs; graded homework and exams (0.25 FTE)

**Fall 2017** PLS 170C1, Plants and our World, Teaching assistantship
Taught lecture on Evolution and Natural Selection (1.25 hrs) (0.25 FTE)

*Guest lecture*

**Spring 2020** ACBS317, One Health
Fusarium Wilt of Banana (1 hr lecture, online activity)

*Software Carpentry and Data Carpentry*

**Spring 2020** *Instructor,* Introduction to Tidyverse for Data Manipulation and Visualization
1.5 hour workshop designed for beginners to R. Introduced tidy principles, data manipulation, reshaping, and visualization.

**Fall 2017** *Co-instructor,* R for Reproducible Scientific Analysis Workshop
Two-day intensive workshop teaching coding in R, version control with git, and reproducible research, University of Arizona

**VII. Professional development**

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| **2017-2019** | Diversity and Inclusiveness Committee**,** School of Plant Sciences, University of Arizona |
| **2018** | Unconscious Bias Project workshop, 2 hours |
| **2018** | Alan Alda science communication workshop, University of Arizona |
| **2017** | Graduate teaching assistant workshop, University of Arizona |
| **2017** | Software and Data Carpentry Instructor Training, University of Arizona |

**VIII. Outreach**

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| **2019** | Mentor, Fungal and Microbial Ecology, workshop on phyllosphere microbes. 10 hrs, 74 students (~ 74% STEM minorities, 55% female). |
| **2018** | Guest lecturer on global climate change with organized activities, Walter Douglas Elementary School, 91 students. |
| **2017 - 2018** | Mentor, Vail internship program, Vail Independent School District. Conducted research project examining effect of lead pollution on lichens and their symbionts. 150 hrs, 1 student. |
| **2017** | Mentor, Fungal and Microbial Ecology, workshop on phyllosphere microbes. 14 hrs, 153 students (~ 80% STEM minorities, 53% female). |
| **2017** | Mentor, high school outreach, assisted with an experiment on seed microbes, 4 hrs., 11 students (~ 45% STEM minorites, 81% female). |
| **2017** | Graduate representative, SPLS Inclusive Excellence Committee. |
| **2015 - 2017** | Presenter, USDA, AgDiscovery, high school students learning about agricultural research at the University of Arizona. 1.5 hrs, 16 students. |
| **2015 - 2017** | Mentor, BLAST, NSF-sponsored research and biotechnology laboratory experience for high school students. 52.5 hrs, 41 students to date (~ 85% STEM minorities, 73% female). |
| **2016** | Mentor, IOU-NA REU program, undergraduate researcher studying how fire affects the ectomycorrhizal community in the Santa Catalina Mountains. 100 hrs, 1 student (Native American). |
| **2016** | Mentor and Presenter, Tucson High Magnet School Microbial workshop. 105 students. |
| **2016 - 2017** | Mentor, Vail internship program, Vail Independent School District. Conducted research project examining effect of fire history on ectomycorrhizal fungi of Ponderosa pine. 150 hours, 1 student (female). |
| **2015** | Mentor, Tucson High Magnet School, advising high school students on science Projects. 2 hrs, 6 students (~ 20% STEM minorities, 67% female). |
| **2015** | Mentor and Presenter, Science and Nature in Tandem for Youth (SANITY), field experience for high school students. 9.5 hrs, 17 students (~ 65% STEM minorities, 71% female). |
| **2015** | Volunteer**,** Tucson Festival of Books, School of Plant Sciences booth. 3 hrs. |
| **2014** | Volunteer, Plant Science Family Night, Ventana Vista School. 3 hrs. |

**IX. Professional affiliations**

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| **2017 - present** | International Symbiosis Society |
| **2013 - present** | Mycological Society of America |
| **2013 - present** | Botanical Society of America |