

**Elizabeth Ann Bowman**  
School of Plant Sciences, College of Agriculture and Life Sciences  
The University of Arizona  
1140 E. South Campus Dr., Forbes Bldg. Rm 303, Tucson, AZ 85721  
eabowman@email.arizona.edu; (520) 621-2244

### **I. Education**

**PhD candidate, Plant Pathology, University of Arizona**, School of Plant Sciences  
**Certificate in College Teaching**, Office of Instruction and Assessment  
Expected graduation Spring 2020

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

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

### **II. Appointments**

**2017-2019**     *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)**

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. Ectomycorrhizal and foliar endophytic fungal communities differ in sensitivity to climate-related factors 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.** 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** \*Arnold, A. Elizabeth, Jana M. U'Ren, Jolanta Miadlikoska, Ignazio Carbone, Yu-ling Huang, **Elizabeth A. Bowman**, Georgiana May, and François Lutzoni. Perspectives from leaves and lichens on the scale and distribution of the global endobiome (oral presentation). Conference of the Mycological Society of America. Berkeley, CA.
- 2016** **Bowman, Elizabeth A.** Fungal symbionts of forest trees in the context of climate change (Departmental seminar). University of Arizona, School of Plant Sciences. Tucson, AZ.

#### **VI. Teaching**

##### *Teaching assistantships*

- 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)

##### *Software Carpentry and Data Carpentry*

- 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**

- 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**

- 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 minorities, 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**

<b>2017 - present</b>	International Symbiosis Society
<b>2013 - present</b>	Mycological Society of America
<b>2013 - present</b>	Botanical Society of America