

Curriculum Vitae of Beatrice Margareta Bock

Research Interests: Fungal ecology, plant-fungal symbioses, functional trait plasticity

Summary: Plant-fungal ecologist with expertise in trait plasticity, microbial networks, and AI-driven ecological synthesis. Passionate about integrative research, mentorship, and science communication.

Pronouns: She/her

Department of Biological Sciences; Center for Adaptable Western Landscapes

Northern Arizona University (NAU), Flagstaff, AZ 86011

ORCID: [0000-0003-2240-9360](https://orcid.org/0000-0003-2240-9360)

Website: <https://beabockm.wixsite.com/bea-bock>

Bmb646@nau.edu

Education

Ph.D. Biology, Northern Arizona University, Flagstaff, AZ

Expected Spring 2026

Advisors: Dr. Kitty Gehring and Dr. Nancy Johnson

Committee: Dr. Jason Hoeksema, Dr. Nick McKay

Dissertation: Plant-fungal root symbioses: Ubiquity, conservation, and commonality in land plants

GPA: 4.0

B.A. Earth and Environmental Sciences, Vanderbilt University, Nashville, TN

May 2020

Cum laude, Highest Honors, GPA: 3.8 & Major GPA: 3.9

Advisors: Dr. Simon Darroch & Dr. Michelle Casey

Honors Thesis: Long-term changes in unionid community in Kentucky Lake: Implications for understanding the effects of impoundment on river systems. <https://doi.org/10.1080/02705060.2023.2203712>

Research Experience

Fellow, American Dissertation Award, American Association of University Women (Fall 2025 – Spring 2026)

Research Assistant, Northern Arizona University, Flagstaff, AZ

Biological Sciences & Center for Adaptable Western Landscapes

Summer 2025; Dec 2023 – Dec 2024; Dec 2022 – Aug 2023; Dec 2021 – Aug 2022

Supervisors: Dr. Kitty Gehring and Dr. Nancy Johnson

Research Assistant, Vanderbilt University, Nashville, TN

Department of Earth & Environmental Sciences

Jan 2019 – May 2020; Aug 2017 – May 2018

Supervisors: Dr. Simon Darroch & Dr. Michelle Casey

Research Assistant, Stanford University, Palo Alto, CA

Department of Geological Sciences (May 2018 – Aug 2018)

Supervisor: Dr. Erik Sperling

Bird Ringing Assistant, Kvismaren Fågelstation, Närke, Sweden (May 2017 – July 2017)

Teaching Experience

Teaching Assistant, Northern Arizona University

- Mycology (Fall 2023, Fall 2022, Spring 2025)
- Introduction to Cell Biology (Fall 2021)

Guest Lecturer, Northern Arizona University

- Mycology (4 guest lectures: Fall 2023, Spring 2025, Fall 2022)
- Ecology (1 guest lecture)

Student Teaching Assistant, Vanderbilt University

- Introductory Oceanography (Fall 2018)

Publications (underlined authors in green indicate undergraduate student mentees)

Bock, B., Scherer, J., Parrish, F., Burnside, J., Rohrer, C., & Gehring, C. (2025). A simple protocol for producing axenic seeds of *Sorghum bicolor*. *MicroPublications Biology* <https://doi.org/10.17912/micropub.biology.001772>.

Bock, B.M.; Hoeksema, J.D.; Johnson, N.C.; Gehring, C.A. "Evidence for common fungal networks among plants formed by a Dark Septate Endophyte in *Sorghum bicolor*". (2025) *Communications Biology*. 10.1038/s42003-025-08432-x

- Vietorisz, Corinne; Nash, Jake; Siggers, J.; Leander, Elena; **Bock, Beatrice**; Camuy-Vélez, Lennel; Hall, Allie Jasmine; Jaros, Joseph; Kuehn, Kevin; Lai, Edith; Mounts, Ian; Bacy, Ivory; Dag, Caitlin; Anderson, Ian; Carnegie, Angus; Powell, Jeff; Brewer, Stephen; D'Antonio, Carla; Hynson, Nicole; Vilgalys, Rytas; Hoeksema, Jason. Pine-fungal co-invasion alters whole-ecosystem properties of a native eucalypt forest. *New Phytologist*. doi: 10.1111/nph.70363
- Bock, Beatrice**; Mounts, Ian; Bidartondo, Martin; Rillig, Matthias; Livne-Luzon, Stav. Between Mechanisms and Effect: Resolving a Conceptual Divide in Common Mycorrhizal Network Research. *In preparation*.
- Seeley, M. M., Wiebe, B. C., Gehring, C. A., Hultine, K. R., Posch, B. C., Cooper, H. F., Schaefer, E., **Bock, B.**, Abraham, A. J., Moran, E. M., Keith, A., Allan, G. J., Scull, M., Whitham, T. G., Martin, R. M., Asner, G. P., & Doughty, C. E. (2025). Remote sensing reveals inter- and intraspecific variation in riparian cottonwood (*Populus* spp) response to drought. *Plant Biology*. <https://doi.org/10.1101/2025.02.17.638728>
- Bock, B.**; [Curry, L.](#); Gehring, C (2025). Better utilization of inorganic nitrogen compared to organic nitrogen by a plant symbiotic fungal isolate of *Alternaria alternata*. *microPublication Biology*. [10.17912/micropub.biology.001403](https://doi.org/10.17912/micropub.biology.001403).
- Rillig, M. C., Lehmann, A., Mounts, I. R., & **Bock, B. M.** (2025). Concurrent common fungal networks formed by different guilds of fungi. *New Phytologist*, nph.20418. <https://doi.org/10.1111/nph.20418>
- Bock, B.** (2024). beabock/nanodRop: First release with DOI (v0.0.0.9000). Zenodo. <https://doi.org/10.5281/zenodo.12520269>
- Bock, B.**, & Markovchick, L. (2023). Considering Soil Biota and Symbioses in Forest Management and Ecosystem Restoration. *Forests*, 14(6), 1236. <https://doi.org/10.3390/f14061236>
- Bock, B. M.**, Darroch, S. A. F., & Casey, M. (2023). Long-term changes in unionid community in Kentucky Lake: Implications for understanding the effects of impoundment on river systems. *Journal of Freshwater Ecology*, 38(1), 2203712. <https://doi.org/10.1080/02705060.2023.2203712>
- Sperling, E. A., Melchin, M. J., Fraser, T., Stockey, R. G., Farrell, U. C., Bhajan, L., Brunoir, T. N., Cole, D. B., Gill, B. C., Lenz, A., Loydell, D. K., Malinowski, J., Miller, A. J., Plaza-Torres, S., **Bock, B.**, Rooney, A. D., Tecklenburg, S. A., Vogel, J. M., Planavsky, N. J., & Strauss, J. V. (2021). A long-term record of early to mid-Paleozoic marine redox change. *Science Advances*, 7(28), eabf4382. <https://doi.org/10.1126/sciadv.abf4382>
- Smith, E.F., Nelson, L. L., Darroch, S.A., Hodgins, E.B., Husson, J., Mehra, A.K., **Rodewald, B.**, Schiffbauer, J., Selly, T., Strange, M., Tarhan, L.G. "Ediacaran-Cambrian Stratigraphy of the Great Basin, Southwest USA; Mt. Dunfee, Montgomery Hills, Nopah Range, and Kingston Range; April 26th – May 2nd, 2018," 2018.

Science Communication and Media

Press Coverage

- Interview with César Marín for the South American Mycorrhizal Research Network. (2025, September 3). Beatrice M. Bock on common fungal networks formed by a Dark Septate Endophyte [Video]. [Link](#)
- The Fungus Among Us*. Northern Arizona University press release about: Bock, B.M. et al. (2025). "Evidence for common fungal networks..." *Communications Biology*. [Link](#)

Blog Post

- Bock, B. (2024). *Becoming a scientist wasn't a mistake, just a happy little accident*. Functional Ecologists Blog. [Link](#)

Public Presentation

- Mysterious Mushrooms and Fungal Friends: The story of how plants interact with each other through fungi*. Science on Tap, Mother Road Brewing Company, Flagstaff, AZ (September 2024)

Presentations

Invited Talks

- Science on Tap, Mother Road Brewing Company, Flagstaff, AZ (Sep 2024) – Mysterious Mushrooms and Fungal Friends: The story of how plants interact with each other through fungi.
- 12th International Conference on Mycorrhizae, Manchester, UK (Aug 2024) – Common fungal networks: Exploring the “Dark Web.”
- 2024 Sorghum-AMF Annual Meeting, University of Georgia – Updates on Common Non-Mycorrhizal Network Experiment.
- 2022 AMF-Sorghum Systems Biology Project Meeting, University of Georgia – Sorghum Fungal Endophytes: December 2022 Updates.

Conference Presentations: Oral

- 17th Biennial Conference of Science & Management on the Colorado Plateau & Southwest Region, Flagstaff, AZ (Sep 2025): Cottonwood responses to drought in a greenhouse and field experiment

- Mycological Society of America, Madison, WI (Jul 2025): Using AI to Systematically Review Fungal Endophyte Literature.
- NAU 3-Minute Research Presentation (Mar 2025): Interconnections among Plants via Fungi.
- NAU Biology Graduate Student Research Symposium (Feb 2025): Interconnections among Plants via Fungi.
- MSA Annual Meeting (2023): Common Non-Mycorrhizal Networks.
- Hawkesbury Institute Symposium (2023): Common Non-Mycorrhizal Networks.
- NAU Three Minute Project Competition (Mar 2023): Exploring plant–fungal networks.
- GSA Annual Conference (2019): Using Bivalve Death Assemblages.

Conference Presentations: Poster

- Mycological Society of America, Madison, WI (Jul 2025): Fungal colonization shifts with trait plasticity in *Populus* crosstypes.
- 12th International Conference on Mycorrhizae, Manchester, UK (Aug 2024): Common fungal networks.
- NAU Graduate Student Government Poster Symposium (Spring 2024): Common fungal networks.
- Gordon Research Conference, (2023): Common Non-Mycorrhizal Networks.
- Center for Adaptable Western Landscapes Symposium (Mar 2023) : Non-mycorrhizal networks.
- DOE Genomic Science Program Conference (Mar 2023): Sorghum–AMF beneficial associations.
- GSA Annual Conference (2018): Ordovician Radiation redox changes, Yukon.
- SE GSA Annual Conference (2018): Trace fossils in Death Valley samples.

Workshops Led

- Data Wrangling with OpenRefine and Intro to R – Workshop Leader, The Carpentries, Northern Arizona University (Apr 2025)
- Data Wrangling with OpenRefine – Helper, The Carpentries, Smithsonian Institution (Jan 2025)
- Data Wrangling with OpenRefine – Workshop Organizer/Leader/Instructor, Northern Arizona University (Feb 2025)
- Citation Management with Zotero – Workshop Organizer/Leader/Instructor, Northern Arizona University (Fall 2023)

Academic and Community Service

Professional Service

- Symposium Organizer, "Expanding common mycorrhizal networks" at MSA Conference, Toronto, CA. Obtained funding for all speaker expenses (2024)
- Session Moderator, Soil Fungi and Nutrient Cycling, Mycological Society of America Annual Conference (2023)
- Symposium Organizer and Moderator, "Considering host-microbial interactions in ecosystem restoration" at the 16th Biennial Conference of Science & Management on the Colorado Plateau & Southwest Region, Flagstaff, AZ. (2022)
- Manuscript Reviewer, *New Phytologist* (Jan 2023, June 2025)
- Manuscript Reviewer, *Applied Soil Ecology* (Dec 2022)

Public Outreach and Engagement

- Aloha Shirt Mondays Organizer, NAU (2024–2025)
- Invasive Species Education Activity, Kinsey Elementary (May 2024)
- Citation Management (Zotero) Workshop Leader, NAU (Fall 2023)

Honors, Awards, and Fellowships

National Fellowships and Major Honors

- AAUW American Dissertation Fellow, 2025–2026 (\$25,000)
- Presidential Fellow, Northern Arizona University, 2021–present (\$120,000)
- ARCS Scholar, 2023–present (\$8,500/year)
- Finalist – Sweden-America Foundation Fellowship, Spring 2024
- McMinn Scholar, Vanderbilt University, 2018–2020 (~\$128,000)
- National Merit Scholar, Vanderbilt University, 2016–2020 (\$8,000)

Research and Travel Awards

- Support for Graduate Students (SGS) Award, NAU, 2023–2024 (\$2,675)
- Graduate Student Government Travel Award, NAU, Spring 2024 (\$500), Spring 2025 (\$1,000)
- Student Awardee – EMSL Summer School: 1000 Fungal Proteins, July 2024
- Fellow – Hawkesbury Institute, Western Sydney University, May 2023
- Vaughan Scholar, Vanderbilt University, 2018 (\$1,450)
- Alberstadt-Reesman-Stearns Field Studies Scholar, 2018

Conference and Presentation Prizes

- Functional Ecology Prize Winner – Best Poster, ICOM 2024 (\$100)
- Arizona Mushroom Society Invited Speaker Award, 2024 (\$500)
- MSA-funded Symposium Award, 2024 (\$5,000)
- New Phytologist Foundation Innovation Grant, 2024 (\$2,500)
- James Rominger Scholarship, 2022 (\$500)
- Dr. Leathers Graduate Student Scholarship, Arizona Mushroom Society, 2022 (\$1,000)

Skills & Certifications

Advanced R & RStudio
Intermediate Python/VSCode
Git/GitHub
Intermediate MATLAB
Advanced OpenRefine
Microsoft Office Suite
Adobe Creative Cloud Suite (e.g. Photoshop, Illustrator)

Professional Societies

Swedish Mycological Association	2023 - Present
Mycological Society of America	2023 - Present
Arizona Mushroom Society	2022 - Present

Relevant Graduate Coursework

Statistical Methods I & II	Visualizing Scientific Results	Earth and Environmental Data Analysis
Mycology	Concepts in Ecology	Integrated Forest Health
Grant Writing	Stable Isotope Ecology	Microbial Networks
Microbial Community Analysis	Metagenomics Methods	

Other

Citizenship: USA and Sweden

Professional References

Catherine (Kitty) Gehring, PhD | Regent’s Professor of Biological Sciences
Northern Arizona University | 928-523-9138 | Catherine.Gehring@nau.edu | *Flagstaff, AZ*

Nancy Collins Johnson, PhD | Regent’s Professor of Earth Sciences and Environmental Sustainability
Northern Arizona University | 928-523-6473 | Nancy.Johnson@nau.edu | *Flagstaff, AZ*

Jason Hoeksema, PhD | Professor of Biology
University of Mississippi | (662) 915-1275 | hoeksema@olemiss.edu | *University, MS*

Simon A.F. Darroch, PhD | Assistant Professor of Earth and Environmental Sciences
Vanderbilt University | 615-875-8432 | simon.a.darroch@vanderbilt.edu | *Nashville, TN*

Michelle Casey, PhD | Assistant Professor of Biological Sciences

Towson University | 763-229-3126 | mcasey@towson.edu | *Towson, MD*

Erik A. Sperling, PhD | Associate Professor of Geological Sciences
Stanford University | 650-267-0058 | esper@stanford.edu | *Stanford, CA*