Andrew Morris

NSF Graduate Research Fellow

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Education

2022 **PhD Biology**, *University of Oregon*, Eugene, OR

2017 **MS Soil Science**, *Penn State University*, State College, PA

2014 **BS Plant Sciences**, *Cornell University*, Ithaca, NY

Experience

2017–present **NSF Graduate Research Fellow**, *University of Oregon*, Eugene, OR

- Identified members of the soil microbiome that decrease greenhouse gas emissions.
- Analyzed marker gene and metagenomic data using random forest, multiple regression, and principal component analyses.
- Wrote manuscripts and presentations using R Markdown and LaTeX.
- Awarded multiple grants and fellowships to fund my research.
- Authored six peer-reviewed scientific papers.

2015–2017 **Graduate Research Assistant**, *Penn State University*, State College, PA

- Demonstrated a strategy to reduce the impact of agriculture on climate change.
- Analyzed a complex experimental design using mixed-effect models with nesting.
- Collaborated with a team of over 14 people including scientists, technicians, educators, and farmers.
- Communicated technical concepts to diverse audiences ranging from field-based teaching in glacial ecosystems in Alaska and Peru to farmer field days in central Pennsylvania.

2015 **Research Assistant**, *University of Delaware*, Newark, DE

- Designed and built experimental rice paddies to study the effects of arsenic on rice, which is a major global health challenge.
- Developed an affordable strategy to reduce arsenic contamination in rice.
- Led an educational field day for middle school students of color who had never been on a farm. The students learned where their food comes from and grew their own rice plants.

Awards

2017-2021 **University of Oregon**

- NSF Graduate Research Fellowship Award
- Oregon ARCS Foundation Scholar
- Elma Hendricks Scholarship
- William R. Sistrom Memorial Scholarship

2015-2017 **Penn State University**

- Distinguished Master's Thesis Award
- Annie's Sustainable Agriculture Scholarship
- Scarlet Graduate Fellowship in Watershed Stewardship Award
- Katherine Mabis McKenna Fellowship Award

2010-2014 **Cornell University and Ithaca College**

- Hatch/Multistate Grant
- Flora Brown Award

Skills

Typesetting	`R Markdown`, LaTeX, Jupyter	Coding	`R`, `Python`, `Bash`
Computing	HPC, Slurm, Unix	Collaboration	`git`, Github, Slack, Zoom

Publications

2021 **Morris, AH**, Isbell, SA, Saha, D and Kaye, JP. Mitigating nitrogen pollution with undersown legume-grass cover crop mixtures in winter cereals. *Journal of Environmental Quality*. https://doi.org/10.1002/jeq2.20193

2021 Isbell SA, Bradley BA, **Morris AH**, Wallace JM, Kaye JP. Nitrogen dynamics in grain cropping systems integrating multiple ecologically based management strategies. *Ecosphere*. https://doi.org/10.1002/ecs2.3380

2020 Meyer KM, **Morris AH**, Webster K, Klein AM, Kroeger ME, Meredith LK, . . . , Bohannan BJM. Belowground changes to community structure alter methane-cycling dynamics in Amazonia. *Environment International*. https://doi.org/10.1016/j.envint.2020.106131

2020 Meyer KM, Hopple AM, Klein AM, **Morris AH**, Bridgham SD, Bohannan BJM. Community structure – ecosystem function relationships in the Congo Basin methane cycle depend on the physiological scale of function. *Molecular Ecology*. https://doi.org/10.1111/mec.15442

2020 **Morris, AH**, Meyer, KM, and Bohannan, BJM. Linking microbial communities to ecosystem functions: what we can learn from genotype–phenotype mapping in organisms. *Philosophical Transactions of the Royal Society B: Biological Sciences*. https://doi.org/10.1098/rstb.2019.0244

Presentations

2019 **Morris, A. H.**, Meyer, K. M., Bohannan, B. J. M. Linking microbial communities to ecosystem functions: what we can learn from genotype-phenotype mapping in organisms. Achievement Rewards for College Scientists Annual Luncheon. Portland, OR.

2017 **Morris, A. H.**, Isbell, S., Kaye, J. Improving nitrogen retention of agroecosystems using interseeded cover crops. Ecological Society of America Meeting. Portland, OR.

2017 **Morris, A. H.**, Isbell, S., Kaye, J. Mitigating nitrogen pollution by interseeding cover crops into spelt. Sustainable Agriculture Cropping Systems Symposium. State College, PA.

2016 **Morris, A. H.**, Kaye, J. P. Managing Inter-Seeded Cover Crops and Tillage to Decrease Nitrate Leaching and Nitrous Oxide Emissions from Agricultural Soils. Soil Science Society of America Meeting. Phoenix, Arizona.

2016 **Morris, A. H.**, Isbell, S., Kaye, J. Kemanian, A. Managing cover crops and tillage to decrease nitrogen pollution from organically managed soils in Pennsylvania. Sustainable Agriculture Cropping Systems Symposium. State College, PA.

2016 **Morris, A. H.** Greenhouse gases in the Reduced-Tillage Organic Systems Experiment (ROSE). ROSE Annual Advisory Board Meeting. Pine Grove Mills, PA.

Teaching

2018 Faculty, Juneau Icefield Research Program: Geobotany and Ecology

2017–2018 Teaching Assistant, University of Oregon: Cells; Genetics and Molecular Biology; Ecology and Evolution

2017 Guest Instructor, Penn State University: Impacts of Changing Hydrology on Ecosystem Services in Glacial Systems

2017 Teaching Assistant, Penn State University: Soil Science