

AVE T. BISESI

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EDUCATION

Ph.D, Ecology, Evolution and Behavior

Aug 2020 - present

University of Minnesota - Twin Cities, St. Paul, MN

- **Advisor:** William R. Harcombe
- **Written preliminary exam (in-progress):** Predicting the eco-evolutionary dynamics of multitrophic interactions in moderately complex ecosystems
- **GPA:** 3.88
- Graduate Minor in **Data Science**

M.F.A., Creative Writing, Fiction

July 2018 - Jan 2021

Warren Wilson College, Swannanoa, NC

B.A., Biology with High Honors

Aug 2013 - May 2017

Oberlin College, Oberlin, OH

- **Advisor:** Angela J. Roles
- **Thesis:** Uncovering Constraints on the Evolution of Genome Architecture: Computational Analysis of Models of Gene Rearrangement in Metazoan Mitochondrial DNA
- **GPA:** 3.8
- Associate membership in **Sigma Xi**, membership in **Phi Beta Kappa**

PUBLICATIONS

Webster, A., Metcalf, A., Kelly, L., **Bisesi, A.**, Marnik-Said, M., Colbeck, C., Marine, R., Vences, M., Campbell, A., Allen, T. Undergraduates lived experience of project-/problem-based learning in Introductory Biology. *Adv Physiol Educ.* 2022 Jan 6. doi: 10.1152/advan.00042.2021.

Claiborne, D., Dudek, T., Maldini, C., Power, K.A., Ghebremichael, M., Seung, E., Mellors, E.F., Glavin, B., Vrbanc, V.D., Krupp, K., **Bisesi, A.**, Tager, A.M., Knipe, D.M., Boutwell, C. & Allen, T.A. (2019). Immunization of BLT Humanized Mice Redirects T Cell Responses to Gag and Reduces Acute HIV-1 Viremia. *Journal of Virology*, JVI.00814-19, doi: 10.1128/JVI.00814-19.

In prep

Bisesi, A., Rosenthal, J., and Roles, A.J. Testing mechanisms of rearrangement in the mitogenome of crayfish.

APPOINTMENTS

Graduate Research Assistant

Jan 2022 - present

University of Minnesota, Department of Ecology, Evolution and Behavior, St. Paul, MN

- National Science Foundation grant: "Phage host range evolution in spatially structured microbiomes"
- Co-PIs: William R. Harcombe, Wolfram Moebius, Carey Nadell

Graduate Teaching Assistant

Aug 2021 - Jan 2022

University of Minnesota, Department of Ecology, Evolution and Behavior, St. Paul, MN

- Course: BIOL 3409/5409 Evolution
- Instructor and grader for two laboratory sections

Inclusive Excellence Fellow

Aug 2018 - June 2020

Oberlin College, Howard Hughes Medical Institute, Oberlin, OH

- Develop and facilitate student programming, workshops, panels, speaker series, journal clubs and discussion spaces for students, staff and faculty
- Develop and present training modules on anti-racism, implicit bias, imposter syndrome, stereotype threat, science communication, science outreach
- Hire, train, manage and mentor a staff of 15-20 undergraduate peer tutors

Research Technician

June 2017 - May 2018

Ragon Institute of MGH, MIT and Harvard, Allen laboratory, Cambridge, MA

- Use molecular biology and bioinformatics/genomic techniques to investigate the viral evolution of HIV based on studies of the humanized mouse model

Honors Researcher

Aug 2016 - May 2017

Oberlin College, Department of Biology, Oberlin, OH

- Pursue self-directed honors thesis under the supervision of Oberlin Assistant Professor of Biology Angela Roles to use computational methods to evaluate the impact of neutral evolution on mitochondrial gene order rearrangement in crayfish

ACCEL Summer Undergraduate Research Fellow

May 2016 - Aug 2016

Nemours/A.I DuPont Hospital for Children, Wilmington, DE

- Design, conduct and complete research on preclinical testing of targeted therapies in combination with eribulin in osteosarcoma under the direction and supervision of Dr. Valerie Sampson, PhD, Dr. EA Kolb, MD, and Nancy Vetter, BS

GRANTS AND AWARDS

- **EEB Travel Award**, University of Minnesota 2022
- **AMS Summer Policy Colloquium Travel and Attendance Grant**, National Science Foundation 2021
- **Chancellor's Fellowship for Graduate Study (declined)**, University of California-Berkeley 2020 - 2022
- **EEB Excellence Fellowship for Graduate Study**, University of Minnesota 2020 - 2021
- **Carol Houck Smith Scholarship**, Warren Wilson College MFA Program for Writers 2020
- **Scientific Teaching Fellow**, HHMI, NSF and Yale Center for Teaching and Learning 2019 - 2020
- **Rodney Jack Scholarship**, Warren Wilson College MFA Program for Writers 2019 - 2020
- **HHMI Post-Graduate STEM Fellowship**, Oberlin College 2018 - 2020
- **ACCEL Undergraduate Research Fellowship**, Nemours Undergraduate Research Program 2016

TEACHING**Field Guides Mentor**

Aug 2020 - present

University of Minnesota, Department of Ecology, Evolution and Behavior, St. Paul, MN

- Provide one-on-one mentorship and training for undergraduates in CBS interested in pursuing graduate school

Teaching Assistant and Peer Tutor

Jan 2016 - May 2017

Oberlin College, Department of Biology, Oberlin, OH

- Prepare lab equipment, demo experiments, work with the instructor to refine curriculum and lectures, provide academic support for students, hold office hours outside of lab time
- Tutor and provide academic support to students

Quantitative Skills Peer Tutor and Workshop Instructor

Jan 2015 - May 2016

Oberlin College, Center for Learning, Education and Research in the Sciences, Oberlin, OH

- Tutor and provide academic support to students
- Design lesson plans, give lectures, hold workshops, create assignments

CONFERENCE POSTERS AND PRESENTATIONS

Ave Bisesi. Host interactions shape the evolution of specialization in bacteriophage. Talk presented at: Evolution Meetings 2021.

Ave Bisesi. Backward Design and Metacognition for Optimizing Inclusive Teaching. Workshop presented at: Oberlin Workshop and Learning Sessions Fall 2019 Training; September 1, 2019; Oberlin College, Oberlin, OH.

Ave Bisesi. Tackling Implicit Bias in the Classroom: Tools for Faculty. Workshop presented at: Oberlin HHMI Departmental Action and Reflection Team Data Workshop; January 25, 2019; Oberlin College, Oberlin, OH.

Ave Bisesi and Nicollette Mitchell. CLEARing the Way: Establishing an Inclusive Peer Mentorship Program. Talk presented at: 2019 Project Kaleidoscope Upstate NY Regional Networking Meeting; April 13, 2019; Rochester Institute of Technology, Rochester, NY.

Ave Bisesi. Uncovering Constraints on the Evolution of Genome Architecture: A Computational Analysis of Models of Gene Rearrangement in Metazoan Mitochondrial DNA. Poster presented at: Evolution Meetings 2017; June 25, 2017; Portland, OR.

MENTORSHIP

Undergraduate Research Mentor

Aug 2020 - present

University of Minnesota, Department of Ecology, Evolution and Behavior, St. Paul, MN

- Provide lab training and supervision, advise individual and collaborative undergraduate projects
- 2020-2021: Carissa Metzger
- 2021-2022: Carissa Metzger, Carmen Crutchfield

Field Guides Mentor

Aug 2020 - present

University of Minnesota, Department of Ecology, Evolution and Behavior, St. Paul, MN

- Meet bi-weekly to provide a one-on-one resource for information regarding graduate school and science careers
- 2020-2021: Kayla Siemann
- 2021-2022: Kayla Siemann, Sydney Gunter

OUTREACH AND ADVOCACY

Queer Science

April 2022 - present

University of Minnesota - Twin Cities, Minneapolis, MN

- Workshop facilitator and volunteer for twice-yearly events showcasing scientific research at the university level for local LGBTQ high school students

Institute on the Environment Graduate Scholar

Aug 2021 - May 2022

University of Minnesota - Twin Cities, St. Paul, MN

- Member of interdisciplinary cohort program focused on sharing academic work, engaging with diverse stakeholders, and developing resources on ecosystem health

AMS Summer Policy Colloquium Fellow
American Meteorological Society, Washington, D.C.

June 2021

- NSF Fellow and participant in workshops, colloquia and meetings with federal officials and Congressional staffers covering current science policy issues

The Synapse
Oberlin College, Oberlin, OH

Aug 2016 - June 2020

- Writer and contributor to Oberlin College's science communication magazine of record
- Articles include:
 - December 2018. Scientific Colonialism and Biopiracy: Moving Beyond Patents and Intellectual Property.
 - September 2017. The Nature of Knowledge: Decolonizing Scientific Expertise and Discourse.
 - May 2017. Making a Case for Citizen Science: Innovation in Science Education and Accessibility.

PROFESSIONAL SERVICE

- EEB Diversity and Equity Graduate Committee 2020 - present
- EEB Ethics Committee 2020 - present

PROFESSIONAL AFFILIATIONS

- American Meteorological Society
- Society for the Study of Evolution
- Ecological Society of America
- American Society for Microbiology
- National Science Policy Network