

Sara Wallace

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517-610-9833

Education:

The University of North Dakota, Grand Forks, North Dakota

Master of Science – Biology

Thesis title: Microbial Communities and Host Plants of Megachilidae in the Prairie Pothole Region (PPR)

Advisor: Dr. Rebecca Simmons

Anticipated Graduation: August 2025

Adrian College, Adrian, Michigan

Bachelor of Science – Biology

Bachelor of Arts – Environmental Science

Graduation: May 2022

Professional Experience:

The University of North Dakota, Grand Forks, North Dakota January 2025-present

Lead Chemistry Safety and Stockroom Technician

- Maintain a running inventory of standard solvents, basic chemicals, hazardous waste, and standard glassware.
- Order chemicals, solvents, and chemical apparatus via Jaggaer.
- Prepare waste materials for disposal/disposition.
- Ensure safe operation of the stockroom and related activities.
- Advise faculty on safety violations, report as necessary.

AG-VISE Laboratories Inc., Northwood, North Dakota May 2024-December 2024

Nutrient Laboratory Analyst

- Performed procedures used in nutrient, soil and water characterization in GLP and non-GLP analysis.
- Preparation of GLP and non-GLP chemicals.
- Trained and directed technicians in performing their assigned duties.
- Development of adequate nutrient plant, soil, and water characterization laboratory.

The University of North Dakota, Grand Forks, North Dakota May 2023-August 2023

Lab Technician, supervised by Dr. R Simmons

- Funded by College of Arts and Sciences Multi-Investigator Seed Award
- Supervised REU students' during insect dissections, DNA extractions, PCR, gel electrophoresis, and Illumina sequencing.
- Restocked buffers and miscellaneous lab materials; discarded hazardous waste.

Microbial Communities & Host Plants of Megachilidae in the Prairie Pothole Region (PPR)

August 2022-present

Lead researcher, supervised by Dr. R. Simmons

- Collect and dissect megachilid bees in preparation for DNA extractions.
- Perform DNA extraction, PCR, and gel electrophoresis.
- Utilize Sanger and Illumina sequencing to identify megachilid bees and respective gut bacteria and plants.
- Utilize Sequencher and NCBI GenBank to fix and process DNA sequences.

The University of North Dakota, Grand Forks, North Dakota August 2022-May 2024
Graduate Teaching Assistant, supervised by Drs. J. Carmichael, R. Simmons, K. Stears, V. Tkach

- Supervise undergraduates through laboratory and classroom activities.
- Grade assignments and provide constructive feedback.
- Transport undergraduates to and from field sites.
- Upload course materials, create assignments and quizzes.

Sherwin Williams August 2020- July 2022
Part-time Sales Associate

- Provided customers with information about paint disposal, safety data sheets, and clean-up procedures.
- Stocked and organized product on sales floor.
- Opened and closed the store.
- Handled bank deposits when necessary.

Ronald E. McNair Post-Baccalaureate Achievement Program (TRIO)

The Savage Effects of Global Warming:

How Heat Influences Aggression in the City July 2020-May 2021
Undergraduate research assistant, supervised by Dr. Jeffrey K. Lake

- Analyzed correlations between violent crime and temperature and precipitation patterns on an annual and monthly basis in three pairs of U.S. cities.
- Required compilation and curation of data from disparate sources, preparation of data into a shared format, and analysis in the RStudio statistical environment.

Water Resources Monitoring Group, LLC. May 2021- August 2021
Undergraduate research assistant, supervised by Drs. Dennis Busch, Andrew Cartmill, and James Martin

- Collected for and performed various soil health tests on 20 square plots in Wisconsin for the University of Wisconsin- Platteville.
- Performed maintenance on water sampling and monitoring sites in Michigan and Ohio.
- Constructed and installed two plumes at two different collection sites in Michigan.
- Performed lab analyses of total-reactive phosphorus, reactive phosphorus and nitrates contaminants in various surface water sources collected in Wisconsin, using spectrophotometric analysis.

River Raisin Watershed Analysis: August 2020-July 2021
Undergraduate research assistant, supervised by Dr. J Martin

- Lab analyses of various phosphorus and nitrogen contaminants in various local surface water sources using spectrophotometric analysis.
- Collaborative research with students, and faculty mentors with Michigan State University, this longitudinal study ranged over 20 years.

Academic Services at Adrian College, Adrian, Michigan September 2019-December 2020
Office Assistant

- Assisted students with tutoring and other services.
- Distributed paperwork to professors & testing center.

National Society of Leadership and Success (NSLS) March 2019-May 2022

- Built leadership and collaborative skills through volunteer work and speaker events.

Presentations:

Wallace, S. R.B. Simmons, B. Darby. 2024. Microbial Communities and Host Plants of Megachilidae in the Prairie Pothole Region (PPR). Northern Great Plains Symposium. The University of North Dakota. Poster Presentation. Grand Forks, North Dakota.

Wallace, S., R.B. Simmons, B. Darby. 2023. Microbial Communities and Host Plants of Megachilidae in the Prairie Pothole Region (PPR). Entomology Society of America Annual Meeting 2023. Entomology Society of America. Oral presentation. National Harbor, Maryland.

Wallace, S., R.B. Simmons, B. Darby. 2023. Species Distribution, Microbial Communities, & Gut Contents of Megachilidae in the Northern Great Plains. Graduate Research Appreciation Day. The University of North Dakota. Poster presentation. Grand Forks, North Dakota.

Wallace, S., J.K. Lake. 2022. Temperature and Violent Crime in the United States. Ribbons of Excellence Conference. Adrian College. Oral presentation. Adrian, Michigan.

Wallace, S., J.K. Lake. 2022. Temperature and Violent Crime in the United States. Michigan Academy of Science, Arts, and Letters. Alma College. Oral presentation. Virtual.

Wallace, S., J.K. Lake. 2021. The Role of Anomalous Heat Waves in Northern U.S. Cities. The Alliances for Graduate Education and Professoriate Student Success Conference. Michigan State University. Oral presentation. Virtual.

Wallace, S., J.K. Lake. 2021. The Savage Effects of Global Warming: How Heat Influences Aggression in the City. Ribbons of Excellence Conference. Adrian College. Oral presentation. Adrian, Michigan.

Wallace, S., J.K. Lake. 2021. The Savage Effects of Global Warming: How Heat Influences Aggression in the City. Michigan Academy of Science, Arts, and Letters. Alma College. Oral presentation. Virtual.

Wallace, S., J.K. Lake. 2021. The Savage Effects of Global Warming: How Heat Influences Aggression in the City. The University of Maryland Conference for McNair Scholars and Undergraduate Research. Oral presentation. Virtual.

Awards and Scholarships:

APSAC Student Research & Travel Award, <i>The University of North Dakota</i>	2023
APSAC Student Research & Travel Award, <i>The University of North Dakota</i>	2022
Chi Alpha Epsilon National Honor Society, <i>Adrian College</i>	2019-2022

Presidential Scholarship, *Adrian College* 2018-2022
Scholarship Day Scholarship, *Adrian College* 2018-2022

Professional Service:

Biology Graduate Student Association (BGSA) August 2022-present
Undergraduate Mentoring through Team Presentation October 2023

- BIOL503: Nutrition and Neuroscience Seminar
- Worked on a group presentation with 2 undergraduates.
- Facilitated research topic and article selection, development of slide deck.
- Coordinated presentation contributions and formal presentation/discussion management.

McNair Alumni Panel, Siena Heights University, Adrian, MI August 2023

- Q&A for current McNair scholars
- Discussed research experiences, opportunities, life experiences, etc.

Ronald E. McNair Scholars Program Ambassador February 2021-May 2022

- Organized recruitment events.
- Informed prospective students about program benefits and opportunities.
- Formed search committee to appoint future ambassadors.

Biology Club February 2021-May 2022

Student Support Services (TRIO) Mentor September 2019-August 2020

- Mentored and advised incoming freshmen in the TRIO group at Adrian College.

National Society of Leadership and Success (NSLS) March 2019-May 2022

- Built leadership and collaborative skills through volunteer work and speaker events.

Professional Affiliations:

The Entomological Society of America (ESA) April 2022- present

The Ecological Society of America (ESA) June 2021-2022

The Society for the Study of Evolution (SSE) June 2021-December 2021