

Elizabeth A. McDaniel

MICROBIOLOGY PHD STUDENT

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Education

University of Wisconsin-Madison

PHD STUDENT IN THE MICROBIOLOGY DOCTORAL TRAINING PROGRAM

Madison, WI

Aug. 2016-present

- Laboratory of Dr. Katherine McMahon, Department of Bacteriology

University of Arkansas

BACHELOR OF SCIENCE IN BIOLOGY WITH STATISTICS MINOR, CUM LAUDE HONORS

Fayetteville, AR

Aug. 2012-May 2016

- GPA: 3.71/4.0

Research Experience

McMahon Lab, University of Wisconsin-Madison

GRADUATE RESEARCH ASSISTANT

Madison, WI

Jan. 2017 - present

- Graduate research assistant in the laboratory of Dr. Katherine McMahon investigating bacterial communities in freshwater ecosystems and engineered wastewater systems.

Lewis Lab, University of Arkansas

UNDERGRADUATE RESEARCH ASSISTANT

Fayetteville, AR

Aug. 2013-Aug. 2016

- Undergraduate research assistant in the laboratory of Dr. Jeffrey Lewis studying the natural variation of stress defense mechanisms in the budding yeast *Saccharomyces cerevisiae*.

Broach Lab, Penn State Hershey College of Medicine

UNDERGRADUATE RESEARCH INTERN

Hershey, PA

May-Aug. 2014

- Intern in the Summer Undergraduate Research Internship Program in the laboratory of Dr. James Broach studying the interactions and movements of chromosomes during quiescence in the budding yeast *Saccharomyces cerevisiae*.

Oral Presentations

2. **McDaniel, E.A.**, Stuecker, T.N., Elkon, I.M., Gasch, A.P., Lewis, J.A. Natural Variation in Yeast Uncovers Novel Regulation of the Ena1p Sodium Pump. Southeastern Regional Yeast Meeting. Tuscaloosa, AL. Mar. 2016.
1. **McDaniel, E.A.**, Stuecker, T.N., Elkon, I.M., Gasch, A.P., Lewis, J.A. Natural Variation in Yeast Uncovers Novel Regulation of the Ena1p Sodium Pump. Southeastern Regional Yeast Meeting. Little Rock, AR. Mar. 2015.

Poster Presentations

7. **McDaniel, E.A.**, Moya, F., Camejo, P., He, S., McMahon, K.D. Long-Term Population Dynamics of 'Candidatus Accumulibacter phosphatis' in Enhanced Biological Phosphorus Removal Sequencing-Batch Reactors. Population, Evolutionary, Quantitative Genetics Conference. Madison, WI. May 2018.
6. **McDaniel, E.A.**, Peterson, B., Stevens, S.L.R., Krabbenhoft, D., McMahon, K.D. Comparative Genomics of Microbial Methylmercury Production. Madison Microbiome Meeting. Madison, WI. Apr. 2018.
5. **McDaniel, E.A.**, Peterson, B., Stevens, S.L.R., Krabbenhoft, D., McMahon, K.D. Comparative Genomics of Microbial Methylmercury Production. Joint Genome Institute User Meeting: Genomics of Energy and Environment. San Francisco, CA. Mar. 2018.
4. **McDaniel, E.A.**, Stuecker, T.N., Elkon, I.M., Gasch, A.P., Lewis, J.A. Natural Variation in Yeast Uncovers Novel Regulation of the Ena1p Sodium Pump. Arkansas IDEa Network of Biomedical Research Excellence Meeting. Fayetteville, AR. Nov. 2015.
3. **McDaniel, E.A.**, Stuecker, T.N., Elkon, I.M., Gasch, A.P., Lewis, J.A. Natural Variation in Yeast Uncovers Novel Regulation of the Ena1p Sodium Pump. 27th International Conference on Yeast Genetics and Molecular Biology. Levico Terme, Trentino, Italy. Sept. 2015.

2. **McDaniel, E.A.**, Stuecker, T.N., Elkon, I.M., Gasch, A.P., Lewis, J.A. Natural Variation in Yeast Uncovers Novel Regulation of the Ena1p Sodium Pump. South Central Branch of the American Society for Microbiology Joint Meeting. Fayetteville, AR. Sept. 2014.
1. **McDaniel, E.A.**, Rutledge, M.T., Broach, J.R. Chromosome Interactions in Quiescent Yeast. Penn State Hershey Summer Undergraduate Research Internship Programs Symposium. Hershey, PA. Aug. 2014.

Honors & Awards

2018	Travel Award , Microbiology Doctoral Training Program, \$1000	Madison, WI
2018	Travel Award , Department of Bacteriology, \$1000	Madison, WI
2016	Travel Award , Southeastern Regional Yeast Meeting, \$250	Tuscaloosa, AL
2016	Honors College Research Grant , University of Arkansas Honors College, \$1200	Fayetteville, AR
2015	Honors College Travel Grant , University of Arkansas Honors College, \$1200	Fayetteville, AR
2015	Travel Award , Southeastern Regional Yeast Meeting, \$250	Little Rock, AR
2015	Honors College Research Grant , University of Arkansas Honors College, \$2500	Fayetteville, AR
2014-2015	University of Arkansas Academic Scholarship , University of Arkansas, \$2000	Fayetteville, AR
2014	2nd Place Poster Award , ASM South Central Branch Meeting	Fayetteville, AR
2013-2014	University of Arkansas Academic Scholarship , University of Arkansas, \$1000	Fayetteville, AR
2012-2016	University of Arkansas Symphony Orchestra Scholarship , University of Arkansas, \$1000 per year	Fayetteville, AR
2012-2016	University of Arkansas New Arkansan Non-Resident Tuition Award , University of Arkansas, \$39,040	Fayetteville, AR

Teaching, Mentoring, & Service

Microbiology 304: Biology of Microorganisms Laboratory

Madison, WI

TEACHING ASSISTANT

Spring 2018

- Prepared lecture materials on the background, significance, and execution of experiments twice a week.
- Assisted students with experiments and provided feedback on techniques and scientific analyses.

McMahon Lab Mentoring

Madison, WI

GRADUATE STUDENT MENTOR FOR REUS AND UNDERGRADUATE INTERNS

2017-present

- Graduate Student mentor for summer REU and Undergraduate Interns performing routine fieldwork and independent research projects in the McMahon lab.
- **Kaela Amundson**: Characterization and Enrichment of External Electron Transfer Capable Microorganisms. Fall 2017-Spring 2018. Mentored Kaela through laboratory protocols, bioinformatic pipelines, graduate school applications, and a National Science Foundation Graduate Research Fellowship application.
- **Matthew Wolff**: Investigation of Zebra Mussel eDNA in Lake Mendota Metagenomic Time-series Datasets. Spring 2018-current. Mentored Matthew through laboratory techniques and bioinformatic pipelines.
- **Kali Denis**: Time-Series Analysis of Under-Ice Freshwater Bacterial Communities. Spring 2018-current. Mentored Kali through laboratory protocols, design and execution of an independent project, and preparation of a UW-Madison Sophomore Research Fellowship.

Computational Biology, Ecology, & Evolution (ComBEE) Study Group

Madison, WI

CO-CHAIR

Jan. 2017-present

- Organized peer-led discussions on the R and Python languages.
- Facilitated monthly meetings in which a postdoc/faculty member gives a talk on their research.
- Lead ComBEE hosted workshops on computational tools (Git/Anvi'o)

ComBEE Git/Github Pages Workshop

Madison, WI

WORKSHOP LEADER

Sept. 2017

- Prepared novel materials and taught version control with Git and making a personal website using Github Pages/Jekyll.
- Led a walkthrough tutorial to a group of 10 scientists on making a personal website with Github Pages.

ComBEE Anvi'o Workshop

Madison, WI

WORKSHOP ASSISTANT

May 2017

- Assisted during a ComBEE hosted workshop on the Anvi'o software.
- Guided participants through the interactive interface and metagenomic binning tutorials.
- Led an informal presentation and discussion on the theory of metagenomic binning.

BIOL 2323: General Genetics

Fayetteville, AR

DRILL INSTRUCTOR

Sp. 2015

- Instructor and leader of biweekly review sessions for an undergraduate General Genetics course.
- Prepared biweekly overviews of lecture materials and exam study guides.

University of Arkansas Office of Admissions

Fayetteville, AR

STUDENT AMBASSADOR

Fa. 2013-2015

- Volunteered 2 hours a week guiding tours of the University of Arkansas campus and housing options to prospective students.
- Wrote thank-you notes to the students and families that visited campus.

Professional Development

June 2017 **Microbial Genomics and Metagenomics Workshop**, FISABIO

Valencia, Spain

April 2017 **Anvi'o Workshop**, University of Chicago, Meren Lab

Chicago, IL

Jan. 2017 **Data Carpentry Workshop**, University Wisconsin-Madison

Madison, WI

Skills

Programming	Python, R/RStudio, Bash, SQL, Git/Github/GH-pages, Markdown, High Throughput Computing (HTCondor), Reproducible Research
Laboratory	Molecular Cloning, DNA Extraction, qPCR, RT-qPCR, Primer Design, Flow Cytometry