

# Elizabeth A. McDaniel

MICROBIOLOGY PHD STUDENT

2215 Woodview Ct. Apt 2, Madison WI 53713

☎ (214)546-9748 | ✉ emcdaniel@wisc.edu | 🏠 lizilla1993@github.io | 📺 lizilla1993 | 🐦 @lizilla93

## Education

### University of Wisconsin-Madison

PHD STUDENT IN THE MICROBIOLOGY DOCTORAL TRAINING PROGRAM

- Laboratory of Dr. Katherine McMahon, Department of Bacteriology

Madison, WI

Aug. 2016-present

### University of Arkansas

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

- GPA: 3.71/4.0

Fayetteville, AR

Aug. 2012-May 2016

## Research Experience

### McMahon Lab, University of Wisconsin-Madison

GRADUATE RESEARCH ASSISTANT

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

Madison, WI

Jan. 2017 - present

### Lewis Lab, University of Arkansas

UNDERGRADUATE RESEARCH ASSISTANT

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

Fayetteville, AR

Aug. 2013-Aug. 2016

### Broach Lab, Penn State Hershey College of Medicine

UNDERGRADUATE RESEARCH INTERN

- 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*.

Hershey, PA

May-Aug. 2014

## Presentations

- 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. **Poster Presentation.**
- 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. **Platform Talk.**
- 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. **Poster Presentation.**
- 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. **Poster Presentation.**
- 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. **Platform Talk.**
- 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. **Poster Presentation.**
- 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. **Poster Presentation.**

## Honors & Awards

2016	<b>Travel Award</b> , Southeastern Regional Yeast Meeting, \$250	Tuscaloosa, AL
2016	<b>Honors College Research Grant</b> , University of Arkansas Honors College, \$1200	Fayetteville, AR
2015	<b>Honors College Travel Grant</b> , University of Arkansas Honors College, \$1200	Fayetteville, AR
2015	<b>Travel Award</b> , Southeastern Regional Yeast Meeting, \$250	Little Rock, AR
2015	<b>Honors College Research Grant</b> , University of Arkansas Honors College, \$2500	Fayetteville, AR
2014-2015	<b>University of Arkansas Academic Scholarship</b> , University of Arkansas, \$2000	Fayetteville, AR
2014	<b>2nd Place Poster Award</b> , ASM South Central Branch Meeting	Fayetteville, AR
2013-2014	<b>University of Arkansas Academic Scholarship</b> , University of Arkansas, \$1000	Fayetteville, AR
2012-2016	<b>University of Arkansas Symphony Orchestra Scholarship</b> , University of Arkansas, \$1000 per year	Fayetteville, AR
2012-2016	<b>University of Arkansas New Arkansan Non-Resident Tuition Award</b> , 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.

- 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

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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

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