

Edna Chiang

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EDUCATION

University of Wisconsin-Madison

Sep 2016 - Present

- PhD Candidate, Microbiology Doctoral Training Program, Department of Bacteriology GPA: 4.00/4.00
- Advisors: Dr. Garret Suen and Dr. Hannah Carey

University of Michigan

Graduation: Apr 30, 2015

- BS with High Distinction in Microbiology (High Honors) and Spanish GPA: 3.85/4.00
- Honors Thesis: Ecology of Verrucomicrobia in a Freshwater Estuary

SCIENTIFIC PUBLICATIONS

Chiang E, Schmidt ML, Berry MA, Biddanda BA, Burtner AM, Johengen TH, Palladino D, Denef VJ (2018)

Verrucomicrobia are prevalent in north-temperate freshwater lakes and display class-level preferences between lake habitats. *PLoS ONE* 13(3):e0195112. doi:10.1371/journal.pone.0195112.

Schmidt ML, Biddanda, BA, Weinke AD, **Chiang E**, Januska F, Props R, Denef VJ (2017) Microhabitats shape diversity productivity relationships in freshwater bacterial communities. *bioRxiv*.

Denef VJ, Carrick HJ, Cavaletto J, **Chiang E**, Johengen TH, Palladino D, Vanderploeg HA (2017) Lake bacterial assemblage composition is sensitive to biological disturbance caused by an invasive filter feeder. *mSphere* 2:e00189-17. doi:10.1128/mSphere.00189-17.

Denef VJ, Mueller RS, **Chiang E**, Liebig JR, Vanderploeg HA (2016) Chloroflexi CL500 11 populations that predominate deep lake hypolimnion bacterioplankton rely on nitrogen-rich DOM metabolism and C1 compound oxidation. *Appl. Environ. Microbiol.* 82(5):1423-1432. doi:10.1128/AEM.03014-15.

McCarthy A, **Chiang E**, Schmidt ML, Denef VJ (2015) RNA Preservation Agents and Nucleic Acid Extraction Method Bias Perceived Bacterial Community Composition. *PLoS ONE* 10(3):e0121659. doi:10.1371/journal.pone.0121659

SELECTED SCIENTIFIC PRESENTATIONS

Presentation, "Winter is Coming: A Stark Look at the Hibernator Microbiota." Microbiology Doctoral Training Program Student Seminar, Sep 26, 2018, Madison, WI.

Poster, "The hibernating squirrel microbiome responds to seasonal dietary shifts by altering its functional potential." 17th International Symposium on Microbial Ecology, Aug 12, 2018, Leipzig, Germany.

Poster, "Ecology of Verrucomicrobia in a Freshwater Estuary." American Society of Microbiology General Meeting, Jun 2, 2015, New Orleans, LA.

SELECTED RESEARCH EXPERIENCE

Graduate Research Assistant, Dr. Garret Suen and Dr. Hannah Carey, University of Wisconsin-Madison

- Investigated microbe-host interactions in hibernating mammals to understand the link between bacterial taxonomy and function Jan 2017 – Present
- Worked with an interdisciplinary team to perform stable isotope assisted labeling experiments
- Increased bioinformatics proficiency by analyzing amplicon sequencing and metagenomic data

Undergraduate Researcher / Lab Technician, Dr. Vincent Deneff, University of Michigan Sep 2012 – Aug 2016

- Studied freshwater microbial ecology to understand the role of bacteria in Great Lakes carbon cycling
- Optimized fluorescent *in situ* hybridization microscopy protocol, extracted DNA/RNA, prepared samples for amplicon sequencing, created cultures, collected water and sediment sample from the Great Lakes
- Applied statistical and bioinformatics techniques to analyze bacterial 16S rRNA data using mother and R

SELECTED AWARDS

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| - NSF Graduate Research Fellowship | Sep 2018 – Aug 2023 |
| - NIH Biotechnology Training Program Traineeship | Jan 2017 – Aug 2019 |
| - University of Wisconsin-Madison Student Research Travel Grant | Sep 2018 |
| - American Society of Microbiology Undergraduate Research Fellowship | May 2014 – Dec 2014 |
| - Beckman Scholars Fellowship | May 2014 – Aug 2015 |
| - Phi Beta Kappa | Mar 2015 |

OUTREACH EXPERIENCE

Gaining STEAM! Scientist, University of Wisconsin-Madison Oct 2018 – Present

- Created a comic book about hibernation microbiology by integrating science, story-telling, and art through a collaboration with JKX Comics and local Madison artists
- Incorporated the comic into outreach activities to improve participant engagement and learning

Wisconsin Idea STEM Fellow, University of Wisconsin-Madison Jun 2018 – Present

- Learned interactive teaching strategies and outreach evaluation techniques
- Designed and implemented an interactive hibernation microbiology outreach activity for elementary school-aged children

Designer and Volunteer, Science Saturday, University of Wisconsin-Madison Sep 2017 - Present

- Co-developed and executed outreach activities with the Wisconsin Institute for Discovery and Morgridge Research Institute to teach hibernation physiology and microbe-host interactions

SCIENCE COMMUNICATION COURSES

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| Getting the Message Across | Oct 12, 2018 |
| Empowering People to Break the Prejudice Habit: Creating Inclusion and Overcoming Bias | Dec 14, 2017 |
| DELTA – Communicating Science with Everyone | Sep 2017 – Dec 2017 |
| Improv for Scientists | Sep 2017 – Oct 2017 |
| Writing Science as a Story | Nov 2016 – Dec 2016 |
| Public Opinion of Life Science Issues | Sep 2016 – Dec 2016 |

SKILLS

- **Lab Skills:** DNA/RNA extraction, PCR, gel electrophoresis, DNA library preparation, Illumina MiSeq sequencing, fluorescent *in situ* hybridization microscopy, limnology and mammalogy field work and sample collection
- **Computation:** R (advanced), perl (familiar), python (familiar), Microsoft Office Suite, Google Drive, mothur, amplicon sequencing analysis, metagenomic analysis
- **Languages:** English (fluent), Spanish (fluent), Mandarin Chinese (intermediate)