

# Edna Chiang

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## EDUCATION

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### University of Wisconsin-Madison

Sep 2016 - Present

- Microbiology PhD Candidate, Life Sciences Communication and Biotechnology Minors 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

## SCIENTIFIC PUBLICATIONS

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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.

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.

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.

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.

## SELECTED SCIENTIFIC PRESENTATIONS

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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." 17<sup>th</sup> 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.

## RESEARCH EXPERIENCE

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**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, with applications in biomedicine Jan 2017 – Present
- Worked with an interdisciplinary team to design and execute stable isotope assisted labeling experiments
- Increased bioinformatics proficiency by analyzing amplicon sequencing and metagenomic data

**Undergraduate Researcher / Lab Technician, Dr. Vincent Denef, 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, designed and completed field work
- Applied statistical and bioinformatics techniques to analyze bacterial 16S rRNA data using mothur and R

<https://www.linkedin.com/in/edna-chiang-731517150/>

## DISTINGUISHED AWARDS

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

## SCIENCE COMMUNICATION EXPERIENCE

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**Gaining STEAM! Scientist, JKK Comics, 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 JKK 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
- Developed an interactive hibernation microbiology outreach activity for elementary school-aged children
- Worked with fellows-in-training to develop and improve their outreach activities

**Social Media Manager, University of Wisconsin-Madison** Dec 2016 - Present

- Managed twitter handles for the Microbiology Doctoral Training Program (MDTP, @UWMadisonMDTP), Suen Lab (@suenlab), and Carey Lab (@13liner), as well as the MDTP Facebook page
- Increased public recognition by highlighting news from MDTP trainers, students, and collaborators

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

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

## SCIENCE COMMUNICATION COURSES

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| Life Sciences Communication Symposium  | Jan 2019 – May 2019 |
| Scientific Writing   | Jan 2019 – May 2019 |
| Empowering People to Break the Prejudice Habit: Creating Inclusion and Overcoming Bias | Dec 14, 2017        |
| 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

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- **Lab Skills:** DNA/RNA extraction, PCR, gel electrophoresis, DNA library preparation, Illumina MiSeq sequencing, fluorescent *in situ* hybridization microscopy, field work planning and execution
- **Computation:** Microsoft Office Suite, Google Drive, biostatistics, computational biology, R, perl, python, mothur, amplicon sequencing analysis, metagenomic analysis
- **Languages:** English (fluent), Spanish (fluent), Mandarin Chinese (intermediate)
- **Communication:** Presented in 10+ research events, engaged in 10+ outreach events targeting children to adults