

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
- PhD Minors: Life Sciences Communication and Biotechnology
- 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

NOTABLE AWARDS

- NSF Non-Academic Research Internships for Graduate Students (INTERN) Supplemental Funding Jul 2019
- 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

SELECTED SCIENTIFIC PUBLICATIONS

- Becker S*, **Chiang E***, Platinga A, Carey H, Suen G, Swoap S. (*In Review*) Stevia supplementation does not rescue high fat diet-induced obesity, glucose intolerance, or microbiota changes. *FEMS Microbiol. Ecol.*
* co-first author
- Regan MD, **Chiang E**, Martin SL, Porter WP, Assadi-Porter FM, Carey HV. (2019) Shifts in metabolic fuel use coincide with maximal rates of ventilation and body surface rewarming in an arousing hibernator. *Am. J. Physiol. Regul. Integr. Comp. Physiol.* 316(6):R764-R775. doi: 10.1152/ajpregu.00379.2018.
- 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. .

SELECTED SCIENTIFIC PRESENTATIONS

- Presentation, “The Hibernation Microbiome: Seasonal Shifts in Carbohydrate Metabolism.” Microbiology Doctoral Training Program Student Seminar – Special Recruitment Seminar, Jan 31, 2020, Madison, WI
- Presentation, “Winter is Coming: A Stark Look at the Hibernator Microbiota.” Biotechnology Training Program Seminar, Nov 7, 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.

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

OUTREACH EXPERIENCE

Invited Speaker, Kettle Moraine Evening with Nature and Science On Tap-Minocqua Sep and Jan 2019

- Presented two stories about hibernation from the perspective of a hibernating squirrel and its gut microbes
- Engaged in informal discussion with local Minocqua, WI residents about implications of hibernation research

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
- 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

Scientific Writing	Writing Science as a Story
Public Opinion of Life Science Issues	Life Sciences Communication Symposium
Web Design for the Sciences	Improve for Scientists
Empowering people to Break the Prejudice Habit: Creating Inclusion and Overcoming Bias	

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:** HTML (intermediate), CSS (intermediate), R(advanced), perl (familiar), python (familiar), bash (familiar), Microsoft Office Suite, Google Drive, mothur, amplicon sequencing analysis, metagenomic analysis
- **Languages:** English (fluent), Spanish (fluent), Mandarin Chinese (intermediate)