AMANDA PATSIS

Tate Hall, 116 Church St SE • Minneapolis, MN • patsi005@umn.edu

EDUCATION

University of Minnesota – Twin Cities
PhD, Earth Sciences (in progress) 2020–present
Advisors: C. Santelli, C. Sheik

International Geobiology Course
Summer field course, California Institute of Technology 2021

Amherst College
BA, Biology 2017
Summa cum laude with distinction

WORK EXPERIENCE

University of Minnesota – Twin Cities

Research Assistant 2020-present

- Extraction of genomic DNA from low-biomass samples for 16S and metagenomic analysis of deep subsurface microbial communities
- Development of pipelines for bioinformatic mining of metagenomic datasets using Bash, python, and R
- Maintenance of fungal and algae culture libraries
- Facilitation of relationship building and communication between the Santelli Lab and the community organization Urban Roots, ultimately resulting in a collaborative community-driven research project

Epic Systems Corporation

Project Manager 2017–2020

- Managed teams implementing medical record software at national and international organizations
- Identified project risks and developed mitigation strategies to adhere to fixed timelines and budgets
- Managed junior employees and provided guidance on complex, critical, or time-sensitive issues
- Developed new tools for clinical documentation in fertility clinics and led a physician steering board to solicit and incorporate feedback from industry experts across the nation

Amherst College

Senior Honors Thesis 2016–2017

- Elucidated evolutionary relationships of taxa within Oenothera sect. Pachylophus (Onagraceae) using hybridization-based target gene enrichment and next-generation sequencing techniques
- Extracted genomic DNA, prepared libraries for sequencing, enriched libraries using in-solution hybridization of RNA baits, and sequenced on Illumina MiSeq
- Analyzed genome-scale sequence data to reconstruct phylogenies

Research Assistant for Dr. Rachel Levin 2014–2016

- Extracted and quantified DNA, performed PCR and cleaned product, and cloned PCR product to isolate alleles using TOPO TA Cloning Kits to prepare DNA for sequencing
- Cleaned sequence data, called alleles, and aligned sequences for phylogenetic analyses
- Taught new members of the lab techniques for DNA extraction and quantification

Chicago Botanic Garden

Research Experience for Undergraduates Summer 2015

- Developed and optimized protocols for DNA extraction, library preparation, and in-solution hybridization-based target gene enrichment

AMANDA PATSIS

Tate Hall, 116 Church St SE • Minneapolis, MN • patsi005@umn.edu

TEACHING EXPERIENCE

University of Minnesota – Twin Cities

Teaching Assistant, *Earth and Its Environment* Fall 2020
Teaching Assistant, *From Microbes to Mammoths: History of Life on Earth* Fall 2021

Amherst College

Teaching Assistant, *Molecules, Genes and Cells* Spring 2017
Teaching Assistant, *Adaptation and Organisms* Fall 2016

AWARDS AND HONORS

- *John Gruner Fellowship*, 2022
- *Zoltai Graduate Fellowship*, 2021
- *John Mason Clarke 1877 Fellowship*, 2021
- *John Mason Clarke 1877 Fellowship*, 2020
- *Oscar E Schotté Prize*, 2017
- *Oscar E. Schotté Award*, 2017, awarded to the senior with the best independent work in biology
- *Sawyer Prize*, 2015, awarded to the sophomore who has shown the most promise in biology

GRANTS

1. University of Minnesota Informatics Institute (UMII)-MnDRIVE Graduate Assistantship Award. 2023. Metagenome mining to inform bioremediation: Elucidating the impact of microbial metabolism on the transport fate of sulfur in Minnesota groundwater.
2. Institute on the Environment Mini Grant. Co-writer. 2022. UMN Community Summit: Building Twin Cities Community-University Relationships for Environmental Research & Justice.
3. Geochemical Society Goldschmidt Student Travel Grant. 2022.

PUBLICATIONS

1. **Patsis, A.,** R. Overson, K. Skogen, N. Wickett, M. Johnson, W. Wagner, R. Raguso, J. Fant, and R. Levin. 2021. Elucidating the evolutionary history of Oenothera Sect. Pachylophus (Onagraceae): A phylogenetic approach. Systematic Botany, 46(3) : 799-811

ABSTRACTS

1. **Patsis, A.**, Santelli, C., Sheik, C. (2023). Metagenomic evidence for organic sulfur utilization in marine and terrestrial deep subsurface environments. UMN Earth and Environmental Science Student Research Symposium.
2. **Patsis, A.**, Santelli, C., Sheik, C. (2023). Organosulfur Utilization in Deep Biosphere Communities Reveals Potential Pathways Important to Biogeochemical Sulfur Cycling in the Archean. AGU Fall Meeting.
3. Jones, J. Nyblade, M., Cantner, K., Boerigter, C. E., Hassenruck-Gudipati, H., **Patsis, A.** (2022). It was a rare opportunity to pick the professor brain": Relationship building as the foundation for community-university partnerships at the University of Minnesota. AGU Fall Meeting.
4. **Patsis, A.**, Santelli, C., Sheik, C. (2022). Metagenomic insights into the role of organic sulfur in the deep biosphere. Goldschmidt 2022. *Awarded travel grand to present work.*

AMANDA PATSIS

Tate Hall, 116 Church St SE • Minneapolis, MN • patsi005@umn.edu

5. **Patsis, A.**, Santelli, C., Sheik, C. (2022). Metagenomic insights into the role of organic sulfur in the deep biosphere. Minnesota Supercomputing Institute Research Exhibition. *Awarded grand prize poster*.
6. **Patsis, A.**, Santelli, C., Sheik, C. (2022). Metagenomic insights into the role of organic sulfur in the deep biosphere. UMN Earth Student Research Symposium. *Awarded best poster*.
7. **Patsis, A.**, Overson, R., Johnson, M., Skogen, K., Wagner, W., Raguso, R., Wickett, N., and Levin, R. (2017). Elucidating the evolutionary history of Oenothera sect. Pachylophus using phylogenomics. Talk presented at the annual meeting of the Botanical Society of America.
8. **Patsis, A.**, Fant, J., Johnson, M., Levin, R., Overson, R., Skogen, K., & Wickett, N. (2016). Reconstructing the evolutionary history of *Oenothera* sect. *Pachylophus*. Poster presented at the Chicago Botanic Garden REU Symposium, Glencoe, IL. *Awarded best overall poster and presentation*.
9. **Patsis, A.**, Fant, J., Levin, R., Moore, M., Overson, R., Skogen, K., & Wickett, N. (2015). Elucidating the evolutionary history of evening primroses (Onagraceae) using exon-capture and next-generation sequencing. Poster presented at the Chicago Botanic Garden REU Symposium, Glencoe, IL.

PROFESSIONAL SERVICE

University of Minnesota – Twin Cities

Earth and Environmental Sciences Diversity, Equity, and Inclusion Committee 2020–present

- *"Pod Leader" for the Unlearning Racism in Geoscience (URGE) program*: organized biweekly discussions and coordinating development of a set of anti-racist policies to be implemented in the School of Earth and Environmental Sciences and the College of Science and Engineering
- *Member of the Inclusive Teaching sub-committee*: organize inclusive teaching workshops for department members
- *Environmental Justice Summit organizer*: obtained funds and worked with community leaders to organize an event connecting UMN researchers with environmental justice organizations in the Twin Cities to provide historically marginalized groups with access to earth science resources to support their priorities

Amherst College

Biology Student-Faculty Liaison 2016–2017

- Collaborated with faculty to address student concerns and suggestions about the biology department
- Organized events and programs to foster an inclusive environment and build community between students and faculty

PROFESSIONAL SOCIETIES

- *Geological Society of America*
- *American Geophysical Union*
- *Geochemical Society*
- *Society of Sigma Xi*
- *Phi Beta Kappa*, Massachusetts Chapter