



PhD Assistantship in Environmental Microbiology

A funded PhD position is available environmental microbiology in the Techtmann lab in the Department of Biological Sciences and Great Lakes Research Center at Michigan Technological University. We are generally interested in the applications of microbial communities to improve sustainability and address environmental issues.

Our lab is seeking a highly motivated and disciplined PhD student. The student would work as part of a project aimed at developing synthetic microbial consortia to convert marine dissolved organic matter (DOM) to electricity through novel microbial fuel cells. This is part of an interdisciplinary project focused on development of a system for conversion of marine DOM into electricity for powering underwater sensors. This student would participate in projects characterizing the ability of microbial consortia to degrade diverse DOM sources as well as the diversity and activity of electroactive microorganisms in the marine environment. Potential projects involve top-down and bottom-up approaches for assembling microbial communities. Additional studies investigating the role of microbial interactions in DOM converting microbial consortia as well as the mechanisms for enhanced electricity production will be explored.

Qualifications

1. M.S. degree in biology, microbiology, environmental engineering, or closely related field, with evidence of research success in the form of a thesis and/or publications is strongly preferred. Alternatively, a B.S. degree in biology, microbiology, environmental engineering, or closely related field demonstrated research excellence and experience at the undergraduate level may substitute for the M.S. degree.
2. Experience and interest in environmental microbiology, molecular biology, and genomics in addition to at least one of the following: data/statistical analysis in R, bioinformatics, anaerobic culturing, microbial growth assays, molecular biology and synthetic biology, microbial physiology.
3. The ability to work independently as well as in diverse research groups.
4. The ability to manage time well for individual and team tasks.
5. The ideal candidate should communicate effectively, be reliable, independent, well-organized, respectful of others, and interested in contributing to a cohesive lab environment.

How to Apply:

The preferred start date is January 2025, with some flexibility for qualified candidates. The position will remain open until filled with priority given to candidates that apply before October 31, 2024.

Interested candidates should contact Dr. Steve Techtmann (smtechtm@mtu.edu) with the subject line “Environmental Microbiology PhD Application” and the following items compiled into a single PDF.

1. A one-page cover letter that describes your experience and interests and addresses the required/desired position qualifications as well as your availability
2. A current resume or CV that lists past education, publications, and research experience.
3. Contact information for three professional references
4. Most recent academic transcripts (official or unofficial).

All qualified applicants will receive consideration, however, **only candidates selected for interviews will be contacted**. Potential candidates are required to gain acceptance into either the Biological Sciences graduate program (<http://www.mtu.edu/biological/graduate/bio-sci/>) or the PhD program in biochemistry and molecular biology (<http://www.mtu.edu/biochemistry/>).

About Us:

Michigan Technological University is a research-intensive university located in Michigan's beautiful Upper Peninsula, near the shore of Lake Superior, with many excellent recreational opportunities. Housed in the Department of Biological Sciences and the Great Lakes Research Center at Michigan Tech, the Techtmann lab studies the applications of natural and synthetic microbial communities. We use a combination of microbial physiology, ecology, computational biology, and biochemistry to gain a systems-level understanding of microbial communities and how to apply and engineer them. Visit our lab webpage for more information on us: <https://bio.sites.mtu.edu/techtmann/>