THE OHIO STATE UNIVERSITY
COLLEGE OF ENGINEERING

Two Fully Funded Ph.D. Positions (to Start in Fall 2023) in Permafrost Geotechnics Research Group at The Ohio State University

The Permafrost Geotechnics Research Group (PermaGRoup) at The Ohio State University in Columbus, Ohio, has two openings for full-time Ph.D. positions in Geotechnical Engineering. We are seeking highly motivated and independent individuals to join our team starting in Fall 2023. Full financial support will be provided through Graduate Research/Teaching Associate (GRA/GTA) appointments. Exceptional candidates will be nominated to be considered by the Ohio State Graduate School's fellowship program. We encourage students from economically or educationally disadvantaged backgrounds to apply.

Climate warming has led to widespread permafrost degradation and coastal permafrost erosion, affecting the performance of civil infrastructure and community wellbeing in the Arctic, while the existence of civil infrastructures and anthropogenic activity can also lead to direct or indirect permafrost degradation. It is therefore important to understand permafrost degradation in a geotechnical context, investigate the complex interactions among cryosphere, civil infrastructure systems, and anthropogenic processes, develop research tools to accurately project the extent of permafrost degradation and its impact on civil infrastructure systems, and create and design climate-resilient and sustainable engineering solutions. PermaGRoup invites outstanding young scholars to join force with the principal investigator and other team members to solve such pressing issues through high impact research. The Arctic-related research is highly prioritized by many funding agencies and is one of the National Science Foundation's 10 Big Ideas. A Ph.D. candidate graduated from PermaGRoup should be well prepared for a promising career.

The tentative research topics in PermaGRoup include, but are not limited to, permafrost geotechnics, cold regions engineering, Arctic engineering, multiphysics computational geomechanics (development of constitutive models and in-house source codes including finite element and other numerical methods for permafrost geotechnical applications), climate-resilient and sustainable civil infrastructures, permafrost marine geotechnics and remediations, and climate change-related permafrost and periglacial hazards. The successful candidate will develop and complete a comprehensive Ph.D. research project, maintain excellent academic standing, collaborate with researchers of diverse disciplines, present research work at national and international conferences, design and build state-of-the-art permafrost geotechnical laboratory at Ohio State, and lead field work and community outreach in the Arctic.

Requirements:

- An M.S. OR B.S. degree in civil engineering or a closely related field
- Excellent academic record; GPA>3.5/4.0 or equivalent OR top 20% of the graduating class
- Research or industry experience in cold regions engineering, numerical modeling, geotechnical laboratory testing, large-scale physical testing, or field testing
- Excellent critical thinking, problem-solving, writing, and communication skills
- Independent, self-discipline, collaborative, ambitious, and having a growth mindset

How to Apply:

Interested prospective Ph.D. students are required to submit an online application to Ohio State and complete all of the required application materials described below.

1. Two-page statement of intent
2. Two-page curriculum vitae (CV)
3. Undergraduate transcript and graduate transcript (if applicable)
4. Three letters of recommendation
5. GRE score
6. Proof of English proficiency (for international students)

Prospective students should complete the application and all additional application requirements by **November 30, 2022** (for fellowship consideration) or by **January 15, 2023** (for graduate assistantships consideration). More information can be found here. In addition to the online application to Ohio State, prospective students interested in joining PermaGRoup are encouraged to email the application package (in a single bookmarked PDF file in that order) to Dr. Min Liew *two weeks before the deadline*. Please use the following subject line in the email: PhD_Fall2023_LastName_FirstName_AffiliatedInstitution.

About the Principal Investigator:

Dr. Min Liew is an assistant professor of geotechnical engineering in the Department of Civil, Environmental and Geodetic Engineering at Ohio State, and the principal investigator of PermaGRoup. She holds a Ph.D. and M.S. in Civil Engineering from the Pennsylvania State University, and a B.S. in Civil Engineering from the University of California, Los Angeles. Her research interests include permafrost geotechnics, cold regions engineering, and climate change-related geohazards. Dr. Liew's expertise includes numerical modeling of multiple physics fields (e.g., thermal, hydraulic, and mechanical), laboratory and field testing, seismic and sensing methods, data synthesis, and survey. She has authored over 20 refereed publications and received ten awards from departmental to international levels from her alma mater, the American Society of Civil Engineers, Deep Foundations Institute, and U.S. Permafrost Association. Her research is funded by the National Science Foundation, the Department of the Interior, and the Department of Transportation. For more information, please visit her website at minliew.com.

Overview of Ohio State, the College of Engineering, and the CEGE Department:

Ohio State is a top-20 public university, enrolling over 60,000 students, and recently ranked No. 4 on Forbes' list of best U.S. employers for diversity. The Ohio State University College of Engineering's graduate program is again ranked first in Ohio and 16th among all public universities in *U.S. News & World Report's* 2023 Best Graduate Schools issue published on March 29, 2022. The Department of Civil, Environmental and Geodetic Engineering also placed among the top programs in the nation and ranked 30th among its peers within American universities. Read more here.

Overview of Columbus:

As the nation's 14th largest city, Columbus invites and embraces cultural and economic diversity. We are home to Fortune 500 companies, world-class research institutes, top-ranked hospitals, and the state's capitol. The city was named the 2015 "Intelligent Community of the Year" by the Intelligent Community Forum, called a "Midwestern style capital" by the New York Times, and one of the top ten "Best Places to Live" by Money Magazine. Columbus is home to multiple dynamic arts districts. Read more at *Experience Columbus* and *Life at Ohio State*.

Contact Information:

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