



Position Title Graduate Research Assistant in Civil and Environmental Engineering

Position Type Graduate Research Assistant (GRA)

Position Location Bethlehem, Pennsylvania 18015, United States

Project: Achieving TMDL by design: a human-centered modeling approach to simulate BMP implementation behaviors under uncertainty

Summary

The Department of Civil and Environmental Engineering at Lehigh University has a Ph.D. position available as early as Fall 2024 for the topic that focuses on simulating farmers' decision to implement water quality best management practices.

Human-Environment Interaction is usually the primary cause of impaired water bodies. When human society uses water resources for our prosperity, we also dispose of the waste back into the environment. Total Maximum Daily Load (TMDL) is an essential tool to address the degradation of water quality issues and the implementation of best management practices (BMPs) to achieve TMDL targets requires practitioner collaboration, data sharing, and stakeholder engagement. The goal of this project is to advance our knowledge in water quality management through the lens of three Human-Environment Interaction theories via an integrated modeling-data-survey method while considering human decision (i.e., BMPs adoption) uncertainties.

The successful candidate will be supervised by Professor Ethan Yang in the Department of Civil & Environmental Engineering and collaborate with Professor Anil Kumar Chaudhary from the Pennsylvania State University and gain experience in water quality process-based model and agent-based models. The successful candidate will also interact with faculty, scientists, and graduate students with diverse backgrounds in computer science, applied mathematics, biostatistics, and economics in the Catastrophe Modeling Center at Lehigh.

Desired Qualifications

- Academic background in Civil and Environmental Engineering, Data Science, Environmental Science, Water Resources Management, Geography, Computer Science or similar fields;
- Coding experience in Python, R, Matlab, or C++;
- Basic understanding of climate change impact assessment;
- Any previous water quality or sediment modeling experience (e.g., SWAT, APEX, HSPF, etc.) is a plus;
- Strong communication skills and can work effectively in a multidisciplinary team

Contact



Please kindly forward the message to interested candidates and have them send 1) their CV with a list of publications, 2) a representative paper, 3) proof of English proficiency (international applications only), and/or 4) questions to Professor Ethan Yang: yey217@lehigh.edu.

Thanks!