



University of Massachusetts Amherst

GUZMAN
SOIL & WATER
RESEARCH
GROUP



Position Title: Graduate Research Assistant in Civil and Environmental Engineering

Position Type: Graduate Research Assistant (GRA)

Position Location: Amherst, Massachusetts 01003, United States

Project:

Water Quality in DCR Reservoirs 2024-2028

Summary:

The Department of Civil and Environmental Engineering at the University of Massachusetts Amherst has a Ph.D. position available as early as May 2024 for research that focuses on water quality (pertaining to de-icing agents, temperature variations, and nutrients) in the reservoirs that supply drinking water to Boston in collaboration with the Department of Conservation and Recreation Reservoirs.

Modeling drinking water reservoir quality is affected by the interaction of different natural systems (e.g. atmosphere and watershed) and human systems (e.g. infrastructure and land use). Therefore, different spatial scales, heterogeneity, and long-term impacts should all be incorporated into analysis of water quality at the reservoir scale. Through collaboration with the Department of Conservation and Recreation (DCR), this project will advance our understanding of contaminant presence and transport into and through the reservoir watershed system using hydrological models and the CE-QUAL- W2 reservoir model.

The successful candidate will be supervised by Professor Christian Guzman in the Department of Civil and Environmental Engineering and gain experience in computational modeling, analysis of long-term water quality data, and environmental tracers. The successful candidate will also interact with faculty, scientists, and graduate students with diverse backgrounds in engineering, computer science, applied mathematics, and physics in the Environmental and Water Resources Engineering program at UMass Amherst.

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 hydrology, surface water quality modeling, and climate change impact assessment;
- Any previous hydrological or reservoir modeling experience (e.g. CE-QUAL-W2) 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 (i) their CV with a list of publications, (ii) a representative paper/writing sample, (iii) proof of English proficiency (international applicants), and/or (iv) questions to Professor Christian Guzman : cdguzman@umass.edu.