

Title: Postdoctoral Associate

Location: Michigan Technological University, Houghton, MI

Position description:

A postdoctoral position is available at the Michigan Technological University to study coastal hydrodynamics and nearshore sediment transport processes on the Great Lakes to promote resilient coastal communities. People on the Lake Michigan coast face challenges in the management of the 1640 miles of shoreline under the changing coastal environment. The challenges become exacerbated due to excessive shore and beach erosion; significant bluff and dune recession; and failing/impaired coastal protection structures by climate or weather hazards like extreme lake level fluctuations, severe storm surges, and intense freak waves. This research position will focus on wave-current-sediment processes to address the knowledge gap of nearshore sediment transport processes and assess cumulative impact of small-scale shore protection structures on coastal erosion and shoreline changes over extreme lake level fluctuations and severe storm events.

This postdoctoral associate will be primarily advised by Dr. Pengfei Xue, Associate Professor in the Department of Civil and Environment Engineering, and Director of the Numerical Geophysical Fluid Dynamics Laboratory at Michigan Tech's Great Lakes Research Center. We expect the postdoctoral associate to have the ability to work effectively in both numerical modeling and data analysis and to play an important leadership role in interdisciplinary research.

Responsibilities:

- Review relevant literature
- Conduct numerical modeling
- Prepare manuscripts for publication in peer-reviewed journals
- Work and coordinate with other members of the research team including undergraduate and graduate students, faculty and research collaborators

Preferred qualifications: Expertise in coastal hydrodynamics, nearshore wave and sediment transport, scientific writing experience including publications, report, and grant writing.

Preferred Start date: January 1, 2021. This appointment is for 12 months, with additional support available upon satisfactory performance and identification of additional sponsored research.

Interested? Submit a cover letter, a curriculum vitae, and a list of three professional references (including contact information) to Dr. Pengfei Xue at pexue@mtu.edu.