

**UNIVERSITY OF MAINE**  
School of Earth and Climate Sciences  
(Co-Advised with the Department of Civil and Environmental Engineering)

**PHD RESEARCH ASSISTANTSHIP POSITION**

The School of Earth and Climate Sciences (Dr. Sean Smith) is pleased to announce the opening of a new PhD research assistantship position that will be co-advised by the Dept. of Civil and Environmental Engineering (Dr. Melissa Landon). Proposed research will be focused on fluvial geomorphology, civil engineering (geotechnical and water resources), and collaborative solutions-driven watershed research in Maine. The person selected for this position will participate in exciting interdisciplinary research activities related to river/stream corridors and best practices for engineered roadway crossings in Maine's beautiful post-glacial watershed drainage networks. Examples of proposed research targets include:

- Development of predictive relations for Maine stream channel dimensions and characteristics;
- Quantification of river/stream corridor dynamics based on field measurements and modeling;
- Interpretation of fluvial forms and floodplain features as related to landscape settings, glacial landforms (e.g., deposits), historical alterations by industries, and Traditional Ecological Knowledge (TEK) derived from Native American cultures;
- Design of sustainable infrastructure in rural areas of the state dominated by agricultural activities.

Types of research activities may include the following:

- Field work, including topographic surveys, sediment sampling (e.g., grab samples in stream channels and core samples from sediment deposits), stream flow measurements;
- Laboratory work, including sediment grain size and bulk density analyses, sediment core sample prep for isotopic dating analyses;
- Modeling of terrain, watershed hydrology, channel and floodplain hydraulics, and sediment transport;
- Participation in stakeholder engagement (e.g., interviews, meetings), interdisciplinary collaborations, and historical literature reviews.

A qualified candidate will have an academic background that includes the following:

- Minimum of B.S. in earth science, civil engineering, geologic engineering, or related disciplines;
- Two semesters of calculus and physics, and basic skills with spatial data and quantitative analyses.

Preference will be given to applicants with the following background:

- M.S. degree and previous experience with field work, lab work, and numeric modeling;
- Undergraduate coursework in soil mechanics, foundation design, and water resources engineering (surface water hydrology, ground water hydrology, etc.); and/or
- Experience working on interdisciplinary, stakeholder engaged, and solutions-driven research.

The assistantship will include tuition, annual stipend of \$21,000, and one half health insurance, all of which can be renewed yearly with satisfactory performance reviews. Start date is September 2018. Applications should be sent by July 6, 2018 to [sean.m.smith@maine.edu](mailto:sean.m.smith@maine.edu), including resume, transcripts, and cover letter describing research and professional interests.