



THE OHIO STATE UNIVERSITY

THE OHIO STATE UNIVERSITY  
DEPARTMENT OF EVOLUTION,  
ECOLOGY, AND ORGANISMAL BIOLOGY



AQUATIC ECOLOGY LABORATORY

## POST-DOCTORAL SCIENTIST POSITION IN WATERSHED MODELLING

The Ohio State University – Ecological Engineering Program & Aquatic Ecology Laboratory

**Description:** Drs. Jay F. Martin and Stuart A. Ludsin have 2 years of support for a Post-doctoral Scientist to contribute to an ongoing biophysical modeling project that is focused on Lake Erie and its watershed.

The incumbent will lead a major modeling effort in support of a funded 4-year NSF Combined Human and Natural Systems project that is investigating linkages among climate change, ecology, and human behavior (e.g., farmers, decision-makers) in the largely agricultural Maumee River watershed, which is a primary source of sediments and nutrients to western Lake Erie. The Post-doc's primary responsibilities will be two-fold: **1)** predict how climate and watershed land use interact to affect downstream (Lake Erie) ecosystem attributes (e.g., water clarity, harmful algal blooms, fisheries production) by integrating an existing SWAT watershed model that is driven by climate and land use/management with established statistical models from western Lake Erie; and **2)** to determine if changes in human behavior across the watershed can offset the expected impacts of climate change on Lake Erie ecosystem services. This latter objective will be achieved by modeling ecosystem scenarios in which a regional climate model is used to drive linked, spatially-explicit models of public policy, farmer behavior, land management change, and the biophysical system. Because the SWAT model has been calibrated and validated, the successful candidate can immediately begin performing management and climate scenarios, as well as publishing results.

The Post-doc will be co-supervised by Drs. Martin and Ludsin and work closely with an interdisciplinary team of Ohio State faculty, researchers, and students that includes social scientists, economists and communication specialists.

The Post-doc is expected to write manuscripts, present scientific papers, and help mentor students that are conducting related field, laboratory, and modeling research. Opportunities, if interested, would exist to participate in field and lab work, gain university teaching experience, attend training workshops, and write research grants. Support to attend scientific meetings will be provided annually.

**Location:** The incumbent would join a dynamic, interactive group of faculty, post-docs, and students at the Aquatic Ecology Laboratory (AEL; [www.ael.osu.edu/](http://www.ael.osu.edu/)), which is housed within the Department of Evolution, Ecology, and Organismal Biology ([www.eeob.osu.edu/](http://www.eeob.osu.edu/)), or the Ecological Engineering Program, which is located within the department of Food, Agricultural & Biological Engineering ([www.fabe.osu.edu/fabe/](http://www.fabe.osu.edu/fabe/)). Office space would be provided on Ohio State's main campus in Columbus.

**Qualifications:** A successful applicant will be creative, motivated, and capable of working both independently and cooperatively within an interdisciplinary group. Minimum qualifications include a PhD in ecology, engineering, aquatic sciences, biostatistics, or a related field. Strong quantitative and communication skills are required. Ideal candidates will have extensive experience using SWAT models to analyze watershed hydrology and nutrient transport. Additional experience in ecological engineering, aquatic ecology and familiarity with GIS is desired.

**How to apply:** Electronically submit a cover letter, CV, and names/contact information of three references to Stuart Ludsin at [ludsin.1@osu.edu](mailto:ludsin.1@osu.edu) and Jay Martin at [martin.1130@osu.edu](mailto:martin.1130@osu.edu) (please put "NSF-CHNS Post-Doc" in the subject line). We have begun reviewing applications and will continue until a suitable candidate is found. An ideal start date would be March 2014. Feel free to direct questions to Drs. Ludsin and Martin.

*The Ohio State University is an equal opportunity/affirmative action employer. Women, minorities, Vietnam-era veterans, disabled veterans and individuals with disabilities are encouraged to apply.*