

Ecological Science/Engineering PhD Student Opportunity

I am recruiting two PhD students to join the Landscape Flux Group within the Department of Biological and Agricultural Engineering at the University of Arkansas in Fayetteville. These positions can start immediately, in January 2015, or in summer or fall of 2015. Students should have a background in one or more of the following disciplines: wetland ecology, biogeochemistry, biometeorology, environmental engineering, watershed or surface-water hydrology, agricultural sciences or engineering. Some ability to code in Matlab or a related language is beneficial, as is experience in gas flux measurements using either chamber-based or eddy covariance methods. These positions will require a valid US driver's license.

My research group develops budgets of water, energy, and carbon in different wetland ecosystems. This research uses micrometeorological techniques to evaluate land-atmosphere fluxes of water vapor, carbon dioxide, methane and heat. For example, the eddy covariance technique is used to determine the turbulent flux within atmospheric boundary layers, whereas hydrological methods are used to estimate the horizontal fluxes of dissolved carbon in surface and subsurface waterways. Together these methods quantify major environmental fluxes that serve as inputs for process-based predictive modeling and landscape management.

The PhD research projects will be based in agriculturally-affected wetlands in Arkansas and low-lying permafrost tundra wetlands in the Arctic. Both projects will use flux budgeting methods to understand the landscape's ecological and hydrological functioning. This research will connect between site dynamics and climate drivers with the goal of creating simplified process representations used at the scale of the global climate model. Resources are available for travel, equipment and international collaboration.

Additional information about graduate admission requirements, possible supplemental fellowships, and material about the department may be found here: <http://www.baeg.uark.edu/1932.php>. Information about the university and its land grant mission may be found here: <http://arkansas.edu/about/index.php>. Furthermore, the university offers competitive Doctoral Academy Fellowships, which are awards over and above the departmental stipend. Details on these opportunities are available here: <http://grad.uark.edu/future/funding/index.php>.

The University of Arkansas is in the middle of a significant period of growth in both its student numbers and in raising its profile in research and innovation. There are significant opportunities here for collaborations on-campus in water, soil, nanotech, and other laboratories. Fayetteville Arkansas is a beautiful and culturally vibrant college town amidst the Ozark Mountain Range. There are plentiful outdoor recreational activities, good restaurants, and proximity to the world-class art collection of the Crystal Bridges Museum of American Art.

Please email me, Dr. Benjamin Runkle (brrunkle@uark.edu), with a CV, unofficial transcript, the names of two references, a sample of your scientific writing, and a description of your research interests.