

University of Missouri

DEPARTMENT OF BIOMEDICAL, BIOLOGICAL, AND CHEMICAL ENGINEERING

Graduate Research Opportunities in Water Studies and Sustainability

– Interested Students Please Visit University of Missouri Academic Booth at AGU Fall Meeting –

Our research group at the [University of Missouri](#) is seeking 1-3 motivated students to pursue MS/PhD studies in water and natural resources management. Students can enroll at either the College of Engineering (at [Bioengineering](#)) or the College of Agriculture, Food and Natural Resources (at the [School of Natural Resources](#)).

Expected start dates are spring or fall of 2019. The successful candidates will have opportunities to pursue independent research in one or more of the following research projects:

- 1) Developing, testing, and validating watershed-scale hydrological and biogeochemical cycling models for the Mississippi-Missouri River Basin to evaluate the spatiotemporal variability, impacts of land management, and weather/climate on water, suspended solids, nitrogen, and phosphorus fluxes.
- 2) Developing watershed-scale hydrological models to evaluate the efficacy of conservation practices to reduce suspended solids, fertilizer and pesticide runoff from point-, and diffuse-pollution sources in Missouri watersheds.
- 3) Evaluating the impacts of wetland flooding on water table dynamics at Big Oak Tree State Park in southeast Missouri. Research activities include field measurements, monitoring, and simulation modeling.
- 4) Measurement, estimation and validation of actual evapotranspiration (ET) in agricultural landscapes in central Missouri. Research activities include a) Setting up large aperture scintillometers (LAS) and measuring surface fluxes over agricultural landscapes, b) Developing/validating evapotranspiration algorithms using LAS fluxes, and c) Validating ET estimates from simulation models and remotely-sensed data.
- 5) Evaluating deficit irrigation methods to improve water management in smallholder rainfed agriculture. Research activities include setting up and monitoring smallholder agricultural plots at the University of Missouri Agricultural Experimental Station in Columbia, MO. Opportunities to collaborate with researchers in South Africa and the Democratic Republic of Congo are included.

Successful applicants are expected to conduct high-quality research, present research findings at conferences, publish in peer-reviewed journals, and assist in teaching. A competitive stipend, full tuition waiver, and health benefits will be provided to qualified candidates.

Successful candidates will join a dynamic, interactive group of students and faculty at the University of Missouri's [Department of Bioengineering](#) and the [School of Natural Resources](#). Students will also have opportunities for collaborative research with scientists at [USDA-ARS Cropping Systems and Water Quality Research Group](#), [USGS Columbia Environmental Research Center](#), [Missouri Cooperative Fish and Wildlife Research Unit](#) and the [MU Informatics Institute](#).

Qualifications: A BS and/or MS degree in a science or engineering discipline (e.g. Agricultural, Biological, Civil and Environmental Engineering, Environmental Sciences, Atmospheric Sciences, Mathematics, Physics or related field). Strong writing, quantitative, and analytical skills are essential. Successful candidates will be creative, motivated, and capable of working independently as well as collaboratively.

Application Instructions: Please email Noel Aloysius (alloysiusn@missouri.edu) in a single PDF: 1) A letter of interest that briefly describes educational and research background, as well as research interests/goals (2-3 pages); 2) A curriculum vitae that also includes GRE and, if applicable, TOEFL/IELTS scores; 3) Unofficial copies of transcripts; and 4) Contact information of three professional references (referees will not be contacted initially). Please write "Graduate Research Position" in the subject line. Review of applications will begin immediately.

Diversity Commitment: The University of Missouri is fully committed to achieving the goal of a diverse and inclusive academic community of faculty, staff and students. We seek individuals who are committed to this goal and our core campus values of respect, responsibility, discovery and excellence.

The University of Missouri is an equal opportunity/affirmative action employer.



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