**Interdisciplinary Ph.D. Position at the Nexus of Soil Biogeochemistry, Hydroecology, and Simulation Science**

We seek a Ph.D. student to join our research team exploring how soil processes govern water quality as part of an interdisciplinary NSF-funded Signals in the Soil project (https://www.nsf.gov/awardsearch/showAward?AWD_ID=2034430&HistoricalAwards=false). This student will become an integral member of our team as we develop (1) novel sensing technologies to measure high-frequency *in situ* nitrate, conductivity, pH, and temperature signals and (2) simulation models to integrate and explore these signals to test hypotheses that will advance our mechanistic understanding of coupled hydrologic, geophysical, and biogeochemical processes in soils.

Job Description: We seek a student who is curious and excited to work at the nexus of soil biogeochemistry, hydroecology, and simulation science. This student will develop knowledge, technical skillsets, and critical thinking abilities as they conduct interdisciplinary research exploring how soil processes govern the fates and fluxes of nutrients in agricultural landscapes. The student will develop research questions, hypotheses, predictions, and methods and present and publish their findings in collaboration with a highly supportive, energetic, and motivated team. This student will have the opportunity to participate in interdisciplinary and collaborative research teams, serve as a mentor for undergraduate and master's students, and play a leadership role in implementing the broader impacts activities for this project. The student will be provided a competitive stipend, benefits, and tuition waiver. Anticipated start date is fall 2021.

Requirements: No particular technical skillset is required, but applicants must be self-motivated, creative, collaborative, organized, and have a willingness to develop strong leadership skills in generating publishable research products. Preferred applicants will have a master's level degree and research experience in a field related to biogeochemistry, reactive transport modeling, soil physics, hydroecology, agronomy, geomorphology, engineering, or computer science. Applicants must demonstrate a commitment to engage with and be inclusive of team members from diverse backgrounds.

Team: Our research team is led by PI Stephanie Ewing and co-PIs Stephan Warnat, Ann Marie Reinhold, and Robert Payn. Stephanie Ewing will be the primary advisor for this student, and the student will have the opportunity to be co-advised by Ann Marie Reinhold or Robert Payn, depending on their interests, needs, and career goals. The student will join the dynamic and productive Land Resources and Environmental Sciences Department at Montana State University in Bozeman (https://landresources.montana.edu/grad/gradprogams.html). The student will also have collaboration opportunities with the multidisciplinary, multi-institutional NSF EPSCoR CREWS project (https://www.mtnsfepscor.org/projects/crews). Our team highly values diverse backgrounds and perspectives. We are committed to taking actions to be supportive and inclusive of all members, especially those who have traditionally been minoritized in STEM fields. In addition to our research team's diversity and inclusivity requirement, MSU offers resources and support for its diverse student body (https://www.montana.edu/diversity/resources/index.html).

Application Instructions: Email the following to Drs. Stephanie Ewing (stephanie.ewing@montana.edu), Ann Marie Reinhold (annmarie.reinhold@montana.edu), and Robert Payn (rpayn@montana.edu) with the subject "SitS PhD Applicant": (1) a cover letter describing your research background, interest in the project, and career goals; (2) C.V.; (3) copies of undergraduate and graduate transcripts (official or unofficial); and (4) names and contact information for three professional references. GRE scores can be submitted but are not required. Applications received by January 21, 2021 will receive priority consideration, but the position will remain open until June 1, 2021 or until filled. Applications from women and traditionally underrepresented groups in STEM fields are strongly encouraged.