M.S Assistantship in Soil Insect Ecology and Biogeochemistry

The Soil Insect Ecology Laboratory at Purdue University (Dr. Douglas Richmond) seeks a M.S. candidate to advance ongoing research focusing on the biogeochemical dimensions of the invasive, soil-dwelling larval stage of the Japanese beetle (JB). The successful candidate will work as part of an interdisciplinary team of scientist exploring the impact of insect invasion on soil C/N cycling, microbial communities and soil organic matter dynamics as part of a USDA-NIFA-AFRI funded collaboration between Purdue University and the University of Wisconsin. This is a 2-year appointment based in West Lafayette, IN. The objectives of the project are to: 1) Quantify the impact of JB on soil CO2 and N2O flux and explore how JB influences the quantity and quality of soil organic matter. 2) Explore linkages between soil organic matter and JB feeding strategy using a microscale forensic organic geochemical tool to examine JB gut contents and soil particulate organic matter. 3) Quantify changes in soil microbial diversity (bacteria, archaea, and fungi) associated with JB invasion, and quantify microbial genes associated with soil C and N cycling. The successful candidate will work with Drs. Douglas Richmond, Michael Scharf, Ronald Turco, and Timothy Filley at Purdue University, and Dr. Chris Williamson at the University of Wisconsin. Responsibilities: • Work with Principle Investigators to establish field sites and sampling regimes in Indiana and Wisconsin. • Lead field and laboratory efforts to related directly to objective 1 and 2. • Develop and present (written and oral) products suitable for scientific audiences explaining the purpose and results of the project. • Produce and defend a Master’s thesis based on the described research. • Create scientific manuscripts based on research that are suitable for publication in soil ecology and entomology journals. • Participate in scientific meetings and engage with colleagues and collaborators pursuing related research questions. • Provide guidance and assistance to technicians, students, and others carrying out related work. Preferred Qualifications: • B.S. in Biology, Entomology, Ecology, Environmental Science or related field. • Strong interpersonal and communication skills and the ability to work within a large interdisciplinary team. Preferred start date is Summer 2018. The assistantship provides an annual stipend of $20,000 per year plus benefits, and graduate tuition and fee remissions totaling $10,400. Interested applicants should submit a single pdf composed of cover letter, CV, and names and contact information for 3 references to drichmond@purdue.edu by March 1, 2018. Please use the subject header “JB MS assistantship”. The cover letter should include (1) a summary of the applicant’s goals (2) the applicant’s earliest possible start date. About Purdue University: The Department of Entomology at Purdue is an integral part of the College of Agriculture, one of the world’s leading colleges of agricultural, food, life, and natural resource sciences, ranked eighth globally in the 2016 QS World University Rankings. The College is deeply committed to the three land-grant missions (teaching, research, and extension), to international activities and perspectives that span all missions. The College has 11 academic departments and includes 325 faculty, 2782 undergraduate students, and 690 graduate students. For more information on the Entomology Graduate Program, Purdue University and West Lafayette, Indiana see: http://www.entm.purdue.edu/prospective-grads/, http://www.purdue.edu/ and http://www.homeofpurdue.com/