UNIVERSITY OF MARYLAND

Graduate Research Assistant (GRA) Position Description

NSF INFEWS/T1: Decision-Driven Advances in Integrated Assessment Modeling of the Food-Energy-Water Nexus

Summary

The University of Maryland (UMD) invites applications for a doctoral student position focused on forging innovations at the nexus of food, energy, and water (FEW) systems. Sponsored by the National Science Foundation (NSF), this graduate research assistantship will include tuition waiver, a competitive graduate stipend, and health benefits. The position is available beginning in Fall semester 2020.

The doctoral student will join an interdisciplinary, multi-institutional research team developing innovative approaches to integrated planning of FEW systems in the context of major international sustainability challenges in Argentina and Uruguay. Benefiting from robust relationships with stakeholders, this research will sit at the exciting and consequential interface between science and decision-making. The student will work under the direct supervision of Dr. Thomas Wild (http://blog.umd.edu/wildgroup/), Assistant Research Professor at the Earth System Science Interdisciplinary Center, with co-advising from an experienced UMD team with diverse expertise, including Dr. Leon Clarke, Dr. Fernando Miralles-Wilhelm, and Dr. Mohamad Hejazi. As part of a large multi-institutional project, the student will also join a cohesive research team that includes collaborating researchers from Tufts University and Arizona State University. The student will have the flexibility to enroll at UMD in an academic program consistent with their background and interests.

Research Details

Some of the most important challenges that society faces, such as climate change and sustainable development more broadly, are strongly shaped by FEW system decisions made at the scale of river basins and sub-basins. However, regional FEW system planning is also shaped by national and global dynamics, such as climatic and socioeconomic change. The student will contribute to developing a novel modeling platform that can effectively couple sub-regional FEW resource and infrastructure systems together at the regional level and connect them to national and global socioeconomic and climatic forces to allow for comprehensive scenario exploration and uncertainty analysis. A unique aspect of this research will be to incorporate representations of multi-sector human institutions and decision making (e.g., regarding resource allocation and infrastructure deployment) into the computer modeling tools. The student will work with stakeholders in Argentina and Uruguay to co-develop these decision-relevant modeling advances. More details about the project are available at the link below:

https://www.nsf.gov/awardsearch/showAward?AWD_ID=1855982&HistoricalAwards=false

Desired Qualifications

Background in one of the following disciplines is highly desirable: hydrology/water resources systems, energy systems, agricultural/land systems, systems analysis, and/or applied economics. Preference will be given to candidates who possess strong computational skills, with programming experience in R, Python, Matlab, C/C++, or similar language. Successful candidates are expected to be highly motivated, have strong communication skills in oral and written English, and work effectively in a multidisciplinary team.

Contact

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