

Graduate Research Assistant (GRA) Position Description**NSF INFEWS/TI: Decision-Driven Advances in Integrated Assessment Modeling of the Food-Energy-Water Nexus Research****Summary**

This position will support a doctoral student to work in an interdisciplinary, multi-institutional team on international sustainability research about the food-energy-water (FEW) nexus in Argentina and Uruguay. Starting in the 2021 Fall semester, the student will work under the supervision of Dr. [Jonathan Lamontagne](#), Assistant Professor in Civil and Environmental Engineering at [Tufts University](#).

The doctoral student will join a research team developing innovative approaches to integrated planning of FEW systems in the context of major international sustainability challenges in Latin America. Building on existing relationships with stakeholders, this research sits at the interface of fundamental science and application. The student will also join a dynamic research team that includes researchers from the [University of Maryland](#) and [Arizona State University](#).

Grant Summary

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

Research Details

Within the context of the broader project, the specific goals for this research are to identify and characterize uncertainties confronting sub-regional infrastructure decisions, to identify planning portfolios that are robust to those uncertainties, and to communicate FEW system vulnerabilities to stakeholders. The research will include exploration of how uncertainties acting at vastly different scales interact and propagation to impact sub-regional FEW systems in different Latin American contexts. The research will also include multi-objective robust decision making (MORDM) analyses for sub-regional planning problems in Argentina and Uruguay, culminating in a web-deployable tool for stakeholder engagement. This research aims to understand which factors, from global to regional, are most important for regional FEW system decision making, and to facilitate joint institutional decision making.

Desired Qualifications

Background in one of the following disciplines is highly desirable: hydrology/water resources systems, energy systems, agricultural/land systems, and/or systems analysis. Preference will be given to candidates with strong computational skills, with programming experience in R, Python, Matlab, C/C++, or a similar language and high-performance computing experience. Successful candidates are expected to have strong communication skills, and to work effectively as part of a multidisciplinary team.

Contact

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