

## **DENIN Environmental Scholars Internships**

Dates of internship: June 10, 2019 – August 16, 2019

Location: University of Delaware, Newark, DE 19711

Number of positions available: 1

Faculty Mentor: Dr. Kent Messer or Dr. Leah Palm-Forster

Graduate Student Mentor:

Professional Staff Mentor: Dr. Olesya Savchenko

**Project Title:** Enhancing Farmers' Adoption of Decision Support Tools to Improve Irrigation Management in Delaware (Social Dimensions)

### **Research Description:**

Agricultural irrigation is by far the largest consumer of water in the U.S. Growing water shortages and uncertain effects of climate change require optimization of irrigation practices to reduce water demand at the farm level. Using insights from behavioral sciences, UD researchers will design a Randomized Control Trial (RCT) to understand decisions of agricultural producers to adopt irrigation management tools. Specifically, we will study the decisions of agricultural producers in Delaware to adopt the Delaware Irrigation Management System (DIMS) designed to assist farmers in optimizing the amount of water they use for irrigation, reducing crop stress, improving crop yield and decreasing nutrient loss. This research will also explore several behavioral interventions aimed at encouraging voluntary adoption and use of DIMS by Delaware agricultural producers. By addressing various aspects of water use behavior among agricultural producers, this project will generate policy relevant insights on how to effectively incentivize farmer adoption of agri-environmental decision support tools.

### **Research Questions:**

1. What factors influence Delaware farmers' decisions to adopt a decision support tool such as DIMS?
2. What types of incentives and behavioral interventions can increase the adoption and continuous use of DIMS by agricultural producers in Delaware?
3. What are the behavioral impacts of providing agricultural producers with information about optimal irrigation management practices on adoption and continued use of DIMS?

Research Interns will be engaged primarily with the research project described above, but interns will have opportunities to be involved in other projects that are part of the Social

Dimensions research for Project WiCCED ([projectwicced.org](http://projectwicced.org)); See Internship Descriptions for the following projects to learn about other Social Dimensions research opportunities:

- Social Networks and Oyster Consumption
- Enhancing Farmers’ Adoption of Decision Support Tools to Improve Irrigation Management in Delaware
- Experimental economics study of groundwater management

**Student Learning Objectives: Professional and Research Skills**

The DENIN scholars program helps students develop skills that foster future research interest and professional success. This internship focuses on the development of the following professional and scientific skills.

Broad Professional Skills	Specific Skills
Planning and time management	Ability to set and complete specific foals of varying scope
Express ideas in writing	Write descriptions of research procedures, create a poster of your research, communicate via email professionally and in a timely and consistent fashion
Express ideas verbally	Discuss research activity in lab meetings, present poster at symposium
Work independently	Independent work ethic – work independently or with peers to problem solve
Develop professional network	Work with lab team and broader Social Dimensions and Project WiCCED team to develop professional network, and utilize peer-groups to problem solve.
Maintain professional attitude and work principles (i.e. integrity, responsibility, diligence, following ethical standards)	Be on time, learn procedures, ask questions if unsure, respect everyone you work with, complete and maintain Institutional Review Board (IRB) Certification to work with human subjects in research

Broad Scientific Research Skills	Specific Skills
Understand scientific terms	Behavioral, experimental and environmental economics
Locate scientific articles and resources	Conduct searches for literature on environmental valuation
Understand research questions	
Read and understand research articles	
Apply research tools and techniques in research experiments	Participate in the development of and data collection of surveys to quantify willingness to pay for water quality improvements.
Understand, apply, and explain scientific concepts and theories	In lab meetings, with lab personnel, and during research symposium

**Prerequisites:**

None, but introductory experience with economics, crop science and/or computer science, is preferred.

**Work Environment and Expectations:**

Office/economics laboratory environment: Work will primarily take place in 025 Townsend Hall. Hours are flexibly determined between student and mentor.

Students will work part time during the fall and spring semesters, and full time during UD Winter Session, January 7-February 8, 2019. Students will also participate in a retreat, communications workshop, and end-of-internship spring symposium.

**Stipend:**

\$3,500 (Direct deposit is required.)

**Funding Source:**

National Science Foundation, Delaware EPSCoR Track I

**How to apply:**

[https://ugresearch.udel.edu/PUB\\_Program.aspx](https://ugresearch.udel.edu/PUB_Program.aspx)