**DENIN Environmental Scholars Internships**

Dates of internship:

Location: Center for Experimental and Applied Economics, Townsend Hall, University of Delaware, Newark, DE 19711

Number of positions available: 1-2

Postdoctoral Research Fellow Mentor: Dr. Laura Paul

**Project Title:** Homeowner Valuation of Information about Septic System Condition (Social Dimensions)

**Research Description:**

Onsite septic systems are prevalent across Delaware and the coastal plains of the Eastern United States. However, there is limited monitoring or enforcement of the condition of these systems. Some data suggest that between 20% and 80% of onsite septic systems are not functioning as intended and are causing significant environmental harm. One study of the Chesapeake Bay found that the estimated two million neighboring septic systems contribute about nine million pounds of nitrogen per year to the Bay.

This project investigates homeowner behavior with respect to septic system maintenance and information seeking. Using an experimental approach, we will measure homeowner willingness to pay (or willingness to accept) for a pump out of their home system, or for information on the condition of their system. This paper will also investigate available data on septic tank permits in Delaware to simulate the potential impacts of differing mechanisms aimed at reducing negative environmental externalities. This information is important for developing effective policy and regulation of septic systems in coastal areas of Delaware.

**Research Questions:**

1. Do homeowners have a positive value of information about the condition of a septic system?
2. What is homeowner willingness to pay for (or cost share) a pump out of a septic system?

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); See Internship Descriptions for the following projects to learn about other Social Dimensions research opportunities:

* Farmers’ Persistence with Agricultural Practices: A GIS investigation
* Homeowner Valuation of Information about Septic System Condition
* Encouraging Participation in Citizen Science for Coastal Water Data Collection
* Homeowner Uptake of Coastal Buyouts

**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.

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| 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 |

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| 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, computer science and/or GIS skills 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.

**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>