**DENIN Environmental Scholars Internships**

Dates of internship: November 1, 2020 through May 15, 2021

Location: Based on the ever-changing campus response to COVID student projects can be conducted in-person, virtually or hybrid depending on safety, feasibility and campus protocol. **This internship will be virtual.** If it becomes safe, feasible, and allowed through campus protocol, working in person will take place at theCenter for Experimental and Applied Economics, Townsend Hall, University of Delaware, Newark, DE 19711

Number of positions available: 1

Faculty Mentor: Dr. Kent Messer

Postdoctoral Research Fellow Mentor: Dr. Sean F. Ellis

**Project Title:** Persistence with Cover Cropping: A Remote Sensing Investigation of Delaware Farmers

**Research Description:**

This project will combine survey data with remote sensing generated data to evaluate persistence of best management practices by farmers after initial adoption. For example, it will consist of analyzing the frequency of cover crops grown over several years in terms of type and areal extent. Cover cropping minimizes nitrogen and phosphorus loss from soil, as well as prevents these chemicals and other sediments from polluting surface water and the surrounding environment. Although cover cropping is a proven and effective practice, persistence after initial adoption remains unknown.

**Research Question(s):**

1. Using data from survey and remote-sensing and Stata and R software tools, what is the best management practice persistence rate of cover crops after initial adoption?

**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:**

Experience with Stata and/or R is preferred. A willingness to learn both is required. Other coding experience, such as shell scripting, is a plus. Introductory experience with economics (e.g., successful completion of APEC 100, APEC 150, ECON 101, or similar course) is required. Other economics courses are a plus.

**Work Environment and Expectations:**

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 6-February 8, 2020.

**Stipend:** $4,000. Direct deposit is required.

**Funding Source:** National Science Foundation, Delaware EPSCoR Track I

**How to apply:** https://ugresearch.udel.edu/PUB\_Program.aspx