Resilience CAP Summer Internships
University of Maryland, Department of Entomology
2023

Resilience CAP (RCAP) is a nation-wide sustainability/forage grant looking at the application of plant diversity, crop perenniality, and economic circularity in agroecosystems. RCAP collaborators from universities across the US are hosting student interns to work on projects related to the RCAP grant's research questions on sustainable agriculture. The internships provide opportunities for students to gain hands-on research experience, design and complete an independent project, and learn about research taking place across multiple disciplines of agroecology. Interns will be based at the University of Maryland but will interact with students across the country to learn and share about the research occurring in their labs. Below is a description of the Resilience CAP Summer Internship opportunity at the University of Maryland, Department of Entomology.

Three University of Maryland internships will be hosted by the Lamp Lab, under the direction of Dr. Bill Lamp, Professor of Entomology. His research is interdisciplinary, applying Integrated Pest Management within sustainable agriculture systems, with a focus on forage-based agriculture. His research has included plant-insect interactions, aquatic entomology, non-target risk analysis, and biological control. The internship focuses on beneficial arthropod biodiversity in agricultural settings. Additional information on the Lamp Lab can be found at: [lamplabmd.com]

Details of the Resilience CAP Summer Internship:

Learning Outcomes. By the end of the summer, the intern will:

1. Understand the breadth and depth of the Resilience CAP project.
2. Participate in all aspects of research within the Lamp Lab.
3. Develop and present an independent research project related to sustainability and entomology.
4. Participate in a Resilience CAP Symposium over Zoom at the end of the summer.

Possible Independent Projects: Although interns will get broad experience on all parts of the lab, they will primarily work on one of the following projects. Each of these projects has the opportunity for the intern to do an independent research project. When applying for the position, please rank these projects in order of interest.

- Insect Biodiversity: This study looks at the effects of diverse, perennial, circular agroecosystems on insect populations. Using sticky cards, flying insects are collected on a variety of farms across the US for identification and analysis. Our hypothesis is that implementing management practices that foster any one of these conditions (i.e., plant diversity, crop perenniality, or economic circularity) will positively impact insect biodiversity. Interns will help in the field and in the lab for this project and get a glimpse into current research in sustainable agriculture.
- Sustainability Fund Project: This project entitled; "Educating and Empowering UMD Students on the Importance of Insect Biodiversity in Sustainability", uses insect display cases around campus and visually appealing posters to engage undergraduate students. This grant is focused on the creation and dissemination of educational materials for the UMD campus and community including the collection and display of biodiverse insects. Interns may help with many facets of the project, including collection, design, education, and broad analysis of results.
- Dragonflies and Farm Ponds: Dragonflies (dragonflies & damselflies) are adept predators both in their aquatic nymphal and adult aerial stages and are important bioindicators. The impact of these insects on land is reliant on their success in the water so we want to understand more about their life in pond habitats that are used for other purposes but provide potentially crucial habitats. This project will work with Amanda Brucchieri to quantify the characteristics of farm ponds that promote dragonfly reproduction and support them as conservation biological control agents. The study has two parts: the first will look at the physical, chemical and biological (dragonfly nymphs, prey, predators etc.) components of farm ponds and the second component will look at where dragonflies hunt for prey among agricultural lands.
- Insect Movement: This position will aid Robert Salerno with field and laboratory work throughout the summer. The project investigates the movement of natural enemies between seminatural habitats and cultivated fields within agroecosystems as well as the role of seminatural habitats in the overwintering of natural enemies. Possible responsibilities include assisting in sampling efforts (collecting and deploying pitfall traps and

elemental marking), processing and organizing samples, and preparing for future sampling. The chosen applicant will gain experience in terrestrial arthropod collecting as well as exposure to insect identification/taxonomy.

Location: 4178 Plant Sciences Bldg. College Park, MD
Duration: 5 June to 11 August (10 weeks)
Stipend: $15.00/hour or more with experience
Hours: 40 hours/week, generally between the hours of 8 and 5 Monday-Friday except special circumstances

Minimum requirements:
- Currently an undergraduate at College Park
- A current driver's license with a clean driving record
- Able to physically lift at least 40 lbs
- Good written and oral communication
- Willingness to work both in the lab and field. Field sites are scattered in Maryland and physical work is completed under hot/cold/wet/dry conditions.
- Ability to work both independently as well as collaboratively with other undergraduate and graduate students, and technical staff on projects
- Organizational skills

Closing date:
Applications will be accepted on a rolling basis and the position will remain open until filled. For best consideration, apply by April 10, 2023.

Applications:
Interested applicants should send 1) a cover later describing their background in relation to the minimum requirements and preferred qualifications, as well as professional interests, 2) CV or resume, and 3) a list of 3 references 4) a list of projects in order of interest. Contact Dr. Lamp (lamp@umd.edu) if questions arise.

The Department of Entomology at the University of Maryland recognizes ongoing systems of exclusion that result in a serious underrepresentation of many identities within our department and discipline. We acknowledge that our institution and the society it serves was built by exploiting enslaved peoples, stealing land, and an ongoing system of anti-Black racism. All people have the same rights and basic needs; however, we recognize that some are denied their rights through discrimination, violence, and harm because of their color, other identities, and intersections. We, as a department, are thankful for past and current civil rights leaders who remind us of our privilege, power, and responsibility to mitigate and overcome past and present injustices. The Department of Entomology at the University of Maryland strives to provide a just, inclusive, and anti-racist environment in which all identities are celebrated, respected, and empowered. We commit to actively seeking out and addressing systemic forms of aggression and exclusion within our departmental and institutional culture and governance.