Goals

To serve our community of undergraduate students, providing opportunities to participate in high quality research projects in the field of ecology.

To develop interdisciplinary research and educational projects with members of the UPR system and other local and national universities.

To train undergraduate students on basic and specialized skills applicable to the field of ecology.

To develop an ecoinformatic laboratory to localize, catalog, analyze, synthesize, and disseminate public ecological and environmental data linked mainly to South-East Puerto Rico, and to make it available for undergraduate courses and research projects, and to the local communities.

Research Projects

Research on Invasive Species

• The effect of grass invasion on Mona Island Reserve: the LabTEE is in charge of the processing and analysis of the seed rain on the experimental areas of this project, including separation of dead material, biomass measurements, seeds separation and identification.

• Invasibility of plant communities based on the comparative ecophysiology of native and potentialy invasive species: currently a student is working with an exotic species in mesic secondary forests (Spathodea campanulata, tulip tree) and a native species (Guarea guidonia, guaraguao). Other projects under development includes aquatic plants, and invasive species in mangrove forests.

• Interactive and spatially explicit database for exotic plant species of Puerto Rico: an ecoinformatic project to be developed based on the DAISIE project of Europe.

Undergraduate Education Projects

• Incorporation of mathematical and computational approaches and methods in the ecological curriculum: the LabTEE is the practicing environment for undergraduate students to work in interdisciplinary research projects that requires mathematical and computational tools. Students are offered to take the course Computational and Mathematical Methods Applied to Biological Systems and conduct research at the LabTEE.

• Using large public databases in the ecology and environmental undergraduate curriculum: I am participating in a joint project between the Ecological Society of America, the National Ecological Observatories Network, and the National Center for Ecological Analysis and Synthesis, to develop activities that require the use of large, continental scale datasets in the undergraduate curriculum.

• Extended Summer undergraduate research experience: in collaboration with Case Western Reserve University next year we will start a project that includes the exchange of students between both institutions, and the matching of research mentors to extend the research experience after the Summer, in the participants own institutions. The LabTEE will be the local base for two CWRU students next Summer.

Current Students in the LabTEE

Noelia Cruz – Microbiology
Xavier Jaime – General Biology and Wildlife Management
Alichy Ubiles – Wildlife Management
Leidy González – General Biology
Esther Morales – Wildlife Management (MARC student)
Elizabeth Rivera – Mathematics and Biology
Mara Castro – Marine Biology
Emily Pérez – General Biology
plus two graduate students using LabTEE facilities: María Vega (UPR-Mayaguez) and Eveneida Rodríguez (Turabo University)

Recent Publications


Denny S. Fernandez, Biology Department, University of Puerto Rico at Humacao

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