PhD student position: microbiome research associated with forest ecosystems

Microbial Ecology Lab (Liao Lab), Soil and Water Sciences Department/North Florida Research and Education Center, University of Florida

Liao Lab offers one Ph.D. student the opportunity to study the genetic-level interactions of pine and their keystone symbionts (ectomycorrhizal fungi). The Ph.D. student will apply integrated metaomics (metagenomics, metatranscriptomics and metaproteomics), chemical image and CRISPR-mediated gene editing approaches to examine the molecular communication of fungi and their host plants in response to the stresses, including heavy metal contamination. The project will involve examining the influence of genomes and activities of fungal symbionts on sheltering their host plants against stresses. The scope of this project aims to understand whether genetic-based evolution of symbionts allow their host plant to escape from natural selection. We expect, in the long run, the knowledge gained from this study will help to develop the genetic and evolutional based prediction model to address the impact of environmental change on symbiotic association and plant fitness, as well as to identify the bioindicators that are able to affectively recover the plant hosts growing in contaminated soil.

Preferred Qualifications: B.S. or M.S. in molecular biology, microbiology, plant pathology, bioinformatics or related area with knowledge, skills and the interests specific to microbiology, molecular biology, biotechnology. Previous experience working in a molecular biology laboratory.

Application deadline: Until position is filled

Start semester: Spring 2022 or Fall 2022

Location: North Florida Research and Education Center, Quincy, FL

Application materials: Please send your Curriculum Vita, 1-3 pages Research Statement, and contact information of three references to sunny.liao@ufl.edu.

Other note: This position is supported by NSF.