

Postdoctoral Research Associate: The interface of infectious disease dynamics and plant community ecology

A two-year postdoctoral position in theoretical infectious disease ecology is available in a project funded by the joint USDA-NSF-NIH Ecology and Evolution of Infectious Diseases program,, “Multi-host, multi-pathogen interactions in invaded communities: The consequences of emerging infectious disease of a rapidly expanding grass.” The postdoc will be based in the laboratory of Dr. Robert Holt in the Department of Biology at the University of Florida, and will work closely with a larger group of scientists involved in the project (including Erica Goss, Phil Harmon, Amy Kendig, and Luke Flory at the University of Florida, and Keith Clay at Tulane University). A description of the field system (the widespread aggressive invader *Microstegium vimineum*, co-occurring native grasses, and their associated pathogens) can be found in Stricker et al. 2016. “Emergence and accumulation of novel pathogens suppress an invasive species” Ecology Letters 19:469-477. Field and lab experiments are underway examining how infectious disease alters competitive interactions in this system, and in turn how interspecific interactions modulate infectious disease dynamics. The main goal of this postdoctoral position is to develop and analyze mathematical and computational models to address a wide range of issues, including: effects of host species diversity on disease transmission and spread; coexistence of competing pathogens; and, the interplay of resource competition, interference, and disease dynamics in stage- and spatially structured plant populations and communities. Some modelling effort is expected to be tailored to the specific empirical system being studied, but it is expected that more general theoretical models will be developed to address broad conceptual issues, as well. There is also the possibility for this postdoctoral associate to contribute to the ongoing empirical studies in this project.

A PhD in ecology, environmental science, plant pathology, infectious disease ecology, or related fields is required. Ideal candidates will have demonstrable expertise in modelling or theoretical ecology and peer-reviewed publications and be familiar with infectious disease ecology, but we encourage all interested candidates with relevant experience to apply. The successful candidate will have excellent writing, presentation, and analytic skills, and be comfortable working in multifaceted research groups. The postdoctoral researcher will be integrally involved in writing manuscripts and reports stemming from the project, and in presentations at conferences.

For full consideration please submit application materials by May 15, 2019. Applications will be reviewed as they are received. Send CV, a brief statement of research interests, copies of relevant publications, and names of three references in a single PDF file to:

Robert D. Holt
rdholt@ufl.edu
cc: administrative assistant Vitrell Sherif, vitrell@ufl.edu
352-392-6917

Starting date: Flexible, but as early as June 1, 2019. The appointment will be annual, renewable up to two years. Salary and benefits are competitive.