DISEASE ECOLOGY: TWO POSTDOCTORAL SCHOLAR POSITIONS
Oregon State University, Corvallis, OR, USA

The Scholars will be contributing members of a multi-investigator project using empirical data and modeling approaches to study effects of fundamental epidemiological parameters (e.g., basic reproduction number and initial disease prevalence) and common control tactics (e.g., reactive ring culling, reactive ring vaccination or chemotherapeutic applications, timing and extent of reactive ring treatments, and broad-scale population protection) on the spread of disease caused by pathogens demonstrating long-distance dispersal. The project is funded by the USDA National Institute of Food and Agriculture through the NSF/NIH/USDA/BBSRC Ecology and Evolution of Infectious Disease Program. Salary will be based on Oregon State University guidelines for postdoctoral scholars.

Open: March 27, 2018
Close: May 15, 2018 or until filled

Position 1: Theory and Modeling - The incumbent will be responsible for developing generalized theory and models to predict “rules-of-thumb” for the control of diseases caused by pathogens with long-distance dispersal. Modeling studies of wheat stripe rust, foot-and-mouth disease, sudden oak death, and livestock/human arboviruses are underway by individual research teams. The incumbent will conduct extensive comparative modeling through factorial combinations of models and input data among the different diseases. Modeling results will be compared with data from natural experiments with sudden oak death and foot-and-mouth disease, and manipulative experiments with wheat stripe rust, for model validation/verification. There will be regular electronic and in-person meetings among all project personnel, incorporating studies on FMD, wheat stripe rust, sudden oak death, and arboviruses of livestock and humans. All project personnel will be involved in activities to evaluate commonalities and differences among disease systems.

Though the position is based at Oregon State University (where Chris Mundt functions as leader of the overall project), the conceptual leaders of this part of the project will be Mike Tildesley and Matt Keeling (University of Warwick), who will have regular electronic communication with the Scholar. In addition, the Scholar will spend approximately one month per year in the UK (all expenses paid by the grant) and interact with the laboratories of Professors Tildesley and Keeling.

Required Qualifications and Experience: Candidates should be highly motivated and possess a recent Ph.D. in ecology, epidemiology, or a related field. Knowledge of ecological theory, programming, and modeling skills are required, as are strong writing and verbal communication skills.

Preferred Qualifications and Experience: Experience in disease ecology

Position 2: Spatiotemporal Spread of Wheat Stripe Rust. The incumbent will conduct field studies of wheat stripe rust as an experimental model for testing effects of mitigation practices (e.g., reactive ring culling, reactive ring vaccination or chemotherapeutic applications, timing and extent of reactive ring treatments, and broad-scale population protection) on epidemics caused by pathogens exhibiting long-distance dispersal. Field experiments on epidemics of differing intensity will be conducted both locally (near Corvallis) and in central Oregon (near Madras). Empirical field studies will be verified with a spatially explicit simulation model, and results expanded to include a wider range of variables that are possible to test empirically in the field. The incumbent will be responsible for experimental design,
implementation, data collection, data analyses, and publication of results. Interactions with other personnel involved in the overall project are expected.

Required Qualifications and Experience: Candidates should be highly motivated and possess a recent Ph.D. in epidemiology, ecology, or a related field. Experience in conducting field research and familiarity with biological modeling are required, as are strong writing and verbal communication skills.

Preferred Qualifications and Experience: Experience in field and modeling studies of disease

**Application Process:** Funding for both positions is available for three years, with annual reappointment dependent upon adequate performance.

To apply for either or both positions, please e-mail a letter of interest, curriculum vitae, and contact information for three references to:

Dr. Chris Mundt
Department of Botany and Plant Pathology
2082 Cordley Hall
Oregon State University
Corvallis, OR 97331-2902
email: mundtc@science.oregonstate.edu
Web site: [http://www.science.oregonstate.edu/bpp/faculty/mundt/index.html](http://www.science.oregonstate.edu/bpp/faculty/mundt/index.html)

In your letter, indicate which of the two positions you are applying for. If interested in both positions, indicate your interests and qualifications for each of the two positions in your letter.

For more information about the Postdoc Scholar Appointment please see [http://gradschool.oregonstate.edu/postdocs](http://gradschool.oregonstate.edu/postdocs)

OSU commits to inclusive excellence by advancing equity and diversity in all that we do. We are an Affirmative Action / Equal Opportunity employer, and particularly encourage applications from members of historically underrepresented racial/ethnic groups, women, individuals with disabilities, Veterans, LGBTQ community members, and others who demonstrate the ability to help us achieve our vision of a diverse and inclusive community.