Postdoctoral fellow: Spatial, network and evolutionary epidemiology of swine diseases

One postdoctoral associate position on infectious disease spatial modeling led by Gustavo Machado is available in the Department of Population Health and Pathobiology, College of Veterinary Medicine, North Carolina State University. This position is to track and predict the epidemic dynamics of swine diseases using outbreak, animal movement, phylogenetic data from areas of high hog density and complex landscape.

The successful candidate will work in a multidisciplinary team to ensemble advanced spatial epidemiology models, Bayesian networks and phylogeography to improve disease prediction and forecast. This research will potentially lead to the development of new methodologies and uncover the complexity of diseases spread by highlighting key factors restricting or promoting transmission events. The candidate will also help us apply these methods to other pathogens including those affecting poultry and cattle. Because prior knowledge about the disease in question are available, emphasis will be given to Bayesian approaches. This project is in collaboration with the Center for Geospatial Analytics at NCSU.

Applicants with a background in statistics, spatial networks, computer science, phylodynamic or epidemiology or related field are highly encouraged to apply.

Necessary Education, Experience Skills, Training and Education: The postdoctoral associate must have Ph.D. degree in a relevant quantitative discipline (ecology, epidemiology, applied mathematics, physics, statistics, or related field) and good communication and experience in developing grant proposals. Proficiency in programming with R or Python or similar open-source platform and previous experience with multi-scale models and ensemble methods will be given the highest consideration. Applicants must have the ability to work independently and in collaboration. As part of the position, the candidate will also be expected to publish and present their work at conferences, teach at workshops and potentially help supervise students.

The initial appointment will be from 12 to 18 months, with renewal for two or more years subject to satisfactory progress and mutual agreement. Review of applications will begin immediately and will continue until suitable candidates are identified.

How to apply

Interested applicants should submit a **1)** a letter of intent highlights your research interests, interest in and interest in infectious diseases; **2)** curriculum vitae; 3) sample of scientific writing (e.g., a manuscript in preparation, an undergraduate thesis), and the names and contact information for three references to gmachad@ncsu.edu

Gustavo Machado
Assistant Professor
Department of Population Health and Pathobiology
College of Veterinary Medicine
North Carolina State University
1060 William Moore Drive
Raleigh NC 27607