Community and Infrastructure Systems Resilience: 3 Postdoctoral Research Fellow Positions

Department of Civil Engineering, Clemson University

Three postdoctoral research fellow positions are available in community and infrastructure resilience at Clemson University in South Carolina. The candidate will work with faculty mentors and researchers in the four departments of Civil Engineering, Environmental Engineering and Earth Science, Political Science, and Electrical Engineering. The primary supervisor will be Dr. Murray-Tuite. The appointment is for one year, but may be renewable for up to four years, depending on follow on work. The positions are available January 3, 2023.

The postdoctoral fellows will participate in an interdisciplinary research team focused on community and infrastructure systems resilience. The hazard of interest in flooding. The postdoctoral fellows are expected to conduct research within a larger team and should have strong technical, communication, and project management skills. GIS skills are also desired.

Postdoctoral Researcher 1 (Infrastructure Interdependence): Specific duties include: (1) obtaining infrastructure data from FEMA's Resilience Analysis and Planning Tool and publicly available sources, (2) using the AHA! system developed by the Idaho National Laboratory, (3) examining infrastructure assets' dependencies on other infrastructures, (4) assessing consequences, (5) leading the integration of graduate students' infrastructure-specific models, (6) performing field work, and (7) identifying risk mitigation strategies.

Postdoctoral Researcher 2 (Infrastructure System Resilience): Specific duties include: (1) identifying knowledge gaps based on community datasets, (2) interviewing infrastructure owner/operators, (3) modeling secondary hazards as needed, (4) developing models to prioritize infrastructure assets, (5) modeling within system dependencies, (6) predicting service outages, (7) validating models, (8) assessing vulnerability and consequences, (9) performing multi-criteria analysis, (10) performing field work, and (11) identifying risk mitigation strategies.

Postdoctoral Researcher 3 (Community Resilience): Specific duties include: (1) developing a strategy for communicating with state, federal, private, and community stakeholders, (2) engaging stakeholders throughout the project, (3) assessing community capacity, (4) examining and using the CDC's COPEWELL tool, (5) assessing compliance with zoning and building codes, (6) investigating psychological consequences (e.g., hardship) of infrastructure service outages, (7) identifying risk mitigation strategies, and (8) identifying community hazard mitigation and resilience enhancing grants.

Candidates should hold a PhD degree in a field related to community resilience, such as, but not limited to: Civil Engineering, Environmental Engineering, Industrial Engineering, Community and Regional Planning, Sociology, and Political Science. Candidates must have documented qualifications as follows: graduate research experience; fluency in English; excellent communication skills; demonstrated technical competence; and a solid publication record. The willingness and ability to acquire new skills and knowledge as needed during the project; to work

effectively and cooperatively with others; and to manage time effectively is expected. Prior experience with conducting community resilience research is strongly desired.

Candidates should submit (1) a cover letter indicates which of the three positions are of interest, (2) a curriculum vitae, (3) 1 sample paper, (4) evidence of a PhD, and (5) a list of 3 references to:

- **Post Doctoral Research Fellow - Infrastructure Interdependence:** http://apply.interfolio.com/118610
- **Post Doctoral Research Fellow - Infrastructure System Resilience:** http://apply.interfolio.com/118612
- **Post Doctoral Research Fellow – Community Resilience**: http://apply.interfolio.com/118613

Any questions can be directed to Dr. Pamela Murray-Tuite (pmmurra@clemson.edu), Professor, Clemson University. The review of applications will begin immediately. Applications will continue to be accepted until the positions are filled. Individuals from backgrounds under represented in academia are especially encouraged to apply.

ABOUT CLEMSON:

Ranked in the top 30 best USA national public university by U.S. News & World Report, Clemson is a science- and engineering-oriented college dedicated to teaching, research and service. Founded in 1889, we are committed both to world-class research and a high quality of life. Clemson is classified as a Tier 1 Research Institution by the Carnegie Foundation. Clemson beautiful college campus sits on 1,400 acres in the foothills of the Blue Ridge Mountains, along the shores of Hartwell Lake. The Clemson campus is located between Atlanta, GA and Charlotte, NC near Greenville, SC within driving distance to their three international airports.