The New School’s Urban Systems Lab seeks TWO post-doctoral research scientists to join our team and the U.S. National Science Foundation funded Urban Resilience to Extreme Weather-related Events Sustainability Research Network (URExSRN) project. The two NSF Postdoctoral Research Fellows will be associated with the Urban Systems Lab at The New School. The focus of the first NSF Postdoctoral Fellowship will be to co-lead the spatial modeling of extreme events and their impacts on the social, ecological and technological domains of URExSRN cities, including New York City, Phoenix, Baltimore, Hermosillo, Valdivia, San Juan, Syracuse, Portland (Oregon), and Miami. The focus of the second NSF Postdoctoral Fellowships will be to develop spatially explicit scenarios using a Cellular Automata land use change model together with other suite of spatial sub-models (e.g. demographics, flooding, heat, green projections) to analyze how urban system change under possible alternate future scenarios for URExSRN cities. The Fellow will work closely with the URExSRN Scenario Working Group and will play a key role in the spatial analysis of future scenarios. More information about the URExSRN can be found on the “Projects” tab at urbansystemslab.com and at URExSRN.net.

Postdoctoral research will include exploring options and opportunities for building resilience in project cities, improving the way current spatial models capture the complexities of extreme events impacts on urban systems (including population as well as infrastructure and ecosystems); the synergies among multiple extreme events (i.e. cascading effects); as well as their potential future impacts and interaction to other urban processes (land use change, demographic changes, etc.). The NSF Post-doctoral Research Fellow will participate in an ongoing research program in the Urban Systems Lab at The New School, be tightly connected to related research through the URExSRN project, and will develop new research based on their interest and expertise with faculty at The New School and with external colleagues on the project.

Responsibilities:

• Co-leading the spatial modeling and cellular automata modeling of land use change and extreme events on UREx cities, including coastal flooding, urban flooding and heat islands/waves and the impacts of these on population and different infrastructure systems.
• Co-designing replicable modeling and spatial analysis workflows that respond to modeling needs and cities’ priorities while being sensitive to different data availability situations.
• Co-leading the acquisition, transformation and processing of the varied spatial datasets needed to feed the sub-models (i.e. shapefiles, TIFF, geoTIFF, DEM, GeoJSON, KML, OSM, etc.).
• Modeling land use change, retro-simulations as well as future simulations, in UREx cities using the Cellular Automata(CA) model and sub-models developed by the team.
• Performing CA calibration, modeling fine-tuning or optimization operations as needed.
• Contributing to the development and/or refinement of our spatial ‘urban futures’ sub-models (e.g. future demographics, future heat, future coastal/urban floods, etc.)
• Collaborating in the tracking, metadata creation and documentation of all the data and products produced by the team.
• Participating in the UREx scenario development workshops as needed.
• Working in close collaboration with the USL data visualization team producing spatial outputs that are interoperable across the different lab digital platforms.
• Engaging with the academic and outreaching activities of the USL and contributing to the intellectual life and creative growth of the team.

The expected start date is August 1, 2018 but flexible from July 1, 2018 onwards. The primary location for the postdoctoral position will be at The New School’s Urban Systems Lab but will work closely with other partners in the URExSRN. This position if for one academic year with the...
possibility of renewal for one additional year. The New School offers competitive salary and a full benefits package.

Minimum Qualifications: This interdisciplinary position is open to scientists from diverse disciplinary fields with expertise in the natural or social sciences, including computer science and modeling, geography, landscape ecology, urban ecology, and related areas of the social sciences. Applicants must have completed the Ph.D. by the position start date and be eager to work with an interdisciplinary team to develop scenario models for exploring resilience in urban landscapes. The successful applicant must be highly technically skilled and adept at working with multiple researchers from a range of disciplinary backgrounds in urban ecology, including geographers, landscape and urban planners, biophysical scientists, and environmental educators. Strong organizational, communication and writing skills are also required for coordinating research, data, and input from scenario development activities of the URExSRN as well as for dissemination of results.

The following skills are required for:

Position 1, Spatial Modeling:
• Spatial analysis expertise in one or more of the following fields: coastal flooding, sea-level rise, inland/urban flooding, heat waves/heat islands (alternatively experience in spatial analysis for other hazards—natural or technological—epidemiology or health would be also be considered)
• Proficiency using ArcGIS and related software libraries as they apply to modeling urban environments
• Comfort working, transforming and integrating different types of spatial data and databases
• Ability to work in a multidisciplinary environment and provide coordination for spatial modeling team
• Ability to work both independently and collaboratively in groups, with strong leadership skills

Position 2, Cellular Automata Modeling:
• Cellular automata spatial modeling expertise
• Excellent geospatial analytical skills, with experience using ArcGIS and related software libraries as they apply to modeling urban environments
• Ability to work in a multidisciplinary environment and provide coordination for spatial modeling team
• Ability to work both independently and collaboratively in groups, with strong leadership skills

The New School was founded by forward-thinking educators in 1919 to defy the intellectual constraints of a traditional college education. The New School is strongly committed to diversity in the workplace and particularly seeks applications from members of underrepresented groups.

Preferred Qualifications: The following skills are preferred, but not required:
• Experience on spatial analysis of multi-hazards or cascading hazards is a plus
• Familiarity with geoprocessing workflows and geospatial analysis design
• Experience on spatial land use change modeling
• Familiarity with hazards or shocks (natural, technological or social) quantitative/spatial modeling
• Comfort with Python or R scripting/programming is also highly desirable
• Experience working in urban contexts
• Experience in the fields of: Climate Change Adaptation, Resilience, and/or Disaster Risk Reduction or Crisis Management.

Job Family: The New School

Special Instructions to Applicants: Review of applicants will begin immediately with expectation of decisions by early July, 2018. Using The New School’s human resources website, http://careers.newschool.edu, applicants should submit:
1. a cover letter that highlights their skills and abilities in areas relevant to the position;
2. a curriculum vitae;
3. three representative publications (electronic versions);
4. the names, addresses, phone numbers and e-mail addresses of three references.

The New School does not discriminate on the basis of age, race, color, creed, sex or gender (including gender identity and expression), pregnancy, sexual orientation, religion, religious practices, mental or physical disability, national or ethnic origin, citizenship status, veteran status, marital or partnership status, or any other legally protected status.

Posting Date: 06/06/2018
Closing Date: 08/15/2018
Open Until Filled No

Supplemental Questions

Required fields are indicated with an asterisk (*).
Optional & Required Documents

**Required Documents**

1. Resume/CV
2. Cover Letter
3. Other Document 1
4. Other Document 2
5. Other Document 3
6. Other Document 4

**Optional Documents**