

**Postdoctoral Associate: Urban Climate
Arizona State University**

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Posted May 2, 2024, set to expire Aug. 31, 2024

Job Title	Postdoctoral Associate: Urban Climate
Department	School of Geographical Sciences and Urban Planning https://sgsup.asu.edu/
Institution	Arizona State University Tempe, Arizona
Date Posted	May 2, 2024
Application Deadline	May 23, 2024
Position Start Date	Available Immediately
Job Categories	Post-Doc
Academic Field(s)	Urban Studies and Planning Geography
Job Website	http://apply.interfolio.com/145099
Apply Online Here	http://apply.interfolio.com/145099
Apply By Email	
Job Description	

Overview:

The School of Geographical Sciences and Urban Planning (SGSUP) at Arizona State University (ASU) seeks applications for a Postdoctoral Research Scholar to work on an exciting project focused on modeling and analysis of the ability of urban greening to mitigate extreme heat and building energy use in hot desert climates. The Fellow will work directly with Dr. David Sailor, Director and Professor in the School of Geographical Sciences & Urban Planning, and will initially focus on a new collaboration with Professor Sami Al-Ghamdi of KAUST (King Abdullah University of Science and Technology). In this

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project, we seek to develop and validate innovative solutions for optimizing urban landscapes for improved environmental and energy outcomes, with an initial focus on cooling applications in Riyadh, Saudi Arabia. We are actively developing additional collaborations in the Middle East and North Africa (MENA) region, and have ongoing related projects in Phoenix Arizona, to which the postdoc will also make contributions.

This is primarily an in-person position with the successful applicant working from an office located on the ASU campus in Tempe, AZ, USA. Travel to international study sites will be optional.

Job Description:

The Postdoctoral Research Fellow will contribute to research collaborations evaluating urban greening strategies and other built-environment technologies with respect to their effects on building indoor environments, energy use, and neighborhood-scale cooling. In this project we will use a combination of computer simulation tools across scales and observational data to inform the development and optimal deployment of and strategies for cooling neighborhoods and cities.

In partnership and close collaboration with other research staff, the successful applicant will support a subset of the following research activities:

- **Data Analysis:** The postdoc will gather and explore available data for location-specific simulations of built environment and local urban climate. This will include the use of satellite imagery, climate data, landuse/cover data, energy use data, GIS resources, and urban infrastructure information (construction and materials characteristics and properties) to provide input and validation/verification data for modeling at building to city scales. These data will also be integrated with data related to green infrastructure, vegetation species, their properties, and water-use requirements as input to develop/evaluate scenarios.
- **Building and Urban Climate Modeling:** The research team will conduct simulations using building simulation software such as EnergyPlus, microscale models such as ENVI-met or PALM-4U, and mesoscale urban climate models such as WRF to analyze the potential benefits of increased urban greenery within Riyadh. The postdoc is expected to bring expertise in at least one of these modeling scales, and work with team members to integrate and harmonize model output across scales.
- **Innovative Solutions and Scenario Development:** Identifying and evaluating innovative greening techniques and built-environment materials/technologies that can be applied in Riyadh's unique climate and urban fabric. This will include working with project partners and local agencies to identify and evaluate ongoing efforts, with an emphasis on aligning research with the sustainable urban development vision for 2030.

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Essential Duties:

- Gather, analyze, and incorporate into location-specific models a range of data products, including satellite, climate, land use/cover, built environment and energy use data
- Develop simulations of urban cooling design alternatives applied at either the building or neighborhood/city scales
- Coordinate research among team members from a range of disciplinary backgrounds
- Mentor graduate students
- Lead development of reports, presentations, and peer-reviewed publications

Qualifications

Minimum Qualifications:

- Doctoral degree in Atmospheric Science, Engineering, Geography, Planning, or a related field by the time of hire
- Experience and peer-reviewed publications involving urban modeling at either the building, neighborhood, or city scale
- Demonstrated commitment to working with faculty, staff, and student communities to advance the principles of the [ASU Charter](#)

Desired Qualifications:

- Specific experience with building-scale modeling with EnergyPlus
- Specific experience with neighborhood-scale modeling with either ENVI-met or PALM-4U.
- Specific experience with regional scale modeling using WRF
- Demonstrated experience working with, visualizing, and integrating large data sets
- Evidence of computer programming experience and scripting languages
- Cultural awareness and familiarity with the MENA region

Application Instructions

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The initial deadline for accepting applications is May 23, 2024. If not filled, reviews will occur every week thereafter until the search is closed. To apply, candidates must submit the following materials to apply.interfolio.com/145099.

1. A cover letter describing your relevant experience and interest in the position
2. List names and contact information for three references
3. A complete Curriculum Vitae including a list of publications

This is a paperless search, and only materials submitted electronically as outlined above will be considered. Questions related to the search may be addressed to David Sailor (David.Sailor@asu.edu).

Learn more about what The College of Liberal Arts and Sciences has to offer by visiting <https://thecollege.asu.edu.faculty>

EEO/AA Policy

A background check is required for employment. Arizona State University is a VEVRAA Federal Contractor and an Equal Opportunity/Affirmative Action Employer. All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, disability, protected veteran status, or any other basis protected by law.

(See <https://www.asu.edu/aad/manuals/acd/acd401.html> and <https://www.asu.edu/titleIX/>.)

In compliance with federal law, ASU prepares an annual report on campus security and fire safety programs and resources. ASU's Annual Security and Fire Safety Report is available online at <https://www.asu.edu/police/PDFs/ASU-Clery-Report.pdf> You may request a hard copy of the report by contacting the ASU Police Department at 480-965-3456.

Contact Information

Please reference Academickeys in your cover letter when applying for or inquiring about this job announcement.

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