

## Architectural Engineering Post-Doc Positions Pennsylvania State University

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Posted Jun. 28, 2022, set to expire Oct. 26, 2022

<b>Job Title</b>	Architectural Engineering Post-Doc Positions
<b>Department</b>	
<b>Institution</b>	Pennsylvania State University University Park, Pennsylvania
<b>Date Posted</b>	Jun. 28, 2022
<b>Application Deadline</b>	Open until filled
<b>Position Start Date</b>	Available immediately
<b>Job Categories</b>	Post-Doc
<b>Academic Field(s)</b>	Civil Engineering
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### Job Description

#### Architectural Engineering Post-Doc Positions

The Department of Architectural Engineering (AE) at the Pennsylvania State University (University Park, PA) invites applications for five post-doctoral fellow positions. The initial appointment is two years and can be extended depending on funding availability. This is a cluster hire to support the department's mission in advancing the built environment through world-class architectural engineering education and research. Candidates with a research background and interest in one of the following five areas are strongly encouraged to apply.

**Smart and Resilient Cities:** The ideal candidate should have a strong academic record in addressing urgent and fundamental environmental challenges on a city-scale by integrating innovative system design, sustainable materials, distributed sensing, monitoring techniques, geographical information system, novel modeling approaches, and advanced control strategies. We encourage applicants in a wide range of areas of expertise, including but not limited to: urban energy system modeling,

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simulation, and control, urban sustainable and resilience transformation, distributed sensing and monitoring techniques for urban applications, community or urban resilience to natural disaster, and social justice and equity in the urban infrastructure system. More information is available at [\[url=https://apptrkr.com/get\\_redirect.php?id=3186273&targetURL=https://www.ae.psu.edu/research/smart-resilient-cities.aspx\]](https://apptrkr.com/get_redirect.php?id=3186273&targetURL=https://www.ae.psu.edu/research/smart-resilient-cities.aspx)<https://www.ae.psu.edu/research/smart-resilient-cities.aspx>.

Indoor Environmental Quality, Human Health, and Productivity: The ideal candidate should have expertise in the fields of human factors related to building technologies and environment, especially architectural engineering fields of acoustics, thermal comfort, air quality, and lighting. Background in computational modeling of human visual and non-visual response, occupant behavior and decision making, and mechanical system performance is preferred. Candidates with interest in adaptive building systems, big data approaches (e.g., machine learning), and other cutting-edge methods to improve occupants' performance, comfort, health, and well-being are welcome to apply. More information is available at [\[url=https://apptrkr.com/get\\_redirect.php?id=3186273&targetURL=https://www.ae.psu.edu/research/indoor-environmental-quality-human-health-productivity.aspx\]](https://apptrkr.com/get_redirect.php?id=3186273&targetURL=https://www.ae.psu.edu/research/indoor-environmental-quality-human-health-productivity.aspx)<https://www.ae.psu.edu/research/indoor-environmental-quality-human-health-productivity.aspx>

High-Performance Building Materials, Structural Systems, and Envelopes: The ideal candidate should have expertise in the fields of multi-functional materials, adaptive materials, sustainable materials, cementitious materials, materials science characterization techniques, thermal and structural performance of building envelope, adaptive envelope, glazing systems, embodied carbon calculations .We encourage applicants in a wide range of areas including structural optimization and modelling, innovative masonry systems, alternative cements, alkali-activated binders, pozzolanic materials and durable construction materials. More information is available at [\[url=https://apptrkr.com/get\\_redirect.php?id=3186273&targetURL=https://www.ae.psu.edu/research/high-performance-building-materials-structural-systems-envelopes.aspx\]](https://apptrkr.com/get_redirect.php?id=3186273&targetURL=https://www.ae.psu.edu/research/high-performance-building-materials-structural-systems-envelopes.aspx)<https://www.ae.psu.edu/research/high-performance-building-materials-structural-systems-envelopes.aspx>

Building Energy Solutions: Building upon a solid background in applied thermodynamics, heat transfer, and mechanical systems engineering, the ideal candidate would have familiarity with distributed energy technologies as implemented in single facilities as well as district energy applications - such as university, research, industrial and planned communities. Some background in the design of thermal distribution networks, as well as microgrid architectures that include hybrid energy generation (solar PV, combined heat and Power) and energy storage technologies, is desirable. Candidates that can contribute to novel energy system controls for individual buildings and community energy systems are also of interest. Familiarity with energy economics life cycle, and life cycle cost analysis would be

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helpful. More information is available at

[url=https://apptrkr.com/get\_redirect.php?id=3186273&targetURL=https://www.ae.psu.edu/research/building-energy-solutions.aspx]https://www.ae.psu.edu/research/building-energy-solutions.aspx

Automation, Robotics, and Digital Twins in Construction: The ideal candidate should have expertise in robotics/mechatronics, human-robotic interaction, building information modeling, digital twins, computer science, architectural/civil engineering, and other fields related to the development and deployment of robotics and digital twins in the design and construction process. Experiences in developing digital twins of facilities, modeling and simulating robotic construction systems, and developing new robotic solutions are desirable. More information is available at

[url=https://apptrkr.com/get\_redirect.php?id=3186273&targetURL=https://www.ae.psu.edu/research/automation-robotics-digital-twins-construction.aspx]https://www.ae.psu.edu/research/automation-robotics-digital-twins-construction.aspx

Candidates are expected to work with faculty within and outside the department to develop externally funded interdisciplinary research and, in the case where an ongoing research program is in place, contribute to the accomplishment of specific program objectives. Candidates are encouraged to participate in the supervision of graduate students, develop grant proposals with faculty, and teach at both the undergraduate and graduate levels. Candidates should hold a doctorate in architectural engineering, mechanical engineering, civil engineering, environmental engineering, material science, electrical engineering, computer science, urban planning, biomedical science, or in specific focus areas noted above. The anticipated start date is August 2022. The review of applications will start on June 15, 2022 and will continue until the positions are filled.

Application material should include a cover letter, full curriculum vitae, statement of professional interests in only ONE of the five research areas, and contact information for three references.

Inquiries can be directed to Prof. Wangda Zuo, Search Committee Chair, Department of

Architectural Engineering; email:

[url=https://apptrkr.com/get\_redirect.php?id=3186273&targetURL=mailto:Wangda.zuo@psu.edu]Wangda.zuo@psu.edu

Apply online at

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Annual Security Report which contains information about crime statistics and other safety and security matters, please go to <http://www.police.psu.edu/clery/>, which will also provide you with detail on how to request a hard copy of the Annual Security Report.

Penn State is an equal opportunity, affirmative action employer, and is committed to providing employment opportunities to all qualified applicants without regard to race, color, religion, age, sex, sexual orientation, gender identity, national origin, disability or protected veteran status.

### **Contact Information**

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

### **Contact**

N/A

Pennsylvania State University

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