

Professor (all ranks) in Decarbonization of Infrastructure
Materials Processing
Arizona State University at the Tempe Campus

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Posted Oct. 29, 2024, set to expire Mar. 2, 2025

Job Title	Professor (all ranks) in Decarbonization of Infrastructure Materials Processing
Department	School of Sustainable Engineering and the Built Environment
Institution	Arizona State University at the Tempe Campus Tempe, Arizona
Date Posted	Oct. 29, 2024
Application Deadline	Dec. 14, 2024
Position Start Date	Aug. 30, 2025
Job Categories	Assistant Professor Associate Professor Professor
Academic Field(s)	Mechanical Engineering Civil Engineering Chemical/Petroleum Engineering - Other
Job Website	http://apply.interfolio.com/158075
Apply Online Here	https://hiring.engineering.asu.edu
Apply By Email	
Job Description	

The [Ira A. Fulton Schools of Engineering](#) at [Arizona State University](#) (ASU) and the [School of Sustainable Engineering and the Built Environment \(SSEBE\)](#) seek applicants for a tenure-track or

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tenured faculty position in the area of Decarbonization of Infrastructure Materials Processing and Manufacturing. The School of Sustainable Engineering and the Built Environment (SSEBE), one of the eight Fulton Schools, houses a vibrant infrastructural materials, mechanics, manufacturing, and multi-physics modeling, simulation, and optimization research community (learn more at <https://research.engineering.asu.edu/>). Several faculty members in SSEBE and in other schools in the Fulton Schools of Engineering are active in the area of industrial decarbonization, thanks to multiple ASU research institutes and centers, as well as ASU's long-standing focus and global leadership in sustainability and innovation. We seek applicants who can complement our expertise in the broad theme of infrastructure decarbonization. Particular emphasis will be given to candidates with cutting-edge research expertise in developing process- and heat-related emission reduction approaches to produce novel low-carbon, low-energy materials for infrastructure; multi-scale, multi-physics modeling of alternative (non-fossil fuel) energy delivery approaches for high temperature manufacturing processes to guide implementation of novel, low-carbon technologies at-scale; and Industry 4.0 innovations such as AI-enabled digital twinning of manufacturing processes for end-to-end optimization and enhancing quality and efficiency.

We welcome applicants who will contribute to our academic programs, promote transdisciplinary teaching and research, and help the university to achieve its aspirations, including enabling student success, transforming society, valuing entrepreneurship, and conducting use-inspired research. Faculty members in the Fulton Schools are expected to develop an internationally recognized and externally funded research program, adopt effective pedagogical practices in the development and delivery of graduate and undergraduate courses in-person and online, advise both undergraduate and graduate student research and projects, and undertake service activities.

Candidates will be expected to offer undergraduate and graduate courses in the candidate's areas of interest that align with materials, processes, and sustainability related to infrastructure and the built environment. It is also expected that the candidate will enhance the capacity of existing centers and initiatives including [Electrified Processes for Industry without Carbon, EPIXC](#), a DOE Clean Energy Manufacturing Innovation Institute that has helped establish a low-carbon cement test bed at ASU, and the [Center for Carbon-Efficient and Advanced Manufacturing of Materials and Structures, CAMMS](#). Candidates will be able to leverage the extensive expertise, facilities, and resources available through the ASU-led [EPIXC](#), a multi-university, public-private partnership aimed at enhancing the competitiveness of U.S. manufacturing in an era that increasingly demands eliminating carbon emissions by developing cost-effective technologies to replace fossil fuel-based industrial process heating.

Successful candidates will support the mission of the Ira A. Fulton Schools of Engineering and are expected to participate in interdisciplinary research and teaching endeavors both within and beyond

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the Fulton Schools. Although the tenure home may be in any of the Ira A. Fulton Schools of Engineering, the School of Sustainable Engineering and the Built Environment (SSEBE) is currently the most involved in the interest areas of the search. The School offers undergraduate and graduate degree programs in Civil, Environmental, Sustainable, and Construction Engineering, and in Construction Management and Technology. SSEBE has 69 faculty members, 1,450 undergraduate and 700 graduate students, and generates annual research expenditures of more than \$32 million per year.

Appointment will be at the Assistant, Associate or Full Professor rank commensurate with the candidate's experience and accomplishments. The position is anticipated to start in August 2025, but accommodations can be made for the selected candidate.

Qualifications

Required qualifications:

- Earned doctorate in civil engineering, mechanical engineering, chemical engineering, or other closely related field by the time of appointment
- Demonstrated evidence of research capability and commitment to teaching excellence as appropriate to the candidate's rank
- Demonstrated ability to procure sponsored research and generate scholarly articles in interest areas of the search, as appropriate to the candidate's rank
- Strong written and oral communication skills

Desired qualifications:

- Commitment to a collaborative, transdisciplinary approach to research and teaching
- Commitment to inclusive research and teaching practices
- Professional engineering licensure or the ability to obtain registration in a timely manner

For associate and full professor candidates:

- Demonstrated record of securing external funding for research programs
- Demonstrated record of excellence in teaching that incorporates active learning

Application Instructions

Review of applications will begin **December 15, 2024**. Applications will continue to be accepted on a rolling basis for a reserve pool. Applications in the reserve pool may then be reviewed in the order in

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which they were received until the position is filled. To apply, visit <https://hiring.engineering.asu.edu/> and select “apply now” next to the corresponding position. Candidates will be asked to create or use an existing Interfolio Dossier to submit the following:

- Cover letter
- Curriculum Vitae
- Statement describing research interests (two pages maximum)
- Statement describing teaching interests and philosophy (two pages maximum)
- Contact information for three references

The ASU Charter states, “*ASU is a comprehensive public research university, measured not by whom it excludes, but by whom it includes and how they succeed; advancing research and discovery of public value; and assuming fundamental responsibility for the economic, social, cultural and overall health of the communities it serves.*” The Fulton Schools of Engineering are dedicated to cultivating excellence, delivering innovation that matters, encouraging bold thinking, fostering a community of learning and collaboration, and building a foundation for all to be successful. Applicants are encouraged to address how their past, current, and future activities align with the ASU Charter and Fulton Schools of Engineering Values in their application materials.

For more information or questions about this position, please contact the search committee chair, Professor Narayanan Neithalath at Narayanan.Neithalath@asu.edu.

EEO/AA Policy

Equal Employment Opportunity Statement

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 be considered without regard to race, color, sex, religion, 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.

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Contact Information

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

Contact

School of Sustainable Engineering and the Built Environment

School of Sustainable Engineering and the Built Environment

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