

About Northeastern:

Founded in 1898, Northeastern is a global research university and the recognized leader in experience-driven lifelong learning. Our world-renowned experiential approach empowers our students, faculty, alumni, and partners to create impact far beyond the confines of discipline, degree, and campus.

Our locations—in Boston; Charlotte, North Carolina; London; Portland, Maine; San Francisco; Seattle; Silicon Valley; Toronto; Vancouver; and the Massachusetts communities of Burlington and Nahant—are nodes in our growing global university system. Through this network, we expand opportunities for flexible, student-centered learning and collaborative, solutions-focused research.

Northeastern's comprehensive array of undergraduate and graduate programs—in a variety of on-campus and online formats—lead to degrees through the doctorate in nine colleges and schools. Among these, we offer more than 195 multi-discipline majors and degrees designed to prepare students for purposeful lives and careers.

As part of a strategic initiative in the areas of materials, artificial intelligence automation, and robotics in the context of sustainable and resilient Civil Infrastructure, Northeastern University seeks faculty candidates for tenured or tenure-track appointments at the assistant, associate, or full professor level with a cross-college joint appointment in the Department of Civil and Environmental Engineering and the Khoury College of Computer Sciences across the broad area **of Scientific Computing for Infrastructure Materials**. This position will have an opportunity for affiliations with the Institute for Experiential Robotics, the Institute for Experiential AI, and the Roux Institute. The university is in the midst of a significant, multi-year expansion in size and scope, including faculty, facilities, and programs within several disciplines and across disciplinary boundaries.

About the Opportunity:

Under this initiative, the Department of Civil and Environmental Engineering and the Khoury College of Computer Sciences seek individuals conducting research that broadly applies and advances new computational methods for the discovery, characterization, and design of materials for civil engineering applications. This convergence research aims to improve the sustainability, resilience, and multi-functional performance of our built environment under current and future stressors such as climate change. Leaders in this field will have foundational knowledge in materials science, computer science, and computational mechanics.

Areas of interest in materials science include novel materials and innovative redesign of existing materials for civil applications. Specific expertise may include solid or fluid mechanics; molecular dynamics; multi-scale modeling; topology optimization of materials; metamaterials; soft matter; and advanced methods for experimental validation.

Computer science areas of interest include high-performance computing for material behavior and discovery; domain aware machine learning for materials discovery, characterization, and design; automation in construction with novel

materials; Internet of Materials (IoM); and multiphysics computational simulation.

The hiring efforts at Northeastern University seek to foster education and research across disciplinary boundaries. The successful candidates are expected to demonstrate a proven ability to sustain a research program with emphasis on interdisciplinary and translational research, teach both undergraduate and graduate classes, and be active, recognized leaders in their disciplines. The successful candidate will develop a program in related areas that leverage engagement with governmental agencies; the expertise of the faculty; and the professional community, while contributing to both the University's engineering and computer science teaching missions.

Candidates should be committed to fostering diverse and inclusive environments as well as to promoting experiential learning, which are central to a Northeastern University education.

Northeastern University is located in the heart of Boston and benefits from the intellectual and cultural vitality of an urban environment. Northeastern is a top-tier research university and premier experiential education institution, and is a National Science Foundation ADVANCE Institutional Transformation site. A university-wide vision for use-inspired transformative research that crosses traditional disciplinary boundaries has resulted in strong cross-departmental ties among the faculty, including joint and affiliate appointments across departments and colleges. The Civil and Environmental Engineering department houses major research centers, including the NIH-sponsored program Puerto Rico Testsite for Exploring Contamination Threats (PROTECT) and the NIH-sponsored Center for Research on Early Childhood Exposure and Development in Puerto Rico (CRECE). Faculty enjoy collaboration with other research centers and clusters across the College of Engineering, Khoury College of Computer Sciences, College of Science, Bouvé College of Health Sciences, College of Arts, Media and Design, D'More-McKim School of Business, and the College of Social Science and Humanities, including the NSF-funded Center for High-Rate Nanomanufacturing (CHN), the DHS-funded Homeland Security Center of Excellence on Awareness and Localization of Explosive-Related Threats (ALERT), the Institute for Experiential Robotics, the Institute for Experiential AI, the Network Science Institute (NSI), the Roux Institute, the Marine Science Center (MSC), the Coastal Sustainability Institute (CSI), the Global Resilience Institute (GRI), the George J. Kostas Research Institute for Homeland Security, the Sherman Center for Engineering Entrepreneurship Education, and entrepreneurship programs in the D'Amore-McKim School of Business.

For further information see: <https://cee.northeastern.edu/faculty/faculty-hiring/>

Responsibilities:

Responsibilities will include teaching undergraduate and graduate courses, mentoring students and conducting an independent research program.

Qualifications:

A Doctorate degree in civil engineering or a related field is required by the appointment start date as well as excellence in research, teaching, and service. Senior-level candidates should have a demonstrated record of developing transformative solutions to global challenges, sustaining a research program with an emphasis on interdisciplinary and translational research, teaching both undergraduate and graduate classes, and being an active, recognized leader nationally and internationally in the discipline.

Preferred Qualifications:**Salary Grade:**

Assistant/Associate/Full Professor

Additional Information:

How to Apply: Visit the College website <https://coe.northeastern.edu/faculty/faculty-hiring/> and click on Faculty Positions. Applications should be submitted under the position entitled Scientific Computing for Infrastructure Materials and should include (1) cover letter, (2) detailed resume, (3) research development statement, (4) teaching statement, (5) diversity, equity, and inclusion statement, (6) copy of one sample journal paper, and (7) list of four references with contact information. Screening of applications begins December 1, 2021 and continues until the position is filled. Questions regarding this position should be directed to Taryn Quiroa Sullivan at cee-computing@coe.neu.edu.

Northeastern University is an equal opportunity employer, seeking to recruit and support a broadly diverse community of faculty and staff. Northeastern values and celebrates diversity in all its forms and strives to foster an inclusive culture built on respect that affirms inter-group relations and builds cohesion.

All qualified applicants are encouraged to apply and will receive consideration for employment without regard to race, religion, color, national origin, age, sex, sexual orientation, disability status, or any other characteristic protected by applicable law.

To learn more about Northeastern University's commitment and support of diversity and inclusion, please see www.northeastern.edu/diversity.