# Department of Civil and Environmental Engineering:
# Engineering at the Human-Natural Interface

## 2018-2019

As part of a strategic initiative in the areas of Urban Coastal Sustainability and Environmental Health, Northeastern University seeks faculty candidates for tenured or tenure-track appointments at the assistant, associate, or full professor level in the Department of Civil and Environmental Engineering across the broad area of **Engineering at the Human-Natural Interface: Environmental Bioprocess, Air/Atmospheric, and Coastal Systems**. Interested candidates may be considered for joint appointments in other departments commensurate with their areas of expertise.  We seek candidates in three areas, including candidates at the intersection of these areas:

**Environmental Biotechnology and Bioprocess Engineering**, advancing the frontier in resource recovery and/or renewable energy at the interface of water quality and environmental health, including theory-driven management and manipulation of microbial communities in engineered systems, by leveraging experimental and computational approaches. Research strengths may include synthetic biology and/or ecology, kinetic modeling and associated experiments, genomics, and process technology development and optimization.

**Sustainability and Resilience of Urban Coastal Systems**, advancing the frontier in urban coastal systems, with particular interest in coastal dynamics or coastal and ecological engineering related to resilience, climate change and adaptation, and security.  Research strengths may include field observation/sensing, numerical modeling, integration of multi-process, multi-system models (e.g., biological, chemical, ecological and geophysical) and/or observational data, climate and/or land use change impacts on coastal processes, and coupled natural-engineered-human systems.

**Air and Atmospheric Systems Engineering**, advancing a fundamental understanding of atmospheric chemistry and physical processes with translation to engineering for urgent societal priorities. Research strengths may include urban indoor and outdoor air quality, impacts of industrial aerosols on weather variability and extremes, engineering for air pollution mitigation, the consequences of greenhouse gas emissions on regional to global climate and associated implications, improving integrated capabilities for measurement, modeling, and analysis through the development and adaptation of sensing technologies, numerical models, artificial intelligence, and integrated sensor-model-data systems.

Candidates should have an interdisciplinary background in a combination of civil/environmental engineering, atmospheric physics/chemistry, environmental health, climate modeling, computational sciences, machine learning, or similar fields.

The hiring efforts at Northeastern University seek to foster education and research across disciplinary boundaries. Through these hires we aim to create a signature effort at the interface of the built and biological environments that will foster adaptation of urban living to inevitable global change. 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.

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.

For further information see:  http://www.civ.neu.edu/civ/search.

**Qualifications:** A Doctorate degree in civil engineering or a related field is required by the 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.

**About Northeastern University:** 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), the NIH-sponsored Center for Research on Early Childhood Exposure and Development in Puerto Rico (CRECE), the NIH-sponsored program on Environmental Influences on Child Health Outcomes (ECHO), as well as the NIST-funded center on Versatile Onboard Traffic Embedded Roaming Sensors (VOTERS). Faculty enjoy collaboration with other research centers and clusters across the College of Engineering, College of Computer and Information Sciences, College of Science, Bouvé College of Health Sciences, College of Arts, Media and Design, and the College of Social Science and Humanities, including the NSF-funded Center for High-Rate Nanomanufacturing (CHN), the Homeland Security Center of Excellence on Awareness and Localization of Explosive-Related Threats (ALERT), the Network Science Institute (NSI), the Marine Science Center (MSC), the Coastal Sustainability Institute (CSI), the Global Resilience Institute (GRI), the George J. Kostas Research Institute for Homeland Security (KRI), the Sherman Center for Engineering Entrepreneurship Education, and entrepreneurship programs in the D'Amore-McKim School of Business (DMSB).

**Equal Employment Opportunity:** Northeastern University is an Equal Opportunity, Affirmative Action Educational Institution and Employer, Title IX University. All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, disability status, protected veteran status, or any other characteristic protected by the law. Northeastern University is an E-Verify Employer.

**How to Apply:** Visit the College website http://www.coe.neu.edu/faculty/positions/ and click on Faculty Positions. Applications should be submitted under the position entitled **Engineering at the Human-Natural Interface** and should include (1) cover letter highlighting your research area, (2) detailed resume, (3) research development statement, (4) teaching statement, (5) copy of one sample journal paper, and (6) list of four references with contact information. Screening of applications begins November 1, 2018 and continues until the position is filled.  Questions regarding this position should be directed to Taryn Sullivan at cee-water-search@coe.neu.edu.