



Job Details

Description:

**Department of Civil and Environmental Engineering – Open Rank Faculty Positions
College of Engineering
University of Illinois at Urbana-Champaign**

The Department of Civil and Environmental Engineering (CEE) at the University of Illinois at Urbana-Champaign invites applications for multiple full-time tenured or tenure-track faculty positions; all ranks will be considered. The Department seeks to expand its expertise in emerging interdisciplinary areas that are critical in addressing global challenges through innovative education and research. Desired areas of expertise for the positions are:

1. Optimization and Life-Cycle Performance for Large-Scale Structural Systems: Advanced computational simulations and experimental testing methods for design optimization and life-cycle performance assessment of large-scale structures and infrastructure. Areas of desired expertise include but are not limited to: dynamic response and fluid-structure interaction of special and long-span bridges, high-rise buildings, coastal structures, wind turbines and off-shore structures; modular, morphing, adaptive and tensegrity structural systems; innovative designs for large-scale structures and infrastructure using topology optimization; and additive manufacturing and 3D printing applied to large-scale structures.

2. Geoengineering for Sustainable Urban and Off-Shore Development: Foundation and infrastructure development, modeling, design, maintenance, reuse and renewal in congested urban environments and in offshore settings. Advancement of smart geo-infrastructure, onshore and offshore energy foundations, shallow geothermal applications, and deep geo-energy development. Analytical, experimental, and numerical study of soil-structure interaction and design of onshore and offshore foundations to improve infrastructure resilience to extreme events and geohazards. Modeling of shallow and deep geo-energy applications for energy production, gas sequestration, and waste storage.

3. Synthetic Biology for Environmental Solutions: Creation of innovative solutions for bioenergy, resource recovery, and emerging public health concerns by leveraging synthetic or molecular biology tools (e.g., high throughput DNA synthesis), novel biological systems (e.g., genetic circuits, enzymes, genetically engineered microbes), fundamental biological and chemical concepts, artificial intelligence, and big data science, as well as collaborations in Computer Science, Public Health, or related fields.

4. Emerging Construction Materials for Buildings and Pavements: Design and implementation of innovative materials to enable sustainable and functional civil infrastructure. Areas of desired expertise include but are not limited to: smart materials that enable adaptive, multi-functional, self-healing, energy harvesting, phase changing or sensing properties; sustainable materials including alternative cements and binders, advanced polymer or asphalt composites, and materials with enhanced durability; and materials that promote emerging construction practice such as additive manufacturing and automated construction processes.

5. Sustainable and Smart Infrastructure and Multimodal Transportation: Planning, design, construction, monitoring, management, and control of complex infrastructure systems and multimodal transportation for enhanced efficiency, resilience, and sustainability; integration of engineering fundamentals and principles, interdisciplinary approaches, and emerging technologies (e.g., high-performance computing, automation, robotics, networked sensing, data analytics) to address new opportunities such as smart infrastructure systems (e.g., roads, structures, electricity, water) and autonomous and connected transportation.

The department further invites qualified senior candidates for an Endowed Chair in Climate-Driven Risks to Natural and Built Environments in the Age of Big Data funded under the \$100-million Grainger Engineering Breakthroughs Initiative (<http://graingerinitiative.engineering.illinois.edu>). The area focuses on topics related to air, water, and/or earth surface and subsurface modeling to characterize and pose solutions to problems including, but not limited to, increase in demand for energy, variability in extreme hydroclimatic events, ecosystem and climate changes, climate-driven migration, interactions between natural and built environment, and emergence and control of environmental pathogens associated with climate change and human activities.

The successful candidates are expected to develop and maintain an internationally recognized research program, to contribute fully to teaching of undergraduate and graduate courses, and to provide service to the profession and University. Successful candidates are also expected to develop interactions with faculty across the Department, College and campus. Opportunities exist to participate in related CEE and campus-wide communities, such as the Micro and Nanotechnology Laboratory, Prairie Research Institute, Illinois Center for Transportation, MAE Center (Creating a Multi-hazard Approach to Engineering), the National Rail Transportation Center, the Information Trust Institute, the National Center for Supercomputing Applications, the Institute for Genomic Biology, the Safe Global Water Institute, the Illinois State Geological Survey, as well as other Engineering Departments and the new College of Medicine. Applicants must hold an earned doctorate in an appropriate field. Salary and rank will be commensurate with qualifications.

To ensure full consideration, create your candidate profile through <https://jobs.illinois.edu/> and upload your application cover letter with area(s) of expertise indicated (addressed to Professor Benito J. Mariñas, Head, Department of Civil and Environmental Engineering, 1114 Newmark

Civil Engineering Laboratory, 205 North Mathews Avenue, Urbana, IL 61801. Telephone: 217-333-6961) together with curriculum vitae, a concise summary of past research accomplishments and any teaching experience, a statement of future research and teaching plans, and complete contact information for at least three references by November 24, 2017. Only complete applications will be considered. Early applications are strongly encouraged as interviews may take place during the application period, but a decision will not be made until after the closing date. The starting date is negotiable, but is preferred to be August 16, 2018. Information about the department may be found at our website at <http://cee.illinois.edu/>. Questions should be referred to Vicki Dixon, vdixon@illinois.edu, (217) 244-0857.

Urbana-Champaign offers the residential advantages of a medium-sized university city, excellent cultural opportunities, and a high quality of life as reflected by its ranking as #2 of the 20 best college towns in America by Business Insider: <http://www.businessinsider.com/best-college-towns-in-america-2017-8/#17-blacksburg-virginia-home-of-virginia-polytechnic-institute-virginia-tech-4>.

The University of Illinois conducts criminal background checks on all job candidates upon acceptance of a contingent offer.

We have an active and successful dual career partner placement program and a strong commitment to work life balance and family friendly programs for faculty and staff: <http://provost.illinois.edu/faculty-affairs/work-life-balance/>.

The University of Illinois is an Equal Opportunity, Affirmative Action employer. Minorities, women, veterans and individuals with disabilities are encouraged to apply. For more information, visit <http://go.illinois.edu/EEO>. To learn more about the University's commitment to diversity, please visit <http://www.inclusiveillinois.illinois.edu>.

College Name or Administrative Unit:

Engineering

Category:

Faculty and Other Academic

Title:

College of Engineering: Open Rank Faculty – Civil & Environmental Engineering (F1700135)

Open Date:

09/29/2017

Organization Name:

Civil and Environmental Eng