

JOIN NUS CIVIL & ENVIRONMENTAL ENGINEERING

Faculty Positions in Emerging and Transformative Areas

The National University of Singapore (NUS) Department of Civil & Environmental Engineering (CEE) is consistently ranked among the world's leading Civil and Environmental Engineering departments.

Our internationally respected faculty conduct high-quality, multidisciplinary and translational research addressing complex challenges facing Asia and the world. With strong partnerships across NUS, government and industry, CEE is embarking on a significant expansion in both size and research scope to develop transformative solutions for urban and global challenges.

We Are Seeking Outstanding Faculty

We invite applications from exceptional candidates with strong research potential and a commitment to excellence in teaching in the following areas:

(i) **Transportation Technologies and Systems.**

We are particularly interested in candidates with complementary strengths in two areas: (1) transportation systems, operations and optimisation, particularly in maritime and aviation transportation, freight and logistics, multimodal transportation, and integrated land-sea-air transport systems; and (2) transportation technology and engineering, with a strong focus on developing, integrating and demonstrating deployable engineering solutions for intelligent transportation systems, including advanced sensing and perception systems, V2X and communication technologies, vehicle and roadside systems, transportation robotics and automation hardware, and digital twins.

(ii) **Resilient and Ageing Infrastructure**

As infrastructure in many developed economies matures, the engineering challenge is increasingly shifting from new construction towards the assessment, management, adaptation and life extension of ageing buildings and infrastructure. At the same time, climate change, changing patterns of use and increasing performance expectations are creating new demands on existing assets.

We seek candidates who can develop impactful research in resilient and ageing infrastructure, integrating fundamental understanding of material and structural deterioration, advanced assessment and monitoring, and AI/ML-enabled predictive

modelling to transform how infrastructure condition, remaining service life and future performance are evaluated.

A key research direction is the transition from prescribed or reactive maintenance towards predictive and risk-informed asset management, where inspection, monitoring and intervention can be prioritised based on anticipated deterioration and performance. This requires understanding how construction materials and structural systems evolve under different environmental exposures, including the effects of climate change and increasingly severe environmental conditions.

Research should also advance maintenance, repair, strengthening and rehabilitation technologies for aged materials and infrastructure systems, with emphasis on quantifying their effectiveness, durability and ability to extend service life.

The broader vision is to develop the materials knowledge, sensing and diagnostic technologies, AI/ML models, predictive tools and intervention strategies needed to support safer, more resilient and resource-efficient management of the next generation of ageing infrastructure.

(iii) **Clean Energy Materials**

We seek outstanding candidates who will establish an internationally recognized, externally funded research program at the interface of **materials science, environmental engineering, and clean energy technologies**. The successful candidate is expected to contribute to the department's strategic vision of advancing sustainable solutions to global energy and environmental challenges through innovative materials research.

We welcome applicants working in, but not limited to, the following areas:

- Advanced materials for hydrogen production and carbon dioxide utilization
- Functional nanomaterials for environmental remediation and resource recovery
- Environmental applications of advanced functional materials and interfaces

(iv) **Urban Sustainability and Informatics**

We seek an innovative scholar whose research and teaching integrate urban sustainability with data, computation, and emerging technologies to understand and address the complex challenges facing cities. We welcome candidates working at the intersection of urban systems, sustainability, and informatics, including areas such as **Urban digital twins and simulation, Artificial intelligence and machine learning for urban systems, Urban informatics and computational social science, and Urban energy, infrastructure, and resource systems**.

We encourage applications from candidates who bring perspectives that expand conventional approaches to create cities that are more sustainable, resilient, inclusive, and responsive to the people and environments they serve.

(iv) Hydrology & Subsurface Systems

We seek outstanding candidates with a doctorate in civil/environmental engineering, hydrology, hydrogeology, engineering geology, or a closely related field, whose research addresses the interaction between water, climate, the subsurface environment, and engineered systems. We are particularly interested in candidates who combine expertise in hydrology and hydrogeology with a strong understanding of geological and subsurface processes.

Relevant research areas include groundwater and subsurface flow, surface water-groundwater interactions, coupled hydro-geological and hydro-mechanical processes, urban groundwater, subsurface sensing and monitoring, climate change impacts, and advanced numerical and AI/ML-enabled modelling. A particular area of interest is research supporting the safe, resilient and sustainable development of underground space in highly urbanised environments, including groundwater responses to underground construction, subsurface flooding and water ingress, and the implications of climate change and hydrological extremes for underground infrastructure.

We particularly welcome candidates whose work bridges fundamental hydrological and geological science with practical engineering applications and contributes to climate adaptation and resilience, while building interdisciplinary collaborations across water resources, geotechnical engineering, underground infrastructure, environmental engineering, and urban systems.

(v) Environmental Science & Engineering

We seek outstanding candidates who hold a doctorate in environmental science and engineering or relevant fields with strong background and experience in emerging areas including environmental microbiology, public health, sustainability and beyond. Prior work experience in environmental data analytics and machine learning will be an added advantage.

CEE encourages candidates whose research complements and extends our strategic research clusters in:

Climate Change Mitigation & Adaptation | Digital & Smart Technology | Smart & Liveable Cities | Environmental Protection & Sustainability | Offshore & Ocean Infrastructure | Resilient Urban Systems

We particularly welcome candidates whose work can build interdisciplinary collaborations across NUS and beyond and translate fundamental research into real-world impact.

WHY JOIN NUS-CEE?

- 🌐 World-class research environment
- 👥 Highly collaborative and multidisciplinary community
- 🔬 Strong opportunities for interdisciplinary and translational research
- 💡 Access to cutting-edge research facilities and expertise
- 🏢 Strong government and industry partnerships
- 💰 Internationally competitive remuneration and research support
- ✈️ Relocation assistance and comprehensive benefits
- 🚀 Start-up grants for newly recruited tenurable faculty members

Application

Interested candidates should submit:

- Detailed curriculum vitae
- Academic transcripts
- Research statement
- Teaching statement
- Professional goals
- Names of **four referees**, including PhD and postdoctoral advisers

Faculty Search Committee

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Email: ceesec@nus.edu.sg

Attention: Ms. Siti Rohani

Find Out More

Learn more about NUS career opportunities and the Department of Civil & Environmental Engineering:

- **NUS Careers:** <https://www.nus.edu.sg/careers/whatyougettoenjoy.html>
NUS-CEE: <https://cde.nus.edu.sg/cee/>

Shape the Future with NUS-CEE

Join us in developing transformative engineering solutions for a more sustainable, resilient and liveable future.