

## Assistant Professor of Geotechnical Uncertainty (tenure track)

**Department/faculty:** Faculty Civil Engineering and Geosciences

**Level:** Doctorate

**Working hours:** 36-40 hours weekly

**Contract:** Tenure Track

**Salary:** 3637 - 5656 euros monthly (full-time basis)

### Faculty Civil Engineering and Geosciences

The Department of Geoscience and Engineering ([www.tudelft.nl/ceg/gse](http://www.tudelft.nl/ceg/gse)) encompasses 5 sections: Applied Geology, Applied Geophysics and Petrophysics, Geo-Engineering, Resource Engineering, and Petroleum Engineering. Within the department there is considerable scope and encouragement for inter-disciplinary research.

The Section of Geo-Engineering has 9 full-time and 5 part-time academic staff, and 25 PhD and post-doctoral researchers. Areas of expertise include soil mechanics, dykes and embankments, foundation engineering, underground space technology, engineering geology, and geo-environmental engineering. There are extensive experimental laboratory facilities, including large-scale soil-structure interaction testing facilities and a geotechnical centrifuge. The section has close links with the onshore and offshore industries and with the Dutch research institute Deltares.

The department is part of the Faculty Civil Engineering and Geosciences ([www.tudelft.nl/ceg](http://www.tudelft.nl/ceg)). CEG is committed to outstanding international research and education in the field of civil engineering, applied earth sciences, traffic and transport, water technology and delta technology. The research covers global social issues and is closely connected to education as well as the work of a wide range of knowledge institutions. CEG is convinced that Open Science helps to realise these goals and supports its scientists in integrating Open Science in their research practice. The Faculty of CEG comprises 28 research groups in the following seven departments: Materials Mechanics Management & Design, Engineering Structures, Geoscience and Engineering, Geoscience and Remote Sensing, Transport & Planning, Hydraulic Engineering and Water Management.

### Job description

Would you like to be our new Assistant Professor of Geotechnical Uncertainty?

There is an increasing need to quantify the performance of geotechnical structures and infrastructure within a reliability-based framework, so that risks can be explicitly quantified for guiding effective mitigation measures. Of fundamental importance is the need to understand uncertainties and their impacts at the soil mechanical level, as an essential precursor to reducing the uncertainty in soil mechanical behaviour as well as to understanding uncertainty propagation to the structural level.

The position is proposed to investigate soil mechanical material behaviour accounting for uncertainties relating to, for example, measurements, statistics, transformation from measured to derived properties, and external (including environmental) loadings. It takes into consideration the random, spatial and systematic components of uncertainty, as well as uncertainties relating to the cross-correlations of material properties and multi-physical couplings, and develops new solutions to better control and reduce the geotechnical uncertainty and risk in geotechnical assessments and construction processes.

We aim for an Assistant Professor with the capacities and desire to develop a fundamental research programme of international standing with a strong footing in the Dutch Geotechnical community. The appointee will develop collaborations within the faculty (e.g. with Resource Engineering, Applied Geology, Geophysics and Hydraulic Engineering), other faculties and universities.

This requires proven research qualities in combination with the capacity to reach out to the construction industry and the wider geotechnical engineering community. You are expected to attract research funding from a multitude of sources. Therefore you are comfortable finding new connections and communicating easily with external parties, colleagues and students.

Teaching and supervising researchers and students will be part of your duties. You are expected to actively contribute to the education portfolio of the section, department and faculty at all academic levels (BSc, MSc and PhD). Together with colleagues you will develop new approaches to engineering education using the state of the art facilities present at TU Delft.

## Requirements

You should have a PhD in Geotechnical Engineering or another related discipline, with a strong expertise in soil mechanics and statistical methods. You should demonstrate outstanding research potential and have published in peer-reviewed, international scientific journals. You should enjoy pioneering and exploring new paths.

You should have a clear vision on modern education in engineering. You can inspire students and develop their passion for and knowledge of geotechnical engineering.

You need to demonstrate that you can initiate, acquire, execute and coordinate research projects.

You should be a real team builder and have good communication skills in English. In order to develop close working relationships with the Dutch industry it is essential that you can speak Dutch, or are willing to learn Dutch within the first two years.

## Conditions of employment

At the start of the tenure-track you will be appointed as Assistant Professor for the duration of six years. You will meet with the section leader and department leader and you will agree upon expected performance and (soft) skills. You will receive a start-up package and formal feedback on performance and skills during annual assessment meetings and the mid-term evaluation. If the performance and skills are evaluated positively at the end of the tenure track, you will be appointed in a permanent Assistant Professor position.

TU Delft offers a customisable compensation package, a discount for health insurance and sport memberships, and a monthly work costs contribution. Flexible work schedules can be arranged and part-time employment is possible. An International Children's Centre offers childcare and an international primary school. Dual Career Services offers support to accompanying partners. Salary and benefits are in accordance with the Collective Labour Agreement for Dutch Universities.

TU Delft sets specific standards for the English competency of the teaching staff. TU Delft offers training to improve English competency.

Inspiring, excellent education is our central aim. If you do not yet have your teaching certificate, we allow you up to three years to obtain this.

## Information and application

For information about this vacancy, you can contact Prof. Dr. Michael Hicks, head of the section of Geo-Engineering, email: [m.a.hicks@tudelft.nl](mailto:m.a.hicks@tudelft.nl), tel: +31 15 278 7433.

To apply, please send a detailed CV, along with a short letter of motivation and personal research and teaching statement (max 3 pages), as well as contact information of two persons who can provide references, a publication list, an abstract of your MSc and PhD thesis and two selected publications, compiled into a single pdf file named `lastname_firstname_CiTG19.39.pdf` by 7th of October to [recruitment-citg@tudelft.nl](mailto:recruitment-citg@tudelft.nl). When applying for this position, please refer to vacancy number CiTG19.39.

If your MSc diploma and transcript are not in Dutch, English, French or German and you will be the selected candidate, the TU Delft will ask you to deliver a certified translation in case you will be appointed.

***TU Delft creates equal opportunities and encourages women to apply.***