

## Assistant Professor in Biochemical physics of structures (Tenure track)

**Delft University of Technology, Delft, The Netherlands**

**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 position is open at the Department of Engineering Structures of the Faculty of Civil Engineering and Geosciences of TU Delft. The department offers a lively and dynamic international research and education environment.

The research focus of the department is placed on the investigation and development of resilient, smart and sustainable structures and infrastructures as well as on the structures for energy transition. Within these main themes research is carried out into the dynamics of structures, mechanics of materials related to e.g. climate change, modelling and design of railway systems, multi-scale modelling of materials and structures, reuse of materials, structures and parts of structures, assessment methods for structures, smart monitoring techniques, design methods, replacement and renovation of civil infrastructure and development of new materials and maintenance techniques. The groups are intensively using the unique Macro Mechanics Laboratory for full scale testing, monitoring and modelling of structures to facilitate fast implementation of innovations. The Department delivers a large number of courses both at the BSc and MSc levels.

The faculty of Civil Engineering & Geosciences (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.

<https://www.tudelft.nl/en/ceg/>

### Job description

The candidate is expected to contribute to fundamental understanding of material degradation and aging processes on nano-, micro- and macroscale in structures. This includes biological, chemical and physical processes that contribute to and affect the long-term reliability and serviceability of engineered structures. The focus will be on the scientific description of the time dependent behavior of structural materials, mainly organic, with phenomena as creep-failure, fatigue and fracture and the interaction of these processes with the environments to which structures are exposed. Examples of such exposures are environments that lead to oxidation, corrosion, carbonation, moisture and freeze/thaw damage or biological decay, influencing both material properties and structural performance. The candidate will focus on the understanding of these processes and the development of sustainable engineering solutions for structural applications in a changing environment.

### Requirements

The candidate holds a PhD in a topic that demonstrates her ability to think in fundamental concepts and to model complex processes with respect to material (e.g. natural/synthetic polymers) degradation in relation to structural performance. The candidate shall aim to develop her own group of researchers with strong links to other groups within the department dealing with structural engineering, as well as with materials science groups within the university as a whole. We are also looking for a candidate with a positive and clear style of communication in order to reach a broad audience, including students.

### Conditions of employment

At the start of the tenure-track you will be appointed as Assistant Professor for the duration of six years. Section leader, 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 parttime 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. Andrei Metrikine e-mail [A.Metrikine@tudelft.nl](mailto:A.Metrikine@tudelft.nl) . TU Delft creates equal opportunities and encourages women to apply.

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\_CiTG19.26 pdf by 1st of December to [recruitment-citg@tudelft.nl](mailto:recruitment-citg@tudelft.nl) . When applying for this position, please refer to vacancy number CiTG19.26.