

Assistant Professor Smart Diagnostics and Monitoring With Applications in Precision Agriculture

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Job description

The Delft Center for Systems and Control (DCSC) is aiming to strengthen, expand, and renew its international competences through new recruitments. We are looking for excellent candidates with a proven track record of ground breaking scientific research, a challenging and innovative research program, and a commitment to higher education. As part of this initiative, we are offering a tenure-track assistant professor position for a period of 6 years, leading to a permanent position assuming excellent performance. During the tenure track, the candidate will have the opportunity to develop into an internationally acknowledged and recognized academic. To this aim, we offer a structured career and personal development program.

Data-driven and model-based diagnostics and monitoring solutions for intelligent decision-making and control systems are becoming increasingly critical in meeting sustainable food production and economical / ecological / societal goals in the 21st century.

This position aims at the integration of smart diagnostic methodologies and end-to-end decision-support system design with applications in precision agriculture and AgTech in general. This may include the development of novel approaches to the analysis, monitoring, prediction, and control of various biological processes (such as plant development, ground water levels, soil composition, ecological networks, etc).

Preferred expertise may include (but is not limited to) the following topics:

- Multi-sensor fusion, model reduction, optimization, control, and monitoring of nonlinear distributed-parameter systems.
- Data-driven and model-based fault/anomaly detection and condition monitoring with applications in agriculture or high-tech systems.
- Systems biology, bioinformatics, and machine learning with applications in next generation AgTech systems (such as crop/seed development).

The department Delft Center for Systems and Control (DCSC) of the faculty Mechanical, Maritime and Materials Engineering, coordinates the education and research activities in systems and control at Delft University of Technology. The Centers' research mission is to conduct fundamental research in systems dynamics and

control, involving dynamic modelling, advanced control theory, optimisation and signal analysis. The research is motivated by advanced technology development in physical imaging systems, renewable energy, robotics and transportation systems.

Requirements

The successful candidate for this position should have a PhD in systems and control, applied mathematics, bioinformatics, or related fields. An outstanding track record in conducting academic research is required, together with excellent communication skills, a clear vision on foundational research, and an affinity with teaching on both bachelor and master level.

Conditions of employment

The tenure-track position is offered for six years. In the fifth year we'll decide if you will be offered a permanent faculty position, based on performance indicators agreed upon at the start of the appointment. We expect that you have the potential to grow towards an Associate Professor and/or Full Professor role in the future.

For more information about the tenure track and the personal development programme, please visit www.tudelft.nl/tenuretrack.

Inspiring, excellent education is our central aim. We expect you to obtain a University Teaching Qualification (UTQ) within three years if you have less than five years of teaching experience. This is provided by the TU Delft UTQ programme.

TU Delft sets high standards for the English competency of the teaching staff. The TU Delft offers training to improve English competency. If you do not speak Dutch, we offer courses to learn the Dutch language within three years.

Salary and benefits are in accordance with the Collective Labour Agreement for Dutch Universities. The TU Delft offers a customisable compensation package, a discount on health insurance and sport memberships, and a monthly work costs contribution.

Flexible work schedules can be arranged.

For international applicants we offer the [Coming to Delft Service and Partner Career Advice](#) to assist you with your relocation. An International Children's Centre offers childcare and there is an international primary school.

TU Delft creates equal opportunities and encourages women to apply.

TU Delft (Delft University of Technology)

Delft University of Technology is built on strong foundations. As creators of the world-famous Dutch waterworks and pioneers in biotech, TU Delft is a top international university combining science, engineering and design. It delivers world class results in education, research and innovation to address challenges in the areas of energy, climate, mobility, health and digital society. For generations, our engineers have proven to be entrepreneurial problem-solvers, both in business and in a social context.

At TU Delft we embrace diversity as one of our core [values](#) and we actively [engage](#) to be a university where you feel at home and can flourish. We value different perspectives

and qualities. We believe this makes our work more innovative, the TU Delft community more vibrant and the world more just. Together, we imagine, invent and create solutions using technology to have a positive impact on a global scale. That is why we invite you to apply. Your application will receive fair consideration.

Challenge. Change. Impact!

Faculty Mechanical, Maritime and Materials Engineering

The Faculty of 3mE carries out pioneering research, leading to new fundamental insights and challenging applications in the field of mechanical engineering. From large-scale energy storage, medical instruments, control technology and robotics to smart materials, nanoscale structures and autonomous ships. The foundations and results of this research are reflected in outstanding, contemporary education, inspiring students and PhD candidates to become socially engaged and responsible engineers and scientists. The faculty of 3mE is a dynamic and innovative faculty with an international scope and high-tech lab facilities. Research and education focus on the design, manufacture, application and modification of products, materials, processes and mechanical devices, contributing to the development and growth of a sustainable society, as well as prosperity and welfare.

Click [here](#) to go to the website of the Faculty of Mechanical, Maritime and Materials Engineering. Do you want to experience working at our faculty? This [video](#) will introduce you to some of our researchers and their work.

Additional information

For more information about this position, please contact Prof.dr.ir. Tamás Keviczky (t.keviczky@tudelft.nl).

For information about the application procedure, please contact Irina Bruckner, HR advisor (application-3mE@tudelft.nl).

Application procedure

Are you interested in this vacancy? Please apply by **15 October 2022** via the application button and upload:

- a detailed curriculum vitae that explicitly states your educational record, recent major achievements, list of publications
- a separate letter stating your motivation for this position and why the proposed research topic interests you
- a vision on research and education, and
- the names of three persons who could be contacted for a reference and any other information that might be relevant to your application.

A pre-employment screening can be part of the selection procedure.
You can apply online. We will not process applications sent by email and/or post.
Acquisition in response to this vacancy is not appreciated.

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