

The Delft Center for Systems and Control at TU Delft - Delft University of Technology, The Netherlands, announces an opening for a 15-month **post doctoral position** on the topic

Verification and Control of Stochastic Systems with Applications in Power Networks

General Project Description

The aim is to propose novel methods for analysis, verification and control of complex, large scale models, under the general framework of stochastic hybrid systems (SHS). SHS allow one to describe the interleaving between continuous and discrete dynamics and the effect of probabilistic uncertainty.

We plan to combine techniques for SHS from the computer science (giving rise to theorem proving and model checking methods) and from systems and control engineering (giving rise to optimal control and randomized techniques).

Fundamental research will be applied to problems in power networks, where SHS arise naturally: continuous dynamics model the evolution of voltages, frequencies, etc., discrete dynamics changes in network topology, and probability the uncertainty about power demand and power supply.

The position is funded in part by the European Commission under the FP7 project MoVeS, www.movesproject.eu

Candidate Profile

We are looking for a candidate with a PhD degree in a topic related to the themes of the described research, such as applied mathematics, systems and control, or related engineering disciplines. The candidate will be involved in fundamental research and in expected collaborations with the industry. On top of a strong theoretical background, it is preferable that the candidate has expertise and skills in simulation software (Matlab, Mathematica, gPROMS). Required are good communication skills in writing as well as oral English (knowledge of Dutch is not required).

Conditions of Employment

We offer the opportunity to do fundamental research on scientifically challenging topics. The candidate will work in collaboration with other researchers and students in an international, multi disciplinary research group at DCSC, the Delft Center for Systems and Control. DCSC is part of the Faculty of 3mE at TU Delft - Delft University of Technology. DCSC coordinates the education and research activities in Systems and Control at TU Delft. The researcher will also be involved in the network of the national research school DISC (The Dutch Institute of Systems and Control). The appointment will be for 15 months. As an employee of the university the researcher will receive a competitive salary as well as excellent secondary benefits in accordance with the Collective Agreement (CAO) of the Association of Universities in the Netherlands VSNU. Assistance with accommodation can be arranged.

Further Information and Application Process

If you are interested in this position, please send, along with a brief cover letter,

1. a detailed curriculum vitae,
2. a copy of your PhD dissertation, plus any additional information on earlier degrees,
3. a publication list, copies of the two most relevant articles, links to developed software,
4. names and addresses of (at least) two reference persons,
5. and all other information that might be relevant to support your application

to **Dr. Alessandro Abate** (email: a.abate@tudelft.nl).

More information on this position can be obtained from Dr. Alessandro Abate, at
<http://www.dcsc.tudelft.nl/~aabate>

The position will remain open until filled, however evaluations and possible interviews of candidates will start in the first months of 2012.