

MEE Young Investigator Award and Lectureship 2015

As part of its celebrations to commemorate 30 of contribution in the field of processing for Micro- and Nanoscale Device and System fabrication, in 2014 Micro Electronic Engineering (MEE) has installed a series of Young Investigator Awards and MEE Lectureships. The 2015 Award and Lectureship will be presented at the 2015 MNE Conference on September 21-24, 2015 in The Hague, The Netherlands, sponsored by Elsevier.

Following the internationally publicized call for applications, nominations for 18 outstanding candidates were received and evaluated by a committee of 8 international judges recruited from the MEE Editorial Board and previous award winners. Main ranking criteria were

- the overall accomplishment of the candidates,
- the originality and relevance of their work,
- the degree of independence they have gained.

Based on this evaluation the committee decided to present the

2015 Young Investigator Award and MEE Lectureship

to

Dr. Stephan Sylvest Keller,

Senior Researcher at the Technical University of Denmark (DTU),

Department of Micro- and Nanotechnology (DTU Nanotech).

“in recognition of his outstanding contributions to the science and technology of polymer microfabrication for applications in life science.”

The award will be presented during the plenary morning-session on Thursday, September 24, 2015. After the award ceremony, the laureate will present his research in an invited lecture

(members of the committee: Maan Alkaisi, Anja Boisen, Jin-Woo Choi, Monika Fleischer, Evangelos Gogolides, Dieter Kern (chair), Francesc Perez-Murano, Guillermo Villanueva)

Stephan Sylvest Keller

Education

28.08.2008 Ph.D., DTU Nanotech; Fabrication of polymer microsensors
09.04.2005 M.Sc. in Microtechnology, EPFL; Specialisation in MEMS and microelectronics
17.07.2002 B.Sc. in Microtechnology, University of Neuchâtel

Research

06.2013-present: Senior Researcher at the Technical University of Denmark (DTU),
Department of Micro- and Nanotechnology (DTU Nanotech)
06.2009-05.2013 Assistant Professor, DTU Nanotech
06.2008-05.2009 Postdoctoral researcher, DTU Nanotech

Publications

Stephan has published 41 peer-reviewed publications, 12 of these in MEE

Reviewer activity

Reviewer of scientific publications in various journals (J. Micromech. Microeng.,
Macromolecules, Microelec. Eng., Micro and Nano Letters, Sensors, JMEMS)

Student supervision

Co-supervisor of 11 Ph.D. students: 7 graduated, 4 running
Main topics: SU-8 microcantilever sensors, dry etching of polymers, biopolymer devices for
oral drug delivery, pyrolysis, biopolymer characterization

Project Management

2009-2014: Project manager of 3 WPs in the Villum Kann Rasmussen (VKR) Center of
Excellence on “Nanomechanical sensors and actuators - fundamentals and new directions
(NAMEC)” headed by Prof. Anja Boisen; the focus of these WPs was the fabrication of
polymer devices for oral drug delivery

Funding

2009 PostDoc-stipend, Danish Research Council for Technology and Production (FTP),
project no. 09-066688, Denmark, 0.6 M€; Fabrication of biopolymer microcontainers for oral
drug delivery of poorly soluble drugs.
2014 VKR Young Investigator Grant, Villum Foundation, Denmark, 1 M€; Development of
new 3D carbon microelectrodes to monitor toxic effects of environmental pollution on cells
and to improve the efficiency of bioremediation
2015 Co-applicant IDUN centre of excellence, Danish National Research Foundation,
Denmark, 7 M€; Microfabricated drug delivery devices

Innovation

2 European patents

Research Profile

The major focus of his research is on polymer microfabrication for applications in life
science. Most of his work is based on the implementation and optimization of new fabrication
processes and the analysis and modification of existing processing schemes. The processes are
developed for the fabrication of microdevices for diagnostics, drug delivery and tissue
engineering. In these applications, the use of biocompatible or biodegradable materials is
advantageous or even required.