

Kolloquium

Am Dienstag, dem 17. Juli 2012, um 14:00 Uhr hält

Dr. Quan Zhou
School of Electrical Engineering,
Aalto University, Helsinki, Finland

einen Vortrag mit dem Titel

Fusion of robotics and self-assembly for microsystem integration

Der Vortrag findet im Raum A1-3-330 statt.

Abstract:

Integration of microsystems at high precision and high speed is a challenging task. This talk discusses our view on tackling the problem using hybrid microassembly technology that combines robotic microassembly and self-assembly. Firstly, the concept and the origin of the hybrid technology will be discussed. The challenges of hybrid microassembly technology in surface and process engineering will be discussed. Several case studies will be presented, including chip stacking, 3D microassembly, mist-induced self-alignment, assembly of RFID tags, etc. Future challenges and potential technical paths will also be discussed.

Short biography:

Dr. Quan Zhou received the M.Sc. degree in Control Engineering and Dr. Tech. degree in Automation Technology, both from Tampere University of Technology, Tampere, Finland. He is an adjunct professor at the Department of Automation and Systems Technology, School of Science and Technology, Aalto University, Finland, leading the Micro- and Nanorobotics research team. Dr. Zhou is also holding a professor position at the School of Mechatronics, Northwest Polytechnical University, Xi'an, China. Since 1995, he has worked in nearly twenty academic, industrial and European Union projects in micro- and nanorobotics and micromechatronics and authored more than fifty scientific publications. Since 2000, he has been actively leading research teams in different universities.

The current goal of his research is to bring microrobotics and self-assembly together, including hybrid assembly, robotic assembly, and self-assembly, and their applications in RFID assembly, handling of optoelectronic components, and 3D integration of microsystems. He is also actively working on mobile microrobots and micro- and nanomechatronic systems, and their industry and biomedical applications. Currently he is the coordinator of EU FP7 project FAB2ASM. He is also an associate editor of Journal of Micro-Nano Mechatronics.

Eingeladen von: Prof. Dr.-Ing.habil. Sergej Fatikow