

Kolloquium

Am Mittwoch, dem 30. Mai 2012, um 15:00 Uhr hält

Professor Pasi Kallio
Tampere University of Technology, Finland

einen Vortrag mit dem Titel

Automatic Microsystems in Handling and Characterization of Micro-scale Biosamples and Materials

Der Vortrag findet im OFFIS, Escherweg 2, Konferenzraum D21 statt

Abstract: The talk will give an overview of Prof. Kallio's research activities on automatic Microsystems in handling and characterization of micro-scale objects and samples. The activities include Microsystems in stem cell studies, Microsystems in point-of-care patient diagnostics and Microsystems in paper and wood fiber studies.

The first part of the talk will cover automatic micromechatronic systems for cultivation and mechanical stimulation of neuronal and cardiac cells derived from stem cells. The second part discusses issues in the development of an automatic microrobotic platform for handling and characterization of individual paper fibers and fiber bonds. In the third part, disposable microfluidic polymer chips aimed for diagnosing hyper- and hypothyroidism, heart attack and tuberculosis will be discussed. In all parts, the talk will give an overview of general research goals together with our latest results in the area.



Professor Pasi Kallio, Department of Automation Science and Engineering, Tampere University of Technology, Tampere, Finland

Biography: Pasi Kallio is a Professor of Automation Engineering at Tampere University of Technology (TUT), Tampere, Finland. He received his M.S. degree in electrical engineering and the D.Tech. degree in automation from TUT in 1994 and in 2002, respectively. Currently, he leads Micro- and Nanosystems Research Group in the Department of Automation Science and Engineering. He is the deputy head of the department, the deputy head of International Master Programmes in Machine Automation, and in Science and Bioengineering, and the chair of IEEE Finland Section. Prof. Kallio has more than 70 international referee papers and eleven patent applications. He is also a founder member of one spin-off company. Prof. Kallio's main research interests include microrobotics and microfluidics, and their application in the development of automatic systems for cell manipulation, paper fiber characterization and medical diagnostics.

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