CARL VON OSSIETZKY universität OLDENBURG

Fakultät II *Informatik, Wirtschafts- und Rechtswissenschaften*
Department für Informatik

Kolloquium

Am Freitag, den **25. September 2015**, um **14:00** hält

Dong Sun

Chair Professor and Head, Department of Mechanical and Biomedical Engineering
City University of Hong Kong, China

einen Vortrag mit dem Titel

Robotic Single Cell Manipulation: New Frontiers in Bioengineering

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

Abstract

Robot-aided single cell manipulation opens up a new avenue for probing cell functional mechanisms as well as developing new targeted therapy for human diseases. This talk will introduce our recent development of automated single cell manipulation tools utilizing robotically controlled optical tweezers and microfluidic chip processing. These tools enable us to characterize cell properties and even control cell behaviors through numerous manipulations such as cell stretching, cell migration, cell fusion, cell sorting and various cellular engineering techniques. The underlying work has brought together the diverse talents, expertise, and tools of cross-disciplinary researchers from engineering, biology and medicine, and demonstrated a proof-of-concept feasibility of table-top robotic cell manipulations at the micro/nano-scale level of precision.

Biography

Professor Dong Sun is an internationally renowned scholar in robotics and the related area of biomedical engineering with numerous outcomes in both fundamental and applied research. He received the Bachelor's and Master's degrees from Tsinghua University, Beijing, China, and the Ph.D. degree from the Chinese University of Hong Kong. After performing his Postdoctoral research at the University of Toronto and Ontario industry, Canada, he joined the City University of Hong Kong as an Assistant Professor in 2000, where he is currently the Chair Professor and the Head of the Department of Mechanical and Biomedical Engineering. His main research interests include micro/nano robotics and biomedical device particularly for cellular engineering applications. He has published eleven books and book chapters, more than 300 technical articles in referred journals and conference proceedings, and holds six patents. He served on editorial boards for several prestigious international journals such as the IEEE Transactions on Robotics and the IEEE/ASME Transactions on Mechatronics. He organized several international conferences as the General or Program Chairs. Dr. Sun is currently serving as an Engineering Panel Member of Hong Kong Research Grant Councils. He received numerous best paper awards from the international journal and conferences, as well as industrial awards such as Hong Kong Awards for Industry. He is a fellow of the IEEE and HKIE.

Eingeladen von: Prof. Dr. Sergej Fatikow

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