

Title: Automatic Microsystems for Handling and Characterization of Microscopic Biological Samples

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 microfluidic and microrobotic systems in stem cell studies, microfluidic systems in point-of-care patient diagnostics and microrobotic systems in paper and wood fiber studies.



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Prof. Pasi Kallio is the head of a Micro- and Nanosystems group (MST) in the Department of Automation Science and Engineering at Tampere University of Technology (TUT). He is the Deputy Chair of the department and he also currently chairs the IEEE Finland Section. Professor Kallio received his MSc degree in electrical engineering and a PhD degree in automation from TUT in 1994 and in 2002, respectively. 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. Since the establishment of the group in 2000, the research work has resulted in more than 80 internationally refereed articles, 11 national and international patent applications, patents on four innovations and a spin-off company. The group has been honoured with the Finnish Automation Award in 2009 and a regional Academic Idea Contest in 2004.