Challenges of Automation in SEM-based Assembly and Fabrication at the Nanoscale

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Abstract:

The scanning electron microscope (SEM) is a standard tool in the development and production of MEMS and NEMS. However, due to its hermetic working environment and its physical working principle, the SEM poses several challenges to the automation of characterization and manufacturing tasks. This talk discusses how to address challenging factors for SEM-based automation and introduces ways to minimize or even utilize them, with some examples of fully automated fabrication processes within the SEM.

Bio:

Dr. Malte Bartenwerfer is currently a Research Fellow in the Division of Microrobotics and Control Engineering at the University of Oldenburg and leading the group of *Robotic Manipulation, Characterization and Processing on the Nanoscale.* He received his doctoral degree in engineering and a masters degree in physics both from the University of Oldenburg. His research interests include object handling and characterization on the nanoscale as well as application-oriented research on automation of fabrication processes inside the scanning electron microscope.