



# Bio Nano Robo Seminars

**Thursday, April 17, 2008, 17h-18h**

Room Dw601, Block D, 6<sup>th</sup> floor  
IIS-University of Tokyo, Komaba 4-6-1,  
Meguro-ku, Tokyo 153-8505.

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### Emerging micro/nanopatterning techniques for MEMS/NEMS

#### Abstract

Structuring silicon and related materials at micro and nanometer scale is typically done with sophisticated lithography and etching methods. For advanced micro- and nanosystems (MEMS/NEMS) more functional materials (complex oxides, nanocrystal polymer blends, and bio-molecules) need to be integrated at multiple length-scales (from nm to mm) and on a variety of substrates (including flexible polymer substrates). This is a grand challenge for surface patterning methods. Recently, alternatives to resist-based lithography have been developed. This talk will first give an overview of emerging nanopatterning methods and will then discuss in more detail two methods that are based on the local deposition of material, i.e. a vacuum-based high-resolution shadow mask process (stencil lithography) and a drop-on-demand dispensing of functional liquids by inkjet printing nanofabrication method.

## FREE ENTRANCE

**a banquet will follow**



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