

## Hybrid Micro-Technologies for Medical and Other Applications

Professor **Yogesh Gianchandani**

**The University of Michigan**

<http://www.mnf.umich.edu/ssel/People/index.aspx?id=69>



日時: 2009年 11月11日(水) 15:00-16:30  
会場: 東京大学工学部2号館 3F 31A会議室

### 要旨

Medical applications have long provided an impetus for research in silicon-based microsystems. The University of Michigan has had continuous activity in biomedical microsystems since the 1970's. This talk will describe micro-technologies that are presently being explored in the UM Center for Wireless Integrated Microsystems (WIMS) that complement and extend conventional manufacturing approaches. For example, lithographic microfabrication methods can be used to fabricate stents and integrated microsensors that can monitor lumen patency in cardiac and biliary applications. These methods can also be extended to the fabrication of ceramic-based piezoelectric transducers. One potential application is to provide tissue density measurements at the tip of a biopsy needle. Piezo-thermal elements may additionally provide the means for precise cauterization and tissue ablation. Other examples of hybrid micro-technologies will also be provided.