

## Seminar

# 3-Dimensional Nanoimprinting

by

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### **Abstract**

Unique capabilities of nanoimprinting have been demonstrated for 3-dimensional patterning. These include generating multiple layer polymer stacks, 3-dimensional structures, channels, cavities, conformal coating, as well as patterning inside trenches. For successful nanoimprinting of these micro- and nano-structures, proper surface treatments, imprint temperature and pressure, polymer materials, and addition of plasticizers are important.

Reversal imprinting provides the advantages of simplicity, versatility, and high resolution. Addition of plasticizer in polymer lowers temperature and pressure needed for imprinting. Besides generating 3-dimensional structures, reversal imprinting also allows flexible or curved substrates to be patterned. These unique patterning capabilities are difficult to accomplish using conventional patterning techniques.

### **Biography**

**Stella W. Pang** received her Sc.B. degree from Brown University in Electrical Engineering and Computer Science in 1977 and M.Sc. and Ph.D. degrees in Electrical Engineering and Computer Science from Princeton University in 1978 and 1981. From 1981 to 1989, Dr. Pang was with Lincoln Laboratory at the Massachusetts Institute of Technology. She joined the University of Michigan in 1990. Currently, she is a professor in electrical engineering and computer science and the associate dean for graduate education in the college of engineering. Dr. Pang's research interests include nanofabrication technology for microelectromechanical, microelectronic and optical devices. She has over 300 technical papers, book chapters and presentations and is the editor and author of 16 books, journals and conference proceedings. She has taught 20 short courses on microfabrication technology for microelectronic manufacturing and microelectromechanical systems. She is a Fellow of IEEE, ECS and AVS.

Date : 13 August 2004 (Friday)  
Time : 4:00 pm – 5:00 pm  
Venue : G6302, 6/Floor, Green Zone, Academic Building  
City University of Hong Kong

**ALL ARE WELCOME**

*Language: English*