



## **Multifunctional Excimer-Laser Lithography and Photoablation Technologies for Large-Area Micro and Nanoelectronics, Displays and Microsystems**

**TUESDAY September 9, 2008**  
***Babbio 122, Time: 11am***

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As micro and nanoscale electronic and optical devices make advances in speed, functionality and integration, demands on their fabrication processes and equipment continue to accelerate. Recently, there also has been an increasing impact of fabrication technologies in large-area microelectronics, displays, microsystems and biomolecular structures. These technologies enable the micro/nanostructuring of a variety of organic and inorganic materials, developing new synthesis techniques, and producing structures and devices previously deemed unfeasible. To facilitate these explorations, processing techniques and multifunctional systems are desired that can handle various substrate materials and geometries, including large areas, flexible sheets and nonplanar surfaces. We review advances in micro/nanolithography, photoablation and other technologies developed for these applications, distinguishing their requirements from those of established semiconductor fabrication technologies..

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**Dr. Kanti Jain** is Professor of Electrical & Computer Engineering at the University of Illinois, Urbana-Champaign. He received the Ph.D. in Electrical Engineering and Solid State Physics from the University of Illinois, Urbana-Champaign in 1975, M.S. from there in 1970, and B.Tech. (Hons.) from I.I.T, Kharagpur in 1969. Following a Postdoctoral Fellowship at M.I.T., he held senior technical and managerial positions in the microelectronics industry for 30 years, including at I.B.M., H.P., Raychem and Anvik. Dr. Jain's inventions of high-resolution and large-area lithography technologies are used worldwide in production of semiconductor integrated circuits and flat-panel displays. He is author of the book Excimer Laser Lithography and holds 66 patents. He is recipient of OSA's Richardson Medal and is a Fellow of IEEE, OSA and SPIE.