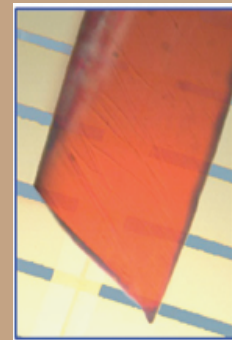




## 'Soft' Materials and Nanopatterning Techniques for Electronics

Organic materials have a strong potential to play important roles in future electronic and photonic systems. Additive printing and lamination techniques can be used directly with these classes of 'soft' materials to fabricate unusual devices with dimensions deep into the nanometer regime. This talk describes the operational aspects of organic transistors and light emitting diodes that are built using these techniques with small molecule organics (single crystals and polycrystalline thin films), polymers and arrays of single walled carbon nanotubes as the active materials. It provides examples of working prototypes, such as flexible paperlike displays, that demonstrate some promising applications.



### John A. Rogers

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*John A. Rogers, obtained BA and BS degrees in chemistry and in physics from the University of Texas, Austin, in 1989. From MIT, he received SM degrees in physics and in chemistry in 1992 and the PhD degree in physical chemistry in 1995. From 1995 to 1997, Rogers was a Junior Fellow in the Harvard University Society of Fellows; during this time he also served as a Director for Active Impulse Systems, a company that he co-founded in 1995 and which was acquired in whole by Philips in 1998. He joined Bell Laboratories as a Member of Technical Staff in the Condensed Matter Physics Research Department in 1997, and served as Director of this department from 2000-2002. He is currently Founder Professor of Engineering at University of Illinois at Urbana/Champaign, where he pursues his research interests in unconventional methods for micro/nanofabrication, plastic and molecular electronics and unusual photonic systems.*

*Rogers has published more than 100 papers and is an inventor on over 60 patents and patent applications, more than 30 of which are either licensed or in active use. He was selected as one of the nation's top 100 young innovators for the 21st century by MIT Technology Review magazine in 1999 and was named the Robert B. Woodward Scholar at Harvard University in 2001. He has received many awards for his work, including the American Chemical Society's Team Innovation Award (2001), two R&D100 awards (2001 and 2002), R&D magazine's "Best of the Best" new technology award for plastic display circuits (2001), Photonics Spectra magazine's Circle of Excellence award for tunable dispersion compensators (2003) and, most recently, MIT Technology Review magazine's top 10 emerging technologies award for microfluidic optical fiber devices (2004).*

Wednesday, March 10, 2004  
4:00 p.m.  
B02 Coordinated Science Lab  
Reception immediately following  
in the lobby of CSL