

## Fall 2008 Wulff Lecture

Monday, November 17, 2008

4:45–5:45pm

Room 10-250

*Reception immediately following*

# From Fiber Optic Surgical Scalpels to Fabrics That See: *How Materials Scientists are Shaping the Future*

Professor Yoel Fink

Associate Professor of Materials Science  
Department of Materials Science and Engineering, MIT  
MacVicar Fellow

*Professor Fink's research interests are in the theory, design, fabrication, and characterization of multi-material, multifunctional fibers and fiber assemblies. These exciting new materials are composed of conductors, semiconductors, and insulators with 10's-of-nanometers feature sizes. While sharing basic semiconductor device attributes, they are processed using conventional fiber-processing approaches, thus yielding kilometers of precisely controlled fiber structures with engineered electronic, optical, thermal, and acoustic properties. Prof. Fink's research has led to entirely new classes of fiber devices, including wavelength-scalable hollow-core photonic bandgap transmission fibers, high-Q Fabry Perot fiber resonators, transverse surface emitting fiber lasers, and thermal and optical fiber detectors and fiber array systems. A recipient of the Weizmann Institute Amos De-Shalit Foundation Scholarship in 1992, he was awarded the Hershel Rich Technion Innovation Competition in 1994, was a recipient of the Technology Review Top 100 Young Innovators in 1999, and was awarded the National Academy of Sciences Initiatives in Research Award in 2004. He is a co-founder of OmniGuide, Inc., and serves on its Board of Directors. The coauthor of more than 40 journal articles, he holds eighteen issued U.S. patents on photonic fibers and devices.*

*The Wulff Lecture is an introductory, general-audience, entertaining lecture which serves to educate, inspire, and encourage MIT undergraduates to take up study in the field of materials science and engineering and related fields. The entire MIT community is invited to attend. The Wulff Lecture honors the late Professor John Wulff, a skilled, provocative, and entertaining teacher who inaugurated a new approach to teaching the popular freshman subject: 3.091 Introduction to Solid State Chemistry.*

**C O U R S E   I I I   D M S E**