

OSA/IEEE SEMINAR

Jointly Organized by Optical Society of America
(Student Chapter, Singapore) and
IEEE Singapore Rel/CPMT/ED Chapter.
Co-hosted by Nanyang Technological University

“Interference Lithography, Practice and Applications”

Speaker : **Dr Thomas O'Reilly**
Massachusetts Institute of Technology, USA

Date : **25 January 2007, Thursday**

Time : **2:00pm**

Venue : Nanyang Technological University, School of EEE
Block S2.2, Executive Seminar Room (S2.2-B2-53)
Map: [http://www.street-
directory.com/ntu/campus.cgi?no=School+of+Electrical+and+Electronic+Engineering
+%28EEE%2C+Block+S2.2%29&map_search=nanyang&search.x=19&search.y=5](http://www.street-directory.com/ntu/campus.cgi?no=School+of+Electrical+and+Electronic+Engineering+%28EEE%2C+Block+S2.2%29&map_search=nanyang&search.x=19&search.y=5)

Admission: **Free**

ABSTRACT

Interference lithography (IL) is a means to write periodic and quasi-periodic patterns over quickly over large areas. Compared with tools for other forms of lithography, IL systems tend to be relatively simple, yet they are able to write periods approaching half the wavelength of the light source. The NanoStructures Laboratory at MIT has been developing and using IL systems for many years, and currently operates multiple IL systems capable of writing patterns with periods as fine as 100 nm. IL has many applications, including making diffraction gratings, templates for self-assembly processes, imprint masters, photonic crystals, and testing of photoresist. The talk will introduce the IL systems at MIT and their characteristics, focusing on practical issues associated with building and using a Lloyd's mirror IL system. The use of IL as a tool to test photoresist exposure characteristics will also be introduced.

ABOUT THE SPEAKER

Thomas O'Reilly is a PhD candidate in Mechanical Engineering working in the NanoStructures Laboratory at MIT. He holds an M.S. in Mechanical Engineering from The Pennsylvania State University, and a B.S. in Mechanical Engineering from Virginia Tech. His research work has focused on different aspects of interference lithography, including the design of IL systems, the use of IL to pattern surfaces, and the use of IL as a tool to measure distortion of x-ray masks.