

SINAM NANO SEMINAR

Center for Scalable and Integrated
Nano Manufacturing (SINAM)

presents



Nanoscale Optical Characterization of Photonic and Electronic Structures by Scattering-type Near-field Microscopy

Dr. Rainer Hillenbrand, Max Planck Institute

Monday, October 16, 2006

4:00 - 5:00 pm

3110 Etcheverry Hall

(Cookies and refreshments provided at 3:30 PM)

Abstract

The development of novel nanoelectronic and nanophotonic structures requires ultrahigh-resolution optical microscopy for characterization and mapping of local material properties and nanoscale confined light fields. This seminar will demonstrate such a microscopy providing a spatial resolution of about 10-20nm independent of the wavelength. It is based on elastic light scattering from the probing tip of an atomic force microscope (scattering-type near-field optical microscopy, s-SNOM). Besides a short introduction of the technique, an overview of s-SNOM applications in the field of plasmonics/nanooptics and material sciences will also be given.

*****View the full abstract for this seminar at <http://www.sinam.org>*****

About Dr. Hillenbrand

Dr. Hillenbrand is the head of the Nano-Photonics Group, Max-Planck-Institute of Biochemistry Martinsried, Germany. He received his PhD in physics from the Technical University in Munich (2001). Some of his research interests include nanoscale resolved near-field optical microscopy and near-field infrared spectroscopy, optical antennas, plasmon- and phonon-polariton based nanooptics, and near-field optical subsurface imaging and near-field optical tomography.

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