



VANDERBILT
UNIVERSITY

Department of Physics and Astronomy

Seminar of the Nanotube and Femtophysics Group

Tuesday, 16th March 2004, 10:00 AM (**NEW DATE AND TIME**)
Stevenson Center, SC6333

Local field confinement at metallic nanostructures: optical antennas for ultrahigh resolution microscopy and spectroscopy

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The optical properties of defined metal nanostructures allow for transfer, detection and concentration of light to highly confined regions. Here, the use of the local field enhancement at sharp metal wire tips to achieve spectroscopic imaging with <10 nm spatial resolution will be demonstrated. For both linear as well as nonlinear light scattering the nature of the optical tip-sample coupling will be discussed in terms of dielectric properties, resonant plasmon excitation and symmetry. Likewise I will show how metallic surface-nanostructures can be tailored and used as optical sensors leading the way to various applications.

If you would like to meet the speaker please contact Tobias Hertel (phone 322-2864, e-mail: tobias.hertel@vanderbilt.edu or via <http://people.vanderbilt.edu/~tobias.hertel>)