

CONDENSED MATTER SPECIAL SEMINAR

Friday 3 March at 14:30

Simpkins Lee room

“Linear and nonlinear terahertz nanoscale imaging and spectroscopy”

Professor Daniel Mittleman

Brown University

Scattering-type scanning near-field optical microscopy (s-SNOM) has emerged as a powerful tool for nanoscale imaging. In conjunction with broadband input radiation, this approach offers the possibility for imaging and spectroscopy on a deep sub-wavelength scale, with a resolution limited by the size of a sharp metal tip rather than by the radiation wavelength. This possibility is especially interesting in the terahertz range, where there is a huge mismatch between the wavelength and the size of many samples of current interest. This talk will provide an overview of the progress in the coupling of terahertz time-domain techniques to s-SNOM measurements, which are now providing opportunities for both linear optical measurements as well as various manifestations of optical nonlinearity, measured with nanoscale spatial resolution and sub-picosecond temporal resolution.

Host: Prof Michael Johnston