

Plasmonics, one of the rapidly evolving fields, involves study of nano-patterned metal-dielectric interfaces where the electron charge density wave can be excited as a surface wave (surface plasmon polariton, SPP). These structures are widely studied for nanophotonic components and in enhancing optical nonlinearities. In this talk, the speaker will discuss their recent results on enhancing the transverse magneto-optical Kerr effect (TMOKE). His lab has fabricated magneto-plasmonic crystals by making Gold nano-patterns on ferromagnetic films. An interesting outcome of the measurements is, TMOKE can be used as a very high sensitive tool to identify the SPP resonances. As a second example, Dr. Venu Gopal will present results on dielectric pattern on metal-dielectric interface.

Tuesday COLLOQUIUM

Plasmonic crystals for enhancing optical nonlinearities

by **Dr. Achanta Venu Gopal**
TIFR, Mumbai

Tuesday, October 4, 2011 at 1545 hrs

Seminar Room PFAG14, Prefabs, Near Annabhau Sathe Bhavan
University of Mumbai, Vidyanagari, Kalina Campus

Dr. Achanta Venu Gopal did his M.Sc. from Central University, Hyderabad and Ph.D. in Physics from the Solid State Electronics Group in TIFR. In 2000, he got the prestigious NEDO fellowship and worked at FESTA Laboratories, headquarters of the Japanese National Femtosecond Technology Project. He was awarded Ph.D. in Electronics from Tokyo University for his work on ultrafast all-optical switch for optical communication networks. Between 2003 and 2004 he worked as the JST Fellow at NEC Laboratories, Japan. From October 2004, he continues working on his research interests: photonic crystals and plasmonics, at TIFR and has more than 50 journal publications to his credit.