



Physical Research Laboratory, Ahmedabad

Colloquium 15-02

- Speaker:** Dr. Haranath Ghosh
Scientific Officer G, Raja Ramanna Centre for Advanced Technology, Indore and Associate Professor, Homi Bhabha National Institute, Mumbai.
- Title:** “Fe-based superconductors ; 7 years after its discovery”
- Time:** Wednesday, 21 January 2015, 16.00 hrs.
- Venue:** K. R. Ramanathan Auditorium, PRL

Abstract

Discovery of Fe-based superconductors is ground breaking and seminal. Unconventional superconducting pairing mechanism (yet to be settled), orbital physics, rich Fermiology, phase diagram and several distinctly different physical properties makes them overall a fundamentally different class. A pedagogical introduction to these systems will open the colloquium. Structural aspects and its intimate relation to electronic structure, magnetism, superconductivity, orbital ordering will be discussed along with latest understanding on various challenges in these classes of materials. The discussion will also comprise of various unusual physical properties like electronic specific heat, BCS characteristic ratio, spin resonance, electronic nematicity *etc.* A balanced presentation for beginners, unknown to the field, as well as for experts would be made.

The Speaker

Dr. Haranath Ghosh did his M.Sc. in Physics (1990) from Visva-Bharti University, Santiniketan and obtained M.Phil. (1991) & Ph.D. (1997) from Institute of Physics (IoP), Bhubaneswar. Subsequently he was a post doctoral fellow at, the Instituto de Fisica, Universidade Federal Fluminense (1997-1999), and Department of Physics, University of Arizona, USA (1999-2000). He joined RRCAT, Indore in 2002 where currently he is a Scientific Officer G. His broad areas of research interests are Condensed Matter Theory (conventional and unconventional superconductivity), Nonlinear optics in organic and in-organic systems, π -Conjugated material, Spin-density waves, Charge density waves, Orbital density waves and Multiferroics. Dr. Ghosh has published over 80 papers in peer reviewed journals. Dr. Ghosh has received the best “Young Physicist Colloquium 1994” medal by Indian Physical Society, Calcutta India and is a registered reviewer of many international journals like PRL, PRB, Phys. Lett. A, Synthetic Metals, Physica B and Pramana.

Tea at 15:30 hrs.
ALL ARE WELCOME

