Physical Research Laboratory, Ahmedabad

Colloquium 15-08

Speaker: **Prof. Prasanta K. Panigrahi**
Indian Institute of Science Education and Research (IISER), Kolkata.

Title: **Human Brain & Market Behavior: Are they Identical?**

Time: **Wednesday, 1st April 2015, 16.00 hrs.**

Venue: **K. R. Ramanathan Auditorium, PRL**

Abstract

It has been conjectured that, human brain and stock market behave in a similar manner, with the neurons in the brain, representing the companies. Various sectors in the stock market show similar fluctuation properties, as of various domains in the brain. It has been experimentally shown that high frequency fluctuations correlate the neurons in a given domain, and the low frequency ones, help establish correlations between different domains in the brain. With the help of 'Wavelet transform', to disentangle multi-scale dynamics and 'Random Matrix' to characterize them, we explore the precise nature of the fluctuations in the market behaviour. The evolving Network of the sectors in the stock market at different levels of fluctuation, points to the veracity of the above conjecture.

The Speaker

Prof. Prasanta K. Panigrahi did his B.Sc. (1978) and M.Sc. (1980) in Physics from the Ravenshaw College, Utkal University, Bhubaneswar. He obtained his PhD (1978) from University of Rochester, worked as a Post-Doc Research work (Field theory),University of Illinois at Chicago, USA, (1988-1990) and University of Montreal,Canada, (1990-1993). He was a faculty member at School of Physics, University of Hyderabad, Central University Campus, Hyderabad (1993-2002). Subsequently he joined PRL and remained here till 2007. Presently he is a Professor and Dean of Faculty at IISER, Kolkata. His research interest lies in the area of field theory, (as applied to lower dimensional condensed matter systems,) quantum computation and application of "wavelet transform" to data analysis. He is a fellow of the National Academy of Sciences, Allahabad and Gujarat Science Academy.

Tea at 15:30 hrs.

ALL ARE WELCOME