ICTS Colloquium

Title   : The simplicial characterisation of Time Series Networks: Theory and
                Applications

Speaker   : Neelima Gupte, Indian Institute of Technology Madras, Chennai

Date   : Monday, December 4, 2017

Time   : 3:00 PM

Venue   :   Emmy Noether Seminar Room, ICTS Campus, Bangalore

Abstract : Mapping time series onto graphs and the use of graph theory methods
              opens up the possibility to study the structure of the phase space
              manifolds underlying the fluctuations of a dynamical variable. Here,
              we go beyond the standard graph measures and analyze the higher-
              order structures such as triangles, tetrahedra and higher-order cliques
              and their complexes present in the time-series networks, which are
              detectable by algebraic topology methods. We apply our methods to
              the dynamical evolution of the logistic map, a traffic problem, and
              fMRI data.