Indian Statistical Institute, Chennai Centre

Seminar Announcement / संगोष्ठी की घोषणा

Date/ तारीख :23th December, 2016 (Friday).

Time/ समय : 4pm – 5pm.

Venue/ स्थान : SETS Auditorium, ISI-Chennai.

Speaker/वक्ता : Prof. Anirban Chakraborti, School of Computational & Integrative Sciences, Jawaharlal Nehru University, New Delhi.

Title/शीर्षक: Mesoscopic networks in socio-economic complex systems

Abstract: The structure of a complex network comprised of dissimilar units of a system interacting with each other, affects the dynamics of the system and provides deeper insight about the functionality of the system, its evolution, and the role of individual or modular units. Thus, network analysis has become a primary tool in the fields as diverse as biology, ecology, sociology, economics and finance. We discuss the role of networks and simple clustering algorithms in studying two socio-economic phenomena:

- Language dynamics: We construct the Levenshtein distance matrix between the Mazatec dialects in Mexico, and use complex networks and clustering algorithms to study the spatio-temporal dynamics of the dialects. Our analyses reinforce the hypotheses of Gudschinsky regarding the ethno-history and diversification of the Mazatec dialects, and give a more fine-structured evolution of the dialects.
- Financial markets: We construct the nominal return correlation networks from daily data to encapsulate sector-level dynamics and calculate the relative importance of the sectors in the nominal network through centrality measures and clustering algorithms. We show that the sectors that are relatively large constitute the core of the return networks, whereas the periphery is mostly populated by relatively smaller sectors. Further, sector-level nominal return dynamics is anchored to the real size effect, which ultimately shapes the optimal portfolios for risk management.

सभी को आमंत्रित कर रहे हैं|

All are invited.