

# EVOLUTION OF COMPLEX SYSTEMS

Venue: Faculty Hall, Indian Institute of Science, Bangalore

Date: January 13 – 15, 2010

## PROGRAMME

### January 13

#### Session I

*Chairperson* *Rahul Pandit*

9:15	Spenta Wadia	<i>Opening Remarks</i>
9:30-10:15	Sriram Ramaswamy	<i>The complex collective dynamics of self-driven particles</i>
10:15-11	Upinder Bhalla	<i>Multiple cellular states emerge from simple chemistry and cellular traffic</i>
11-11:30	TEA	
11:30-12:15	Stefan Thurner	<i>Darwin's daemon and a mechanistic approach to evolution dynamics</i>
12:15-1	Bikas K Chakrabarti	<i>Statistics of the Kolkata Paise Restaurant problem</i>
1-2.45	LUNCH	

#### Session II

*Chairperson* *Sanjay Jain*

2:45-3:30	Vidyanand Nanjundiah	<i>The evolution of cooperation in social amoebae</i>
3:30-4	TEA	
4-4:45	Anindita Bhadra	<i>The links and hubs of power in a wasp society</i>
4:45-5:30	R E Amritkar	<i>Synchronization of networks</i>
5:30-6:15	Sunil Kothari	<i>New directions in Indian dance</i>
6:15-7	TEA & DISCUSSIONS	
8PM	DINNER	

### January 14

#### Session III

*Chairperson* *Ravi Mehrotra*

9:30-10:15	Didier Sornette	<i>Black swans, Dragon-kings and predictions of crises in complex systems</i>
10:15-11	Vikram Soni	<i>Consequences of sudden species loss in an evolutionary model</i>
11-11:30	TEA	
11:30-12:15	Neo Martinez	<i>Structure, stability and robustness of complex ecological networks</i>

12:15-1	Harini Nagendra	<i>Charting the complexity of forest change in human impacted forests</i>
1-2	<b>LUNCH</b>	
Session IV	<i>Chairperson</i>	<i>Chandan Dasgupta</i>
2-2:45	Priya Iyer	<i>Theories for the evolution of the sexes</i>
2:45-3:30	Amaresh Chakrabarti	<i>Understanding and supporting evolution of engineering designs</i>
3:30- 4	<b>TEA</b>	
4-4:45	K Ghosh Dastidar	<i>On some aspects of price competition in a homogeneous product market: Evolution of cooperation, existence of equilibrium and other issues</i>
4:45-5:30	Sanjay Jain	<i>Formalizing the notion of 'innovation' in an evolutionary model</i>
5:30-7	<b>TEA &amp; DISCUSSIONS</b>	
8PM	<b>DINNER</b>	

#### January 15

Session V	<i>Chairperson</i>	<i>Somdatta Sinha</i>
9:30-10:15	M. Madan Babu	<i>Structure, evolution and dynamics of transcriptional regulatory networks and its influence on genome organization</i>
10:15-11	Vijay Srinivasan	<i>Minimal metabolome: The canonical network of autotrophic metabolism and its analysis</i>
11-11:30	<b>TEA</b>	
11:30-12:15	Neelima Gupte	<i>Statistical characterisers of transport in communication networks</i>
12:15-1	Alain Pumir	<i>Quantifying complexity of genetic interactions: Theoretical analysis of Invertebrate phototransduction</i>
1-2	<b>LUNCH</b>	
Session VI	<i>Chairperson</i>	<i>Karmeshu</i>
2:-2:45	Sumantra Chattarji	<i>Differentiating safe from dangerous: From behavior to single neurons</i>
2:45-3:30	G Rangarajan	<i>Detecting functional connectivity in neuronal networks</i>
3:30-4	<b>TEA</b>	
4-4:45	Manindra Agrawal	<i>Classifying complexity of problems algorithmically</i>