



International Conference on "Mathematical Biology"
July 04 - 07, 2011
Venue : Faculty Hall, Indian Institute of Science, Bangalore

Monday, July 04, 2011

08:30 - 09:15	Registration	
09:15 - 09:30	Opening Remarks	
09:30 - 10:00	CHAIR: Somdatta Sinha	Saraswathi Vishveshwara, IISc, Bangalore <i>"Graph Theoretic Approaches to Allosteric Mechanism in Proteins"</i>
10:00 - 10:30		Ivet Bahar, University of Pittsburgh, USA <i>"Dynamics of Glutamate Transporters Explored by Computations at Multiple Scales"</i>
10:30 - 11:00	Tea Break	
11:00 - 11:30	CHAIR: Saraswathi Vishveshwara	N. Srinivasan, IISc Bangalore <i>"An approach to classify multi-domain proteins with shared homologous domains facilitates proposition and detection of hybrid protein kinases"</i>
11:30 - 12:00		R. Sankararamakrishnan, IIT Kanpur <i>"Stability and Dynamics of non-covalent interactions in protein structures"</i>
12:00 - 12:30		Chandrika B-Rao, PLSL, Mumbai <i>"Variability in 3D Structure of Protein: A Case Study with Hen Egg White Lysozyme "</i>
12:30 - 01:00		Ravindra E. Amritkar, Physical Research Laboratory, Ahmedabad <i>"Amplitude death in coupled dynamical systems: Application to Alzheimer's disease"</i>
01:00 - 02:00	Lunch	
02:00 - 02:30	CHAIR: R. E. Amritkar	Upinder Bhalla, NCBS Bangalore <i>"Homeostasis versus memory"</i>
02:30 - 03:00		Yuichi Katori, University of Tokyo, Japan <i>"Dynamical reorganization of cell assemblies and information representation in a cortical network"</i>
03:00 - 03:30		Rahul Pandit, IISc Bangalore <i>"Cardiac Arrhythmias: What can we learn from Computer Simulations of Mathematical Models?"</i>
03:30 - 04:00	Tea Break	
04:00 - 04:30	CHAIR: Rahul Pandit	Jaijeet Roychowdhury, UC Berkeley, USA <i>"Understanding Hierarchical Synchronization in Systems of Coupled Nonlinear Oscillators"</i>
04:30 - 05:00		Sitabhra Sinha, IMSc Chennai <i>"Onset of coherent dynamical activity in the pregnant uterus: Self-organized transition from excitatory to oscillatory behavior in heterogeneous media"</i>
05:00 - 05:30		Hien Tran, North Carolina State University, USA <i>"Nonlinear Filtering and Parameter Estimation for Complex Biological Systems"</i>



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Tuesday, July 05, 2011

09:30 - 10:00	CHAIR: Indira Ghosh	Mogens Høgh Jensen, Niels Bohr Institute, Denmark <i>"Genetic Regulations in Time and Space"</i>
10:00 - 10:30		Grace Shieh, Institute of Statistical Science, Taiwan <i>"Modeling And Comparing the Organization of Circular Genomes"</i>
10:30 - 11:00	Tea Break	
11:00 - 11:30	CHAIR: N. Srinivasan	Y.Y. Teo, NUS, Singapore <i>"Next-generation genome-wide association studies: Meta-analysis of genetically diverse populations"</i>
11:30 - 12:00		Sudip Kundu, Calcutta University, Kolkata <i>"A genome scale metabolic model of rice and its response under varying conditions"</i>
12:00 - 12:30		R. Sowdhamini, NCBS Bangalore <i>"Higher Order Residue Interactions Based ALgorithm for Fold Recognition"</i>
12:30 - 01:00		Nagasuma Chandra, IISc Bangalore <i>"Systems modelling of M.tuberculosis: Insights for drug discovery"</i>
01:00 - 02:00	Lunch	
02:00 - 02:30	CHAIR: Mogens Høgh Jensen	Namiko Mitarai, Niels Bohr Institute, Denmark <i>"Ecosystems with mutually exclusive interactions"</i>
02:30 - 03:00		P.D.N. Srinivasu, Andhra University, Visakhapatnam <i>"Role of quantity of additional food to predators as a control in predator-prey systems with relevance to pest management and biological conservation"</i>
03:00 - 03:30		Malay Banerjee, IIT Kanpur <i>"Deterministic verses stochastic dynamics in an interaction population model"</i>
03:30 - 04:00	Tea Break	
04:00 - 04:30	CHAIR: Peeyush Chandra	Amitabh Joshi, JNCASR Bangalore <i>"Synchrony, constancy, and persistence in two-patch Drosophila metapopulations"</i>
04:30 - 05:00		Analabha Basu, NIBMG, West Bengal <i>"A statistical method for estimating the age of an admixed population and related problems"</i>
05:00 - 05:30		Kavita Jain, JNCASR Bangalore <i>"Adaptive walks on rugged fitness landscapes"</i>



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Wednesday, July 06, 2011

09:30 - 10:00	CHAIR: Ivet Bahar	Somdatta Sinha, CCMB, Hyderabad <i>"Designs of regulation and dynamics in simple biochemical pathways"</i>
10:00 - 10:30		Alain Pumir, ENS-Lyon, France <i>"Epistasis in a model of molecular signal transduction"</i>
10:30 - 11:00	Tea Break	
11:00 - 11:30	CHAIR: Robert Jernigan	Sine Lo Svenningsen, University of Copenhagen, Denmark <i>"Redundant small RNAs and feedback control in bacterial cell-cell communication"</i>
11:30 - 12:00		Chetan Gadgil, NCL Pune <i>"The bistability-bimodality connection"</i>
12:00 - 12:30		Indrani Bose, Bose Institute, Kolkata <i>"Mathematical Analysis of a Mycobacterial Survival Strategy under Stress"</i>
12:30 - 01:00		Pranay Goel, IISER Pune <i>"Recent developments in the analysis of glucose-stimulated insulin secretion from pancreatic islets"</i>
01:00 - 02:00	Lunch	
02:00 - 02:30	CHAIR: Alain Pumir	Jayanth Banavar, Penn State University, USA <i>"Scale invariance in the dynamics of animal behaviour"</i>
02:30 - 03:00		Anandmohan Ghosh, IISER Kolkata <i>"Universal Properties of the Transcriptional Time-Series in Escherichia Coli"</i>
03:00 - 03:30		B. Jayaram, IIT Delhi <i>"The Emerging Assembly Line of Genomes to Hits In Silico: Challenges & Opportunities"</i>
03:30 - 04:00	Poster Session	
04:00 - 04:30		
04:30 - 05:00		
05:00 - 05:30		
06:00 - 7:30	Cultural Programme <i>"Veena concert by Jayanthi Kumaresh"</i>	



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Thursday, July 07, 2011

09:30 - 10:00	CHAIR: Paul Wikramaratna	Peeyush Chandra, IIT Kanpur <i>"Drug Therapy Model for HIV Infection"</i>
10:00 - 10:30		Narendra Dixit, IISc Bangalore <i>"Error threshold of HIV-1"</i>
10:30 - 11:00	Tea Break	
11:00 - 11:30	CHAIR: Narendra Dixit	Alexei Tsygvintsev, UMPA, ENS Lyon, France <i>"Global stability in cancer immunotherapy"</i>
11:30 - 12:00		Sandip Banerjee, IIT Roorkee <i>"Role of antibodies in eradicating tumor: Towards a fresh paradigm for cancer treatment"</i>
12:00 - 12:30		Paul Wikramaratna, Oxford University, UK <i>"The Transmission Dynamics of Influenza: Antigenic Drift or Thrift?"</i>
12:30 - 01:00		Ram Rup Sarkar, CCMB Hyderabad <i>"Modelling and Predictions of Malaria Incidence: Data-based Analysis"</i>
01:00 - 02:00	Lunch	
02:00 - 02:30	CHAIR: Chetan Gadgil	Siddhartha. P. Chakrabarty, IIT Guwahati <i>"Mathematical modeling and Latin hypercube sampling for hepatitis C viral"</i>
02:30 - 03:00		Robert Jernigan, Iowa State University, USA <i>"Structural Simulations for Understanding Biological Machine Mechanisms"</i>
03:00 - 03:30		Sanghamitra Bandyopadhyay, ISI Kolkata <i>"Machine Learning Approach to MicroRNA Target Detection: Selection of Negative Examples"</i>