Bosiljka Tadic

Networks & Dynamical Systems

An International Workshop, August 25-28, 2021

Complex Systems & Dynamics Group,

Indian Institute of Technology Madras

Dates: August 25-28, 2021

Mode: Online

There are no registration fees.

Please register at

More information available at

https://tinyurl.com/2drfyyw7

Last date: August 23, 2021

Certificates of participation will be provided.

About

The Complex Systems and Dynamics Group is an interdisciplinary initiative of Indian Institute of Technology Madras, focussed towards carrying out research on the broad areas involving complex networks and nonlinear dynamics. The aim of the group is to contribute to the development of new techniques and tools for mathematical modelling and analysis to investigate challenging dynamical problems in climate science, neuroscience, biological systems, multi-physics systems and active flows. The centre is envisaged as a hub for promoting interdisciplinary research drawing on expertise and synergy from science, engineering and humanities streams.

Objectives

The primary aim of this workshop is to introduce the diverse problems that require the use of complex dynamics and network methods for their analysis. The workshop includes both research seminars by eminent experts as well as hands on tutorial sessions. The intended audience is researchers in the field, as well as PhD students, postdoctoral fellows, senior undergraduate students and industry professionals.
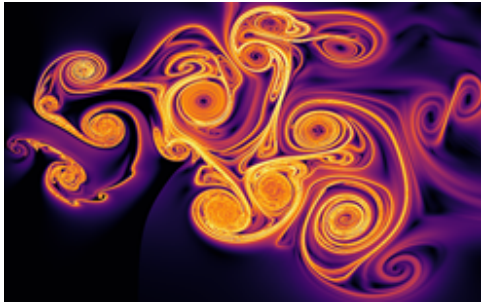
Registration

The workshop will be conducted in the online mode. There are no registration fees. All participants need to register; the link for the online meet will be sent by email just before the workshop.
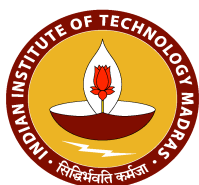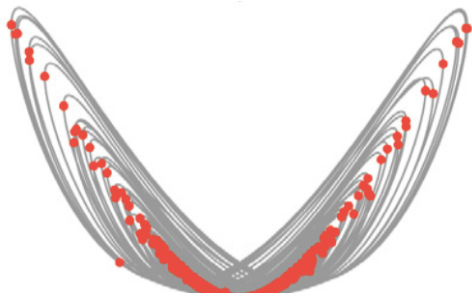
Dhrubojyoti Biswas

Chandan Bose

Aasifa Rounak

Speakers

Anirban Chakraborti, *Jawaharlal Nehru University*
Deciphering complexity of financial networks

Animesh Mukherjee, *Indian Institute of Technology Kharagpur*
Unfolding bias and segregation through related item networks

Areejit Samal, *Institute of Mathematical Sciences Chennai*
Biologically meaningful functions in Boolean network models of living systems

Arun Tangirala, *Indian Institute of Technology Madras*
Discovering Causal Dynamical Network Structures from Data: An Overview

Auroop Ganguly, *North Eastern University*
Physics-guided uncertainty quantification for scientific machine learning in complex spatiotemporal dynamical systems

Chandan Bose, *University of Leige*
Characterization of dynamical systems using nonlinear time series analysis - a hands-on tutorial

Karthik Raman, *Indian Institute of Technology Madras*
Learning on, using and from networks in biology

Madhav Marathe, *University of Virginia*
Multiplex networks and epidemics

Mahesh Panchagnula, *Indian Institute of Technology Madras*
Introduction to chaos

Malayaja Chutani, *Indian Institute of Technology Madras*
Programming algorithms for complex networks

Miroslav Andelkovic, *University of Belgrade*
Complex networks: to be announced

Satyam Mukherjee, *Shiv Nadar University*
Complex Systems Approach to Team Dynamics in Indian Premier League

Sitabhra Sinha, *Institute of Mathematical Sciences Chennai*
Framing the fearful symmetry: Developmental pattern formation as interaction between global fields and local interaction among cells

Srinath Srinivasa, *Intl Institute of Information Technology Bangalore*
Modelling sustainability in social networks

Sunetra Sarkar, *Indian Institute of Technology Madras*
Unsteady flow and fluid structure interaction problems through nonlinear time series analysis

Udit Bhatia, *Indian Institute of Technology Gandhinagar*
Robustness and recovery of built and natural systems subject to hydro-meteorological extremes: Integrating data, dynamics, and complexity

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