



INTERNATIONAL  
CENTRE *for*  
THEORETICAL  
SCIENCES

TATA INSTITUTE OF FUNDAMENTAL RESEARCH

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The International Centre for Theoretical Sciences (ICTS) of the Tata Institute of Fundamental Research in Bangalore is a multi and interdisciplinary centre with 3 main goals:

### PROGRAMS

Bring together physicists, astronomers, cosmologists, mathematicians, biologists, students and researchers from all over the world, under one roof, to work together to solve the most challenging questions posed by nature, to discover the underlying structures across the sciences and to strive for the unity of knowledge;

### RESEARCH

In-house research - by highest quality faculty in the theoretical sciences;

### OUTREACH

Stimulate and harness the young minds of India and connect with members of the public who are interested in the latest developments of scientific research.



### PROGRAMS

Programs bring together researchers from India and around the world to work in areas that are timely and important.



They contribute to transforming the way people do research and help incubate new and emerging areas of research. They explore new directions in science and provide a platform for theory to come face to face experiment.



Many ICTS programs are pedagogical schools for students and postdocs where lectures are delivered by international experts.



ICTS programs are archived on YouTube at ICTStalks.

### International collaborations

- 'ICTP-ICTS Biology Program': a school that alternates between ICTS (Bangalore) and ICTP (Trieste);
- The 'Asian Winter School in Strings, Particles and Cosmology', that rotates between China, India, Japan and Korea;
- The NSF supported ICTS-Brandeis meetings on statistical physics;
- The three Max Planck Partner groups at ICTS;
- and the LIGO tier-3 centre.



### RESEARCH

Research at ICTS is organized as a union of families of researchers that includes faculty, students, postdocs and visiting scientists. The faculty is of high quality, strong in their areas of research but open to cross-disciplinary interactions. The aim is to create an interactive and participatory environment.

### Research themes and faculty

**Complex Systems (Statistical Physics, Turbulence, Condensed Matter Physics, Physical Biology)**

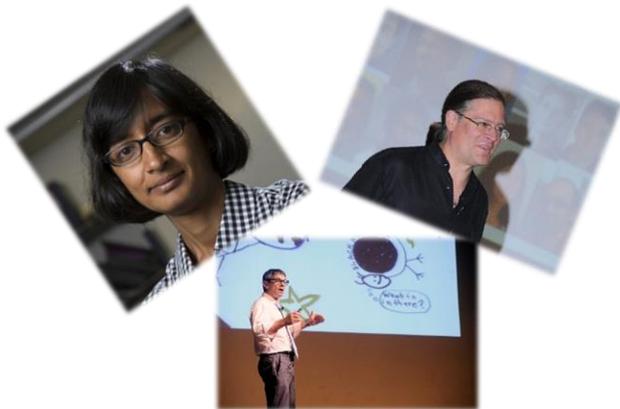
Subhro Bhattacharjee, Abhishek Dhar, Rama Govindarajan, Vijaykumar Krishnamurthy, Manas Kulkarni, Anupam Kundu, Samridhi Sankar Ray

**Space-time Physics (String Theory and Quantum Field Theory, Gravitational Wave Physics)**

Parameswaran Ajith, Pallab Basu, Avinash Dhar, Rajesh Gopakumar, Suvrat Raju, Loganayagam R., Spenta R. Wadia

**Interdisciplinary Mathematics (Dynamical Systems, Data Assimilation, Differential Geometry, Fluid Dynamics, Probability Theory)**

Amit Apte, Rukmini Dey, Vishal Vasan, Riddhipratim Basu



## OUTREACH

- Engages students, and civic society on issues of modern science.
- Institutional collaborations, with the J.N. Planetarium, Visvesvaraya museum, Christ college and St Joseph's college, facilitate these activities.



## Activities

Public lectures and Einstein lectures delivered by eminent academics

Kaapi with Kuriosity Lectures: for a general audience

India node for 'Mathematics of Planet Earth'

## CAMPUS

The new ICTS location in north Bangalore is a world-class residential campus, designed to provide office space and on-site accommodation for more than 150 academic members, including 75 visitors.



Turing Computing Centre



Panini Library



State of the art guesthouse



Recreational facilities

