Invited Speakers

Dr. Kunal Chakraborty
Scientist F, INCOIS Hyderabad, Ministry of Earth Sciences, Government of India.
Expertise: Ocean Ecology Modelling, Climate Modelling.

Dr. Samiran Ghosh
Scientist, CSIR Fourth Paradigm Institute, Bangalore, Karnataka.
Expertise: Infectious Disease Modelling and Prediction.

Dr. Sukhendu Ghosh
Associate Professor, Department of Mathematics, IIT Jodhpur, Rajasthan.
Expertise: Hydrodynamics, Differential Equations, Lie Group Applications, Simulation with ML & AI.

Organizing Committee

Prof. Anirudh Singh Rana
Prof. Balram Dubey
Prof. Chandra Shekhar
Prof. Devendra Kumar
Prof. Gaurav Dwivedi
Prof. Krishnendra Shekhawat
Prof. Pramod Eyyunni
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Prof. Jitender Kumar
Prof. Niladri Chatterjee
Prof. Rahul Kumar
Prof. Rakhee
Prof. Sangita Yadav
Prof. Shivi Agarwal
Prof. Sudarshan Santra
Prof. Trilok Mathur

Symposium Details

Convener

Prof. Dhiraj Kumar Das, Department of Mathematics, BITS Pilani, Pilani Campus, Rajasthan-333 031

Phone: +91-1596-255876 **Mobile:** +91-8777316720

Email: dhiraj.das@pilani.bits-pilani.ac.in

Venue: Room No. 6109 [NAB]

Symposium Guidelines

1. Please complete the Free Registration Form (Link) by 05:00 PM February 26, 2026.

2. Participation Certificate will be issued only upon attendance in all the sessions.

Leadership

Prof. V. Ramgopal Rao

Vice Chancellor, BITS Pilani

Prof. Sudhirkumar Barai

Director, BITS Pilani, Pilani Campus

Chairman

Prof. Ashish Tiwari, Head, Department of Mathematics, BITS Pilani, Pilani Campus

Symposium Objectives

The symposium focuses on the integration of mathematical theory, physical principles, and AI-ML–driven data science to model complex natural systems. The lectures highlight foundational methods in data science, hydrodynamic stability, ocean modelling, and infectious disease dynamics, emphasizing both physics-based and data-driven approaches. By bridging perturbation theory, numerical modelling, and Physics-Informed Neural Networks (PINNs), the event aims to showcase interdisciplinary strategies for understanding, predicting, and controlling spatiotemporal phenomena in Earth, Life, and Fluid systems. The symposium emphasizes on the synergy between traditional mathematical modelling and modern machine learning to address contemporary scientific challenges.

Schedule

February 28, 2026 (Saturday)

Inauguration: 09:30-10:00 AM.

Lecture 1 (10:30-11:30 AM): "*Fundamentals of Ocean Modelling*" by Dr. Kunal Chakraborty.

Lecture 2 (11:30 AM-12:30 PM): "*Mathematical and Physical Framework of Hydrodynamic Stability Analysis*" by Dr. Sukhendu Ghosh.

Lunch Break: 01:00-02:30 PM.

Lecture 3 (02:30-03:30 PM): "*Some Theory and Applications of Data Science*" by Dr. Samiran Ghosh.

Lecture 4 (03:45-04:45 PM): "*Applications of Data-Driven Modelling in Earth System Science*" by Dr. Kunal Chakraborty.

March 1, 2026 (Sunday)

Lecture 1 (10:30-11:30 AM): "*Mathematical and Data-Driven Modelling of Infectious Diseases*" by Dr. Samiran Ghosh.

Discussion (12:00-01:00 PM): Interactive Session for Departmental Research Scholars Moderated by Dr. Sukhendu Ghosh.

Symposium on

Interdisciplinary Perspectives on AI-ML and Mathematical Modelling of Natural Systems

February 28th - March 1st, 2026

Organized by

Department of Mathematics

BITS Pilani, Pilani Campus, Rajasthan