



विश्वजीवनामृतं ज्ञानम्

IITM Gwalior

# WORKSHOP ON THEORETICAL & COMPUTATIONAL DYNAMICS OF BIOLOGICAL SYSTEMS

**APRIL 09-11, 2025 (HYBRID MODE)**

Organized by

Department of Engineering Sciences

**ABV- Indian Institute of Information Technology and Management Gwalior**

## About the Institute and Department

Atal Bihari Vajpayee-Indian Institute of Information Technology & Management (ABV-IITM) Gwalior, established in 1997 by the Ministry of Human Research & Development (MHRD), Government of India, is a premier institute dedicated to excellence in Information Technology and Management. The Department of Engineering Sciences (ES), established in 2022, is a key department to support and fulfill the mission and the vision of the institute. The Department of Engineering Sciences at ABV-IITM Gwalior is a dynamic, multidisciplinary hub committed to both fundamental and applied research in cutting-edge engineering domains. Offering academic programs at the B.Tech. (Mathematics & Scientific Computing), M.S. (AI & Data Science), and Ph.D. levels, the department provides rigorous training and research opportunities in Mathematics and Physics, with a strong emphasis on emerging fields such as artificial intelligence in engineering, numerical simulations, and interdisciplinary problem-solving.

## About the Workshop

The workshop provides a dynamic platform for exploring disease dynamics, including ecological interactions and control strategies. It covers modeling at multiple biological levels, from genome to population, with an emphasis on biological interactions and sustainable control strategies. Participants will gain hands on experience in implementing disease models using MATLAB, Python, along with training in statistical methods and advance modeling techniques. Expert led discussions and practical sessions will foster critical thinking and problem solving skills. The workshop promotes real world data analysis to develop innovative, biologically grounded solutions for public health and environmental challenges. Special lecture and panel discussions enhance collaboration and knowledge sharing among experts and participants.

## Objective of the Workshop

- To understand the ecological dynamics and transmission mechanisms of infectious disease for effective control strategies.
- To apply statistical and advanced modeling techniques for comprehensive infectious disease analysis.
- To develop practical skills in implementing and simulating disease models using MATLAB and Python.
- To analyze real world disease data to propose sustainable, biologically informed control solutions.

**CHIEF PATRON**  
**Prof. S. N. Singh**  
**Director**  
**ABV-IIITM Gwalior**

**PATRON**  
**Dr. Ajay Kumar**  
**Head of Department (ES)**  
**ABV-IIITM Gwalior**

**COORDINATOR**  
**Dr. Anuraj Singh**  
**Department of Engineering Sciences**  
**ABV-IIITM Gwalior**  
✉ [anuraj@iiitm.ac.in](mailto:anuraj@iiitm.ac.in)

**Registration Deadline (Extended):** ~~March 24, 2025~~  
**March 31, 2025**

## Resource Persons

## Registration Fee\*

Prof. Peeyush Chandra  
IIT Kanpur (Retd.)

Prof. Sunita Gakkhar  
IIT Roorkee (Retd.)

Prof. Malay Banerjee  
IIT Kanpur

Prof. Sandip Banerjee  
IIT Roorkee

Prof. A. K. Misra  
BHU, Varanasi

Prof. Joydip Dhar  
ABV-IIITM Gwalior

Dr. Prashant Kumar Srivastava  
IIT Patna

Dr. Bapan Ghosh  
IIT Indore

Dr. Saroj Kumar Sahani  
SAU, New Delhi

Dr. Samit Bhattacharyya  
SNU, Greater Noida

**Category**

**Offline**

**Online**

**Academics**

**Rs. 2000/-**

**Rs. 500/-**

\*The registration fee for offline participants includes registration kit, accommodation, meals, and a participation certificate. The online participants will receive the e-certificate only.

## BANK DETAILS

**Account Name: ABV IIITM FDP Account**

**Account Number: 945210110009380**

**IFSC Code: BKID0009462**

**Bank name, Address, and Branch: BOI, IIITM Branch, Gwalior**

## Registration Link

<https://forms.gle/RZfBJ9i5d73osnVJ7>



For any query, please contact: +91-  
8982974189, [tcdb2025@gmail.com](mailto:tcdb2025@gmail.com)