



**Atal Bihari Vajpayee Indian Institute of
Information Technology and Management
Gwalior**



**2-Day Workshop on
Partial Differential Equations: Analysis and its
Applications**

(Hybrid Mode) sponsored by TIIC

29-30 November 2024

Patron

Prof. S.N. Singh
Director, ABV-IIITM Gwalior

CONVENER/COORDINATOR

Dr. Anuwedita Singh
Dr. Pragya Shukla

Organizing Committee

- Prof. Joydip Dhar
- Prof. Anurag Srivastava
- Prof. Pankaj Srivastava
- Dr. Ajay Kumar
- Dr. Jeevaraj S.
- Dr. Kapil Kant
- Dr. Purnendu Mishra
- Dr. Anuraj Singh

Resource Persons

- Prof. G.D. Veerappa Gowda (TIFR CAM Bangalore)
- Dr. Aekta Agarwal (IIM Indore)
- Dr. Indranil Chaudhary (IIT Kanpur)
- Prof. Evgeny Rudoy (Lavrentyev Institute Russia)
- Dr. Maneesh Singh (Imperial College London)
- Dr. Pankaj Gautam (IIT Roorkee)
- Dr. Purnendu Mishra (ABV-IIITM Gwalior)

About the Department

The Department of Applied Sciences was established in July 2022; however, it is renamed as Department of Engineering Sciences in June 2023. The Engineering Sciences faculties are teaching and doing research in this institute since 2006 with a clear motive to equip the engineering students with fundamental and engineering concepts of Physics and Mathematics.

About the Institution

ABV-IIITM Gwalior, a Deemed University, is an apex IT and Management Institute, established by the MHRD, Government of India. ABV-IIITM Gwalior is the foremost institution providing Technical and Managerial Education in the areas of Information Technology and Management, in India. The only institution of its kind in India, IIITM is at the vanguard of imparting superior quality higher education and pertinent skills.

Objective of the workshop

This workshop focuses on the theory of partial differential equations (PDEs) and numerical methods for solving PDEs commonly found in scientific and engineering fields, such as wave propagation, heat transfer, fluid dynamics, and biology. Due to their nonlinear characteristics, limited regularity, and complex structures, finding analytical solutions for these equations can be challenging or even impossible. Numerical methods offer a practical alternative by discretizing these equations for easier problem-solving. The workshop introduces key techniques for both linear and nonlinear partial differential equations, emphasizing various discretization methods. It covers the development and application of finite difference, finite volume, and discontinuous Galerkin methods, with a focus on their numerical convergence for solving nonlinear PDEs. Additionally, it explores advanced techniques essential for accurately modeling wave propagation in applications such as hyperbolic conservation laws, and convection-diffusion-dispersive PDEs. Also, it introduces some applications into solid mechanics and crack propagation problems.

Eligibility

The programme is open to PG students, Research Scholars, Postdocs and faculties from all Institutes. Industry personnel working in the concerned/allied discipline may also apply.

Registration

<https://forms.gle/v9BRLHXErfcQADhD7> (Registration Link)

Last Date of Registration: 15th Nov 2024
Registration Fees for offline participants: Rs. 2360 (including 18% GST, Lunch and Breakfast)
Registration Fees for online Participants: Rs. 1180 /- (including 18% GST)

Bank Account Details:

Account Name: ABV-IIITM FDP ACCOUNT
Address: Bank of India, IIITM Campus, Gwalior
Account No.: 945210110009380
IFSC: BKID0009462
MICR: 474013010

"Please register early as seating is limited."

Accommodation

Accommodation will be provided at the institute upon prior request.

Contact Details

Varun Shrivastava (Contact Person)
Contact No: +91 6394985526
Email : varunshr@iiitm.ac.in

Shailendra Dhakad (Contact Person)
Contact: +91 6265024639
Email: shailendra@iiitm.ac.in

Dr. Anuwedita Singh
Email : anuwedita@iiitm.ac.in

Dr. Pragya Shukla
Email : pragya@iiitm.ac.in