



## Faculty Development Program



**VIT**<sup>®</sup>  
Vellore Institute of Technology  
(Deemed to be University under section 3 of UGC Act, 1956)

**Title :** Current Developments in Mathematics with Applications in Sciences and Technology (CDMAST-2023)

**Date :** 18-Dec-2023 - 22-Dec-2023

**Time :** 10:00 - 17:30

**Venue :** TT 513

### Discussion Points

- Functional Analysis, Approximation Theory, Artificial Intelligence, Machine Learning, Optimization Techniques and Applications, Inferential Statistics
- Hands-on using Excel, MATLAB and Python, Fractional Calculus, Fractional Differential and Integral Equations, Operator Theory, Bio-Mathematics, etc.

	<p><b>Resource Person 1 - Details</b>  <b>Name :</b> Prof Vishnu Narayan Mishra  <b>Designation :</b> Professor and Head of Department, Department of Mathematics  <b>University/ Company :</b> Indira Gandhi National Tribal University, Central University, Amarkantak, Amarkantak  <b>Address :</b> India, 484887.</p>
	<p><b>Resource Person 2 - Details</b>  <b>Name :</b> Prof Shikha Pandey  <b>Designation :</b> Assistant Professor, Department of Mathematics  <b>University/ Company :</b> Jaypee Institute of Information Technology, Noida, Noida  <b>Address :</b> India, 201309.</p>
	<p><b>Resource Person 3 - Details</b>  <b>Name :</b> Prof Mukesh Kumar Sharma  <b>Designation :</b> Professor, Department of Mathematics  <b>University/ Company :</b> Chaudhary Charan Singh University, Meerut, Meerut  <b>Address :</b> India, 245101.</p>
	<p><b>Resource Person 4 - Details</b>  <b>Name :</b> Prof Jagadev Singh  <b>Designation :</b> Professor and Head of Department, Department of Mathematics  <b>University/ Company :</b> JECRC University Jaipur, Jaipur  <b>Address :</b> India, 303905.</p>
	<p><b>Resource Person 5 - Details</b>  <b>Name :</b> Prof Gadadhar Misra  <b>Designation :</b> Visiting Professor, Department of Mathematics  <b>University/ Company :</b> Indian Institute of Technology Gandhinagar, Gandhinagar  <b>Address :</b> India, 382055.</p>
	<p><b>Resource Person 6 - Details</b>  <b>Name :</b> Prof Hossein Jafari  <b>Designation :</b> Professor, Department of Mathematical Sciences  <b>University/ Company :</b> University of South Africa, UNISA, South Africa, UNISA  <b>Address :</b> South Africa, 0003.</p>
	<p><b>Resource Person 7 - Details</b>  <b>Name :</b> Lakshmi Narayan Mishra  <b>Designation :</b> Assistant Professor Sr. Grade 1, School of Advanced Sciences  <b>University/ Company :</b> VIT, Vellore  <b>Address :</b> India, 632014.</p>

## **Resource Person's Profile :**

### **1. Profile of Prof Vishnu Narayan Mishra**

Prof. Mishra is working as a Professor and Head of Department of Mathematics at IGNTU, Amarkantak. He also held academic positions as Assoc. Prof. at IGNTU Amarkantak, Assistant Professor at NIT, Surat, Guest Lecturer at NIT, Allahabad. He got his PhD degree from IIT Roorkee in 2007. He received Gold Medal in B.Sc., Double Gold in M.Sc., V.M. Shah Prize in IMS at BHU and Young Scientist Award in CONIAPS and many other awards. He has authored 450 research papers. He will deliver talks in person.

### **2. Profile of Prof Shikha Pandey**

Prof. Shikha is working as an Assistant Professor at IIIT, Noida. She has completed MSc and PhD from IIT Kanpur and NIT Surat, respectively. She has worked as an Assistant Professor at VIT-AP University, Amaravati. She has also gained industry experience from her time at Tata Consultancy Services Ltd., Gurgaon, as a Programmer Analyst from 2009 to 2012. She has published many research papers in reputed international journals of mathematical and engineering sciences.

### **3. Profile of Prof Mukesh Kumar Sharma**

Prof. Sharma is a Professor of Mathematics at CCS University Meerut. He has more than 20 years of teaching as well as administrative experience. He has guided 4 Ph.D. students and 11 M.Phil. projects. More than 100 research papers in reputed journals, book chapters in Springer, Taylor and Francis, proceedings are to his credit. He has also completed 2 research projects. He has been reviewer for many international and national journals. He has organized many conferences, seminars and workshops.

### **4. Profile of Prof Jagadev Singh**

Prof. Singh is working as a Professor and Head of Department of Mathematics, JECRC University, Jaipur. He has published 300 research papers in reputed international journals of mathematical and engineering sciences and having 10,108 google scholar citations, 59 h-index and 165 i10-index. He is referee and editor of several international journals in frame of pure and applied mathematics. He has organized many conferences, seminars, and workshops and also delivered many invited talks.

### **5. Profile of Prof Gadadhar Misra**

Prof. Misra is working as a Visiting Professor in Department of Mathematics, IIT Gandhinagar. He has published many research papers in reputed international journals of mathematical and engineering sciences and having 422 citations, 13 h-index in scopus. He is referee and editor of several international journals in frame of pure and applied mathematics. He has organized many conferences, seminars, and workshops and also delivered many invited talks and chaired sessions in India and abroad.

### **6. Profile of Prof Hossein Jafari**

Prof. Jafari is working as a Professor in Department of Mathematical Sciences, University of South Africa, UNISA South Africa. He has published 300 research papers in reputed international journals of mathematical and engineering sciences and having 10,651 google scholar citations, 54 h-index and 195 i10-index. He is referee and editor of several international journals in frame of pure and applied mathematics. He has organized many conferences, seminars, workshops and also delivered many talks.

### **7. Profile of Lakshmi Narayan Mishra**

Dr. Mishra is working as an Assistant Professor Senior Grade 1, in the Department of Mathematics, SAS, VIT, Vellore. He has published more than 100 research papers in reputed international journals of mathematical and engineering sciences and having 2577 google scholar citations, 28 h-index and 55 i10-index. He is the referee and editor of several international journals in frame of pure and applied mathematics. He serves on editorial boards and is a reviewer for numerous prestigious journals.

CDMAST-2023 is a 5-day FDP designed to explore and disseminate the latest advancements in mathematical sciences and their practical applications in various engineering and technological domains. This FDP aims to bridge the gap between theoretical mathematical concepts and their real-world implementations, fostering a deeper understanding of the symbiotic relationship between mathematics, engineering, and technology. The program will feature a diverse range of sessions, including keynote lectures, interactive workshops, and hands-on tutorials, delivered by eminent Professors and experts in the field. Participants will delve into cutting-edge topics such as advanced mathematical methods, computational techniques, data analytics, and optimization methods, etc. The FDP will emphasize the interdisciplinary nature of mathematical sciences and its pivotal role in addressing contemporary challenges in technology-driven industries. The objectives of FDP are as follows,

1. To familiarize faculty members and research scholars with current trends and advancements in mathematical research.
2. To explore the applications of mathematics in sciences, engineering, and technology.
3. To enhance participants' problem-solving abilities using mathematical techniques.
4. Case studies highlighting the role of mathematics in understanding complex physical systems.
5. Hands-on exercises and demonstrations of mathematical applications in data analysis, artificial intelligence, and machine learning.
6. To encourage interdisciplinary research and collaboration between mathematics and other domains
7. To provide a platform for interaction and knowledge sharing among participants.

This FDP promises to be an enriching and transformative experience, providing participants with the knowledge and skills needed to navigate the evolving landscape of mathematical sciences and technology integration.

This will incorporate various tools including,

Mathematical, Computational Tools like MATLAB, Python, Excel and R for hands-on coding and implementation of mathematical algorithms.

Collaboration platforms to foster interaction and collaboration for virtual lectures and group discussions.

We have booked Room TT 513 during the said period of FDP. These tools will enable participants to engage in practical, application-oriented sessions, ensuring a comprehensive learning experience during FDP.

**Coordinator's: Prof. LAKSHMI NARAYAN MISHRA 15789 - Assistant Professor Sr.  
Grade 1 - SAS  
Prof. RUSHI KUMAR B 12029 - Professor Grade 2 - SAS**