



## Faculty Development Program



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

### Event Outcome

**Title :** Emerging Trends in Scientific Machine Learning (SciML) for Engineering and Sciences






**Date :** 2026-01-27 - 2026-01-31

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

**Venue :** PRP119

- Participants will gain an updated understanding of emerging trends and state-of-the-art methods in Scientific Machine Learning.
- Participants will be able to identify suitable SciML techniques for engineering and scientific problems within their own research domains.
- Participants will develop insight into hybrid data physics modeling approaches, including PINNs and neural operators.
- Participants will be equipped to integrate recent SciML concepts into teaching, research proposals,
- Participants will be able to recognize open research challenges and collaboration opportunities in SciML across engineering and sciences.

	<p><b>Resource Person 1 - Details</b>  <b>Name :</b> Ragukumar P  <b>Designation :</b> Assistant Professor Sr. Grade 2, School of Advanced Sciences  <b>University/ Company :</b> VIT, Vellore  <b>Address :</b> India, 632014.</p>
	<p><b>Resource Person 2 - Details</b>  <b>Name :</b> Debi Prasanna Acharjya  <b>Designation :</b> Professor Higher Academic Grade, School of Computer Science and Engineering  <b>University/ Company :</b> VIT, Vellore  <b>Address :</b> India, 632014.</p>
	<p><b>Resource Person 3 - Details</b>  <b>Name :</b> Albert Alexander S  <b>Designation :</b> Associate Professor Sr., School of Electrical Engineering  <b>University/ Company :</b> VIT, Vellore  <b>Address :</b> India, 632014.</p>
	<p><b>Resource Person 4 - Details</b>  <b>Name :</b> Ashutosh Mahajan  <b>Designation :</b> Associate Professor Grade 2, Centre for Nanotechnology Research  <b>University/ Company :</b> VIT, Vellore  <b>Address :</b> India, 632014.</p>
	<p><b>Resource Person 5 - Details</b>  <b>Name :</b> Dr Jagadeesh Kakarla  <b>Designation :</b> Assistant Professor, Computer Science  <b>University/ Company :</b> IIITDM, Kancheepuram  <b>Address :</b> India, 600127.</p>
	<p><b>Resource Person 6 - Details</b>  <b>Name :</b> Dr B VenkataSainath  <b>Designation :</b> Lead Data Scientist Deputy Manger of Analytics, Ford Motor India Pvt Ltd  <b>University/ Company :</b> Ford Motor India Pvt Ltd, Chennai  <b>Address :</b> India, 600041.</p>
	<p><b>Resource Person 7 - Details</b>  <b>Name :</b> Dr Srinivasu Gangi Setti  <b>Designation :</b> Associate Professor, Mechanical Engineering  <b>University/ Company :</b> National Institute of Technology Raipur, Raipur  <b>Address :</b> India, 92010.</p>
	<p><b>Resource Person 8 - Details</b>  <b>Name :</b> Dr Panchatcharam Mariappan  <b>Designation :</b> Associate Professor, Mathematics and Statistics  <b>University/ Company :</b> Indian Institute of Technology Tirupati, Tirupati  <b>Address :</b> India, 517619.</p>

	<p><b>Resource Person 9 - Details</b>  <b>Name :</b> Ashish Bhatt  <b>Designation :</b> Assistant Professor Sr. Grade 1, School of Advanced Sciences  <b>University/ Company :</b> VIT, Vellore  <b>Address :</b> India, 632014.</p>
	<p><b>Resource Person 10 - Details</b>  <b>Name :</b> Dr Rajendra Prasath  <b>Designation :</b> Associate Professor , Computer Science  <b>University/ Company :</b> Indian Institute of Information Technology, Sricity  <b>Address :</b> India, 52440.</p>
	<p><b>Resource Person 11 - Details</b>  <b>Name :</b> Dr Venkataramana Veeramsetty  <b>Designation :</b> Professor, Computer Science  <b>University/ Company :</b> SR University, Warangal  <b>Address :</b> India, 506371.</p>
	<p><b>Resource Person 12 - Details</b>  <b>Name :</b> Dr Nagineni Sukumar  <b>Designation :</b> Software Engineer, Algorithm System  <b>University/ Company :</b> Aptiv Technical Centre, Bengaluru  <b>Address :</b> India, 560066.</p>
	<p><b>Resource Person 13 - Details</b>  <b>Name :</b> Dr Bondada Venkatasainath  <b>Designation :</b> Lead Data Scientist, Analytics  <b>University/ Company :</b> Ford Motor India, Chennai  <b>Address :</b> India, 600119.</p>

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

### **1. Profile of Ragukumar P**

Dr Ragukumar P

Designation : Assistant Professor Senior Grade 2

School Centre : School of Advanced Sciences

Department : Mathematics

### **2. Profile of Debi Prasanna Acharjya**

Dr. DEBI PRASANNA ACHARJYA Professor Higher Academic Grade Department of Computational Intelligence School of Computer Science and Engineering -

### **3. Profile of Albert Alexander S**

Dr. ALBERT ALEXANDER S Associate Professor Sr. Department of Energy and Power Electronics School of Electrical Engineering

### **4. Profile of Ashutosh Mahajan**

Dr. ASHUTOSH MAHAJAN Associate Professor Grade 2 Centre for Nanotechnology Research

### **5. Profile of Dr Jagadeesh Kakarla**

Dr. Jagadeesh Kakarla is an Assistant Professor in CSE at IIITDM Kancheepuram with a Ph.D. from NIT Rourkela. His research interests include Wireless Sensor Networks, Ad hoc Networks, IoT, and Medical Image Processing.

### **6. Profile of Dr B VenkataSainath**

Dr. Bondada Venkatasainath is a Lead Data Scientist with extensive experience in applying advanced AI and statistical learning to large-scale manufacturing and automotive systems. He holds a Ph.D. from IIT Kharagpur with research in Explainable AI and machine vision. His work spans cost-reduction analytics, geometric similarity modeling, physics-informed neural networks, and generative AI for industrial data. He has delivered high-impact solutions with multimillion-dollar savings and published

### **7. Profile of Dr Srinivasu Gangi Setti**

Dr. Srinivasu Gangi Setti is an Associate Professor in Mechanical Engineering at NIT Raipur with M.Tech., and Ph.D. His research spans composites, functionally graded materials, 3D printing, AIML, and tribology.

### **8. Profile of Dr Panchatcharam Mariappan**

Dr. Panchatcharam Mariappan is an Associate Professor in the Department of Mathematics and Statistics at the Indian Institute of Technology Tirupati. He earned his Ph.D. from IIT Madras and TU Kaiserslautern, Germany, focusing on computational methods. His research spans Computational Fluid Dynamics, Numerical PDEs and Scientific Computing. He has received the DAAD Research Ambassador Award and Best Faculty Award for Teaching and contributes to high-impact projects in numerical modeling and sim

### **9. Profile of Ashish Bhatt**

Department of Mathematics

VIT Vellore

### **10. Profile of Dr Rajendra Prasath**

Dr. Rajendra Prasath is an Associate Professor in CSE at IIIT Sri City. He holds Ph.D. degrees from IIT Kharagpur and in Mathematics-Computer Science from the University of Madras. His research interests include information retrieval, machine learning, knowledge-based and case-based reasoning systems, distributed algorithms, and self-replication systems. He has published extensively in reputed international journals and conferences and is actively involved in teaching, research supervision, and

### **11. Profile of Dr Venkataramana Veeramsetty**

Dr. Venkataramana Veeramsetty is a prominent academic and researcher currently serving as a Professor at SR University (SRU) in Warangal, Telangana. He is widely recognized for his expertise in Artificial Intelligence (AI), Deep Learning, and Power Systems.

### **12. Profile of Dr Nagineni Sukumar**

Dr. Nagineni Sukumar is a prominent technical professional and researcher currently associated with the Aptiv Technical Center in Bengaluru. As of early 2026, his work continues to bridge the gap between advanced academic research and automotive technology.

### **13. Profile of Dr Bondada Venkatasainath**

Dr. Bondada Venkatasainath is a Lead Data Scientist with extensive experience in applying advanced AI and statistical learning to large-scale manufacturing and automotive systems. He holds a Ph.D. from IIT Kharagpur with research in Explainable AI and machine vision. His work spans cost-reduction analytics, geometric similarity modeling, physics-informed neural networks, and generative AI for industrial data. He has delivered high-impact solutions with multimillion-dollar savings and published

Scientific Machine Learning has emerged as a transformative paradigm that integrates data driven learning with scientific knowledge, governing equations, and physical constraints. While classical machine learning techniques have demonstrated remarkable success in pattern recognition and prediction, many scientific and engineering problems demand models that are interpretable, data-efficient, robust, and consistent with known physical laws. SciML addresses these challenges by synergistically combining machine learning with numerical analysis, scientific computing, and domain-specific modeling.

The present FDP focuses on emerging trends, advanced methodologies, and current research directions in SciML. The program aims to expose participants to recent developments such as physics-informed neural networks (PINNs), neural operators, reduced-order modeling, operator learning, uncertainty quantification, hybrid data physics models, and AI-enabled scientific discovery.

The FDP is designed for faculty members and research scholars from engineering, sciences, and interdisciplinary domains. Through expert lectures, illustrative case studies, and focused discussions, participants will gain insights into how SciML techniques are being applied to solve complex problems in areas such as computational mechanics, fluid dynamics, climate modeling, materials science, biomedical engineering, and electrical systems. The program will also highlight open research challenges and opportunities for interdisciplinary collaboration.

By the end of the FDP, participants are expected to develop a clear perspective on state of the art SciML techniques, their practical relevance, and potential integration into teaching, research, and funded projects. This program aligns with VIT's emphasis on advanced research, interdisciplinary learning, and capacity building among faculty and scholars.

Scientific Machine Learning, PINN, neural networks, scientific computing

**Coordinator's: Prof. ASHISH BHATT 18015 - Assistant Professor Sr. Grade 1 - SAS  
Prof. PADIGEPATI NAVEEN 17100 - Assistant Professor Grade 2 - SAS**