



## Faculty Development Program



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

### Event Outcome





**Title :** Bridging Theory and Application:  
Mathematical Models in Biological Systems

**Date :** 2025-08-18 - 2025-08-22

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

**Venue :** PRP-119

- Enhanced Understanding of Epidemic Modeling Techniques
- Application of Ecological Mathematical Models in Biodiversity and Conservation
- In-depth Exposure to Delay Differential Equations in Biological Systems
- Modeling and Analysis of Computer Networks Using Mathematical Frameworks
- Development of Interdisciplinary Modeling Skills Using Computational Tools

	<p><b>Resource Person 1 - Details</b>  <b>Name :</b> Prashant Kumar Srivastava  <b>Designation :</b> Associate Professor , Mathematics  <b>University/ Company :</b> IIT Patna, Patna  <b>Address :</b> India, 801103.</p>
	<p><b>Resource Person 2 - Details</b>  <b>Name :</b> P D N Sinivasu  <b>Designation :</b> Professor, Mathematics  <b>University/ Company :</b> Andhra University , Visakhapatnam  <b>Address :</b> India, 530003.</p>
	<p><b>Resource Person 3 - Details</b>  <b>Name :</b> Dr Sumana Ghosh  <b>Designation :</b> Research Assistant Professor, Mathematics  <b>University/ Company :</b> SRM Institute of Science and Technology, Kattankulathur  <b>Address :</b> India, 603203.</p>
	<p><b>Resource Person 4 - Details</b>  <b>Name :</b> Shubhangi Dwivedi  <b>Designation :</b> Assistant Professor Grade 1, School of Advanced Sciences  <b>University/ Company :</b> VIT, Vellore  <b>Address :</b> India, 632014.</p>
	<p><b>Resource Person 5 - Details</b>  <b>Name :</b> Sri Rama Vara Prasad Bhuvanagiri  <b>Designation :</b> Associate Professor Sr., School of Advanced Sciences  <b>University/ Company :</b> VIT, Vellore  <b>Address :</b> India, 632014.</p>
	<p><b>Resource Person 6 - Details</b>  <b>Name :</b> Monica C  <b>Designation :</b> Assistant Professor Grade 1, School of Advanced Sciences  <b>University/ Company :</b> VIT, Vellore  <b>Address :</b> India, 632014.</p>
	<p><b>Resource Person 7 - Details</b>  <b>Name :</b> M Pitchaimani  <b>Designation :</b> Director and Head, Mathematics  <b>University/ Company :</b> Ramanujan Institute for Advanced Study in Mathematics University of Madras, Chennai  <b>Address :</b> India , 600005.</p>
	<p><b>Resource Person 8 - Details</b>  <b>Name :</b> S Athithan  <b>Designation :</b> Associate Professor, Mathematics  <b>University/ Company :</b> SRM Institute of Science and Technology, Kattankulathur  <b>Address :</b> India, 603203.</p>

**Resource Person 9 - Details****Name :** Dr Sangeeta Kumari**Designation :** Assistant Professor, Mathematics**University/ Company :** Amrita Vishwa Vidyapeetham, Coimbatore**Address :** India , 641112.

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

### **1. Profile of Prashant Kumar Srivastava**

Dr. Prashant is currently working as an Associate Professor in the Department of Mathematics at Indian Institute of Technology (IIT) Patna. His main areas of interest include Mathematical Modeling in Biological Systems and Nonlinear Dynamics. Some of his works also includes data analysis in form of parameter estimation. He is also serving as Chair, MEPI Subgroup of SMB and Joint Secretary of ISMMACS.

### **2. Profile of P D N Sinivasu**

Dr. P. D. N. Srinivasu is working as a Professor at Andhra University, Visakhapatnam. He has more than 30 years of research experience. His research interests are ordinary differential equations, dynamical systems, modelling in ecology, modelling in epidemiology, bio-economics of resources, optimal control of ecological and bio-economic systems, and mathematical aspects of biological reserve designs.

### **3. Profile of Dr Sumana Ghosh**

Dr. Sumana Ghosh is working as Research Assistant Professor at SRM Institute of Science and Technology. Her research work include Mathematical Biology, Mathematical Modelling, Dynamical System, Cell Biology, System Biology. She holds her Ph.D from IIT Roorkee and Post research from Translational Health Science and Technology Institute (THSTI), Faridabad, India.

### **4. Profile of Shubhangi Dwivedi**

Dr. Shubhangi Diwedi is working as an Assistant Professor at VIT Vellore. She completed her Ph.D. from IIT Mandi. Her broad research interest are Mathematical modeling, Synchronization of Chaos in Ecology.

### **5. Profile of Sri Rama Vara Prasad Bhuvanagiri**

Dr B.S.R.V. Prasad is working as an Associate professor at VIT Vellore. He earned his Ph.D. from Andhra University. His work focuses on developing mathematical models to understand ecological interactions, particularly prey-predator dynamics and their role in biological control and conservation.

### **6. Profile of Monica C**

Dr. Monica C is working as an assistant professor at VIT Vellore. She completed her Ph.D from the Ramanujan Institute for Advanced Study in Mathematics, University of Madras, Chennai. Her research area is delay differential equations in population dynamics.

### **7. Profile of M Pitchaimani**

Dr. M. Pitchaimani is working as Director and Head of the Ramanujan Institute for Advanced Study in Mathematics at the University of Madras, Chennai. His area of research is mathematical biology and functional analysis. He has published more than 80 research papers in reputed journals and has more than 20 years of research experience.

### **8. Profile of S Athithan**

Dr. S. Athithan is working as an Associate professor at SRM Institute of Science and Technology, Kattankulthur, Chennai. He completed his Ph.D. from Vellore Institute of Technology. His research area is mathematical modeling, mathematical biology, and applications of ODEs and PDEs in real-world problems. He also worked on the deterministic mathematical modeling for the transmission dynamics of HIV, TB, and malaria.

### **9. Profile of Dr Sangeeta Kumari**

Dr. Sangeeta Kumari is currently serving as Assistant Professor, Department of Mathematics, School of Physical Sciences, Amrita Vishwa Vidyapeetham, Coimbatore, since July 2021. Her areas of research include dynamical systems, mathematical modelling, mathematical ecology, nonlinear analysis, and e-epidemiological modelling. She earned her Ph.D. from ISM, Dhanbad, Jharkhand, India. The title of her Ph.D. thesis was Dynamical studies of malware propagation models in wireless sensor networks.

This Faculty Development Program aims to explore the intersection of mathematics and biology through the lens of mathematical modeling. Participants will be introduced to core theoretical tools such as differential equations, stochastic processes, and network theory and their application to real-world biological systems, including disease modeling, population dynamics, cellular processes, and neural activity. The program emphasizes the translation of abstract mathematical frameworks into practical solutions for complex biological challenges.

Matlab, Matcont, Mathematica, Python and R

**Coordinator's: Prof. REENU RANI 15926 - Assistant Professor Grade 1 - SAS**  
**Prof. RACHNA BHATIA 15919 - Assistant Professor Grade 2 - SAS**