

AICTE TRAINING AND LEARNING (ATAL)

Offline Six Day Faculty Development Programme 2026-27 Schedule

FDP Thrust Area: Advanced Computing (Supercomputing, AI, Quantum Computing)

FDP Title: MATH-ML: Mathematical Foundations and Techniques for Machine Learning and Interdisciplinary Applications

Amrita Vishwa Vidyapeetham, Amrita School of Engineering, Chennai.

Start Date: 17/08/2026

End Date: 22/08/2026

17.08.2026	18.08.2026	19.08.2026	20.08.2026	21.08.2026	22.08.2026
9.00 AM– 9.30 AM Inauguration	9.00 AM– 11.30 AM Session 3 Topic <i>AI applications in Safety Critical Systems</i> Name of the Expert Dr. Lalit Singh Senior Scientist Head, Artificial Intelligence Applications NPCIL-BARC Department of Atomic Energy Govt. of India	9.00 AM– 11.30 AM Session 5 Topic Mathematical Foundations of Cryptography Name of the Expert Dr. M Subramani Assistant Professor Department of Mathematics, IIITD-Kanchipuram, Chennai	9.00 AM– 11.30 AM Session 7 Topic <i>Mathematical Methods for Machine Learning</i> Name of the Expert Dr. Raju K George Outstanding Professor Department of Mathematics Dean (Student Activities, Student Welfare & Outreach) Indian Institute of Space Science and Technology Department of Space Thiruvananthapuram Govt. of India	9.00 AM– 11.30 AM Session 8 Topic <i>Introduction to Quantum Computing</i> Name of the Expert Dr. T S L Radhika Associate Professor Department of Mathematics BITS Pilani Hyderabad Campus	9.00 AM– 11.30 AM Session 10 Topic <i>Bridging Mathematics, Machine learning and Industry</i> Name of the Expert Mr. Ganeshram Senior Technical Manager HCL Tech-Chennai
9.30 AM– 12.00 PM Session 1 Topic <i>Machine Learning Approaches for Medical Images, Clinical Text, and Auscultation Sounds</i> Name of the Expert Dr. C. Ponnuraja Scientist-F & Head, Department of Statistics ICMR_National Institute of Research in Tuberculosis (NIRT) Chennai					
	11.30 AM – 12.30 PM Article Discussion	11.30 AM – 12.30 PM Article Discussion	11.30 AM to 12.00 PM Lunch	11.30 AM – 12.30 AM Article Discussion	11.30 AM – 12.30 AM Article Discussion
12.00 PM to 12.30 PM Lunch	12.30 PM to 1.00 PM Lunch	12.30 PM to 1.00 PM Lunch		12.30 PM to 1.00 PM Lunch	12.30 PM to 1.00 PM Lunch

12.30 PM – 3.00 PM Session 2 Topic <i>Mathematical Foundations of Cryptography, Quantum Cryptography, and Their Applications in Secure AI</i> Name of the Expert Dr. S Baghavathi Priya Associate Professor & Chairperson Amrita School of Computing, Chennai	1.00 PM – 3.30 PM Session 4 Topic <i>Reliability analysis of Life critical systems using Mathematical modelling and AI</i> Name of the Expert Dr. Lalit Singh Senior Scientist Head, Artificial Intelligence Applications NPCIL-BARC Department of Atomic Energy Govt. of India	1.00 PM – 3.30 PM Session 6 <i>Kolmogorov–Arnold Networks (KAN)</i> Topic Name of the Expert Dr. Sudheesh Kumar Kattumannil Associate Professor Applied Statistics Unit Indian Statistical Institute Chennai	12.00 PM – 4.30 PM Industrial Visit ICMR_National Institute of Research in Tuberculosis (NIRT), Chennai Objective To provide participants with practical exposure to real-world data analytics and statistical modeling in biomedical and public health research. It enables understanding of how machine learning and mathematical techniques are applied in disease surveillance, epidemiology, and healthcare decision-making. Participants will gain insights into translating theoretical ML concepts into impactful interdisciplinary applications	1.00 PM – 3.30 PM Session 9 Topic <i>Quantum Computing Mathematical Models and Algorithms</i> Name of the Expert Dr. T S L Radhika Associate Professor Department of Mathematics BITS Pilani Hyderabad Campus	1.00 PM – 4.00 PM Session MCQ, Article Summary & Feedback
3.00 PM to 4.30 PM Hands- on Session <i>Workshop on Linear Algebra for Machine Learning</i>	3.30PM to 4.30 PM Hands- on Session <i>Workshop on Image Compression and Dimensionality Reduction Using Singular Value Decomposition (SVD)</i>	3.30PM to 4.30 PM Hands- on Session <i>Workshop on Optimization Techniques for Machine Learning: Gradient Descent and Backpropagation</i>		3.30 PM to 5.00 PM Hands- on Session <i>Getting Started with Quantum Computing: A Hands-on Session</i>	4.00 PM – 4. 30 PM Valedictory Function