



AIML-05E AI-Based Quantum Machine Learning for Healthcare Applications

Dec 1-Dec 10, 2026



Experts/Speakers-

Speakers from IITs/NITs/IIITs and
eminent experts from other walks of
life

EICT Academy MNIT Jaipur

Chairman, EICT Academy &
Director MNIT Jaipur

Prof. Narayana Prasad Padhy

Chief Investigator: **Prof. Vineet
Sahula**

Coordinator: **Dr. Satyasai Jagannath
Nanda**

Co- Chief Investigators: **Prof. Lava
Bhargava, Prof. Pilli Emmanuel
Shubhakar,
Dr. Ravi Kumar Maddila**

Objective (Electronics & ICT Academy- Phase II)

- 1) To conduct specialized FDPs for faculty/mentor training in line with the vision of MeitY in high-priority areas supporting the "Make in India" and the "Digital India" programs.
- 2) To promote synergy and collaboration with industry, academia, universities and other institutions of learning
- 3) To support the National Policy on Electronics 2019 (NPE 2019), which envisions positioning India as a global hub for ESDM sector, including MeitY Schemes/policies such as Programme for Semiconductors and Display Fab Ecosystem; India AI; National Programme on AI, Production Linked Incentive Scheme for IT Hardware & Large-Scale Electronics Manufacturing; EMC; SPECS; Chips to System (C2S); etc.
- 4) To promote standardization of FDPs through Joint Faculty Development Programmes.

An intensive 40-Hour Training Programme in online mode is being organized for faculty, doctoral students of engineering and technological institutions. Working professionals from industry/organizations are also invited to attend. The main theme of the training program will be oriented around exploring the state-of-the-art methods of AI-Based Quantum Machine Learning for Healthcare Applications.

Module 1: Foundations of Quantum Computing & AI

Covers fundamental quantum mechanics principles—qubits, superposition, entanglement—alongside circuit design, classical-to-quantum AI paradigms, and hands-on development using Qiskit and PennyLane.

Module 2: Core Quantum Machine Learning Algorithms

Focuses on quantum data encoding techniques, quantum classifiers (QSVM, QPCA), Variational Quantum Algorithms (VQE, QAOA), and hybrid quantum-classical neural networks with parameter-shift training.

Module 3: Healthcare & Biomedical Applications

Examines practical QML implementations across medical imaging (CT/MRI), VQE-driven drug discovery and molecular simulation, high-dimensional genomics analysis, and predictive health risk modeling.

Module 4: Deployment, Security & Future Horizons

Addresses NISQ-era hardware limitations, cloud quantum platforms (IBM Quantum, Amazon Braket), post-quantum data security for EHR compliance, and an end-to-end healthcare capstone project execution.

Principal/Joint-Principal Coordinators

Dr. Prasanta Majumdar, Jt-PC, MNIT
Jaipur

PC, NIT Warangal

Registration is open to faculty, working professionals, industry persons, doctoral, postgraduate, and graduate students from India and the rest of the world. Participants will be admitted on a first-come, first-served basis.

Registration Fee

Mode of programme	India/SAARC/Africa (18% GST extra)		Rest of the world
	Academia (faculty/Students)	Others	
Online	Rs. 750/-	Rs. 1500/-	US \$ 60/-

- Fee once paid will not be refunded back; however, can be adjusted for a future programme.
- The fee covers online participation in the programme, tutorial, notes and examination, certification charges etc.
- The registration amount may be paid through online mode- NEFT/UPI/Cards/SWIFT, provided at the registration portal.
- Detailed schedule will be shared after receiving registration form

Register online at - <http://online.mnit.ac.in/eict/>

→ For queries, contact us at fdp.academy@mnit.ac.in



MNIT Jaipur one of the oldest NITs, the institute has a rich heritage of sixty years producing world class engineers, managers, architects and scientists. Ranked 42nd nationally in the NIRF ranking-2025 (Engineering), the institute offers learning opportunities for undergraduate, postgraduate students, and researchers in various domains. Having a lush green campus of over 317 acres within the heart of the pink city, close to Jaipur International Airport, the campus offers a safe and lively environment. A world class teaching infrastructure, state-of-art laboratories welcome you at the campus. The institute has a vision to impart education of international standards and conduct research at the cutting edge of technology.