



**Chairman, EICT Academy &
Director MNIT Jaipur**
Prof. Narayana Prasad Padhy

Chief Investigator, EICT Academy
Prof. Vineet Sahula, ECE

Coordinator, EICT Academy
Dr. Satyasai Jagannath Nanda, ECE
Co- Chief Investigators, EICT Academy
Prof. Lava Bhargava, ECE
Prof. Pilli Emmanuel Shubhakar, CSE
Dr. Ravi Kumar Maddila, ECE

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.

Experts/Speakers-

The FDP will have eminent speakers from various reputed institutes; some of them who have given consents are listed here-

- Prof. Sudeb Dasgupta, IIT Roorkee
- Prof. Virendra Singh, IIT Bombay
- Prof. Santosh Vishwakarma, IIT Indore
- Prof. Amit R. Trivedi, University of Illinois Chicago
- Prof. Jawar Singh, IIT Patana
- Prof. Subham Sahay, IIT Kanpur
- Dr. V. Narendar, NIT Warangal
- Dr. Menka Yadav, MNIT Jaipur

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 for **Neuromorphic Computing Hardware & VLSI Architectures**. The programme (tentatively) will be run during **2 pm -6 pm daily except Sunday**.

Programme Modules:

Module 1: Foundations of Neuromorphic Thinking- Introduction to brain-inspired computing from device and circuit perspective, Biological neuron & synapse structure, Action potentials, spike timing, Limitations of von Neumann architecture, Evolution from AI to neural networks to neuromorphic systems. Spiking Neural Networks (SNNs) vs. traditional ANNs

Module 2: Devices and Circuits- Neuromorphic circuits: analog, digital, and mixed-signal, CMOS, memristors, RRAMs, and phase-change materials, Crossbar arrays for synaptic weights, Low-power VLSI design for neuromorphic hardware

Module 3: Architectures and Algorithms- Spiking Neural Networks architecture, Neuromorphic learning rules, Event-driven computation and asynchronous processing, Neuromorphic chips, Benchmarking metrics: latency, power, energy, sparsity

Module 4: Compute in Memory -SRAM basics, SRAM compute in memory (CIM), SRAM compute in memory logic gates, adders, content addressable memory architectures. Relevance of SRAM CIM for neuromorphic computing architectures. Other memory architecture for neuromorphic computing & Comparison

Module 5: Neuromorphic Computing- Mapping Neural Networks to Hardware, Time-Domain Neuromorphic Accelerators, Hybrid CMOS-NVM Bayesian Inference Accelerators

Programme Coordinator:

Dr. Menka Yadav fdp.academy@mnit.ac.in 9549650791(M)

Registration:

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		Rest of the world
	Academia (faculty/Students)	Others	
Online	Rs. 750/-	Rs. 1500/-	US \$ 60/-

(18% GST extra)

- 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/> OR scan QR code to register

→ 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.