Jointly Organized by
Electronics & ICT Academies

MNITJ, NITP, IITR, IITG, IIITDMJ
http://www.mnit.ac.in/eict

Joint - Online Programme on

Quantum Technologies and Applications

Feb 28 – Mar 22, 2025

Twenty Days (Mon to Sat)
Time: **2 – 4 PM** (Daily 2 Hours)

Faculty Development Programme
Electronics & ICT Academy under aegis of

Ministry of Electronics and Information Technology
Government of India

https://eictacademy.meity.gov.in

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
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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 by promoting emerging areas of technology and other high-priority areas that are pillars of both the "Make in India" and the "Digital India" programs.
2. To promote synergy and collaboration with industry, academia, universities and other institutions of learning, especially in emerging technology areas.
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.
5. To support the vision of the National Education Policy (NEP 2020), which mandates that Indian educators go through at least 50 hours in professional development programmes per year.
6. To design, develop & deliver specialised FDPs on emerging technologies/ niche areas/ specialised modules for specific research areas for Faculty in Higher Education Institutions (HEI), besides FDPs on multi-disciplinary areas connected with ICT tools and technologies and other digital hybrid domains, covering a wide spectrum of Engg. and non-engineering colleges, polytechnics, ITIs, and PGT educators.

An intensive **20 Day - 40 Hours** Training Programme in Online Mode is being organized for faculty and doctoral students of engineering, science and technological institutions. It is also open to working professionals from industry / organizations. The programme will be run for **only two hours** in the afternoon **from 14:00 to 16:00** hours **daily** (Mon to Sat).

Quantum Technologies and Applications **(QT – 01)** is the **first** in a series of training programmes aligning to **the courses** in the recently (December 2024) approved **Minor Course Curriculum** on **Quantum Computing** by **AICTE, DST, UGC and IBM**. Another **Five (5) programmes** will be conducted in EICT Academies as part of the series, **by end of 2025**.
Please refer to https://facilities.aicte-india.org/Minor Quantum Technologies.pdf

Experts / Speakers – IBM Partners

Dr. L. Venkata Subramaniam, IBM Quantum India Leader
Dr. Mostafizur Rahaman, Research Scientist, IBM Quantum
Dr. Mani Madhukar, Programme Lead, IBM Innovation Center for Education
Ms. Nivedita Dey, PwC Quantum US R & D
Dr. Aswath Babu, Assistant Professor, IIIT Dharwad

Programme Modules:

- Quantum Technologies: four verticals (Computing, Communication, Sensing & Metrology, and Materials & Devices.); Salient aspects of Quantum Physics; Superposition and Entanglement; No Cloning;
- Quantum Computation: Qubits, Di Vincenzo criteria; Qubit Gates and Circuits; NMR Qubits; Physical implementation of qubits; Rivest-Shamir-Adleman (RSA) Algorithm and Shors Algorithm;
- Quantum Sensing; Photon generation and detection; Gravimetry, Atomic clock, Magnetometry;
- Quantum Communications; Quantifying classical information, Shannon entropy; Terrestrial – fibre-based; Free space - satellite-based;

Principal Coordinator (MNIT Jaipur)		Local Coordinator
Dr. Emmanuel S. Pilli	Email	Dr. Mahipal P. Jadeja
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Registration:
Registration is open to faculty, working professionals, industry persons, doctoral, postgraduate and graduate students. Participants will be admitted on first-come first-served basis.

Register online at– http://online.mnit.ac.in/eict/

Certification Fee: Academic (Faculty / Students): Rs. 500/-
Working Professionals, Industry / Others: 1500/-

(A) Fee once paid will not be refunded back.
(B) The fee covers online participation in the programme, tutorial notes and examination, certification charges.
(C) The organizers should receive the registration amount through online mode-NEFT/UPI, provided at the registration portal.
(D) Detailed schedule will be shared after receiving registration form.

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 43rd nationally in the NIRF ranking-2024 (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.