



Online Faculty Programme on QT-07 Quantum Sensing



Facilitated by AICTE, NQM, APSCHE, IITM,
IBM, TCS, MNITJ, MeitY & Others

Feb 06 – Feb 28, 2026
Twenty Days (Mon to Sat)
Time: 3– 5 PM (Daily 2 Hours)



इलेक्ट्रॉनिकी एवं
सूचना प्रौद्योगिकी मंत्रालय
MINISTRY OF
ELECTRONICS AND
INFORMATION TECHNOLOGY

**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 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 engineering and non-engineering colleges, polytechnics, ITIs, and PGT educators.

An intensive **20 Day - 40 Hours** Training Programme in Online Mode is being organized **primarily for faculty members** of engineering, science and technological institutions of **Andhra Pradesh**. It is also open to other states and working professionals from industry / organizations. The programme will be run for **only two hours** in the afternoon from **15:00 to 17:00 hours Daily (Mon to Sat)**. **QT-07: Quantum Sensing** is the **Sixth** in a series of Faculty Development programmes aligning to the courses in the recently approved **Minor Course Curriculum** on **Quantum Computing** by AICTE, DST and IBM..

<https://facilities.aicte-india.org/Minor Quantum Technologies.pdf>

Experts/Speakers:

1. Prof. Ranjan Jha, IIT Bhubaneshwar
2. Prof. Umakant D. Rapol, IISER Pune
3. Prof. Iren Kuznetsova, IRE RAS, Moscow, Russia
4. Dr. Richa Goel, IBM
5. Dr. Vaibhav Gupta, IIT Mandi
6. Dr. Ramachandra Rao Yalla, University of Hyderabad
7. Dr. Kaushalya, IIT Roorkee
8. Dr. Aswath Babu, IIIT Dharwad
9. Dr. Jaskaran Singh, IIT Mandi
10. Dr. Tarun Dutta, University of Hyderabad
11. Dr. Ashok Kumar, Indian Institute of Space Science & Tech., Kerala
12. Dr. A. Kani Mohammad, University of Hyderabad

Programme Modules:

Classical sensing, photo detection, Classical Noise, Johnson Noise, Telegraph noise, flicker or 1/f noise, Sensitivity of classical measurements, Classical Fisher information, Cramer-Rao bounds.

Quantum measurements, projective/orthogonal measurements, Approximate/non-orthogonal measurements, Weak continuous measurements, Error-disturbance relations, Standard quantum limits, Quantum non-demolition measurements

States of light, Fock states, Coherent states, Squeezed states, Tomography, Wigner quasi-probability distribution, P-distribution, Husimi Q function, Quantum photo detection, Square-law detectors, Intensity measurements, and Photo-detection, Linear Detectors and Quadrature Measurements

Single photon-based sensing applications, Entanglement-based sensing applications, atomic state-based sensing, solid-state spin-based sensing applications (gravimetry, magnetometry)

Principal Coordinator

Dr. Kamendra Awasthi
9414406599 (M)

Joint-Principal Coordinator

Dr. Ritu Sharma
9549654232 (M)

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/PhD Scholars) [(India/SAARC/African countries)]: **₹500/-**
- Professionals / Industry / Others [India / SAARC / African countries]: **₹1000/-**
- Participants from the **Rest of the World USD: US\$ 60**

(A) The fee covers online participation, material and certification charges.

(B) Webinar Classes will be on Cisco **WebEx**, Notes / Slides will be shared and Quizzes / Assignments will be conducted on **Canvas e - Learning Platform**,

→ For any other query, email us at fdp.eict@mnit.ac.in

Malaviya National Institute of Technology (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.

Andhra Pradesh State Council of Higher Education (APSCH), the first of its kind in the country, set up as per the recommendations of the NEP, is primarily a coordinating body between the **University Grants Commission (UGC)** and the **State Government Universities**