



Online Faculty Programme on QT-11 Quantum Optics



June 05 – June 27, 2026

Twenty Days (Mon to Sat)

Time: 3– 5 PM (Daily 2 Hours)



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

Jointly Organized by MNITJ, IITG, IITK, IITR,
NITP, NITW & IITDM

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 for faculty and doctoral students of engineering, science, and technological institutions. It is also open to working professionals from the 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-11: Quantum Optics is the **Tenth** in a series of Faculty Development programmes aligning to the courses in the recently approved **Minor Course Curriculum on Quantum Optics** by AICTE, DST and IBM.

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

Experts/Speakers (Tentative)

1. Prof. C. M. Chandrashekar, IISc, Bangalore	6. Dr. Y Ramachandrarao, UoH, Hyderabad
2. Prof. Bhaskar Kanseri, IIT Delhi	7. Dr. Kanaka Raju Pandiri, DIAT Pune
3. Dr. Himadri Shekhar Dhar, IIT Bombay	8. Dr. Aswath Babu, IIIT Dharwad
4. Dr. Ashok Vudayagiri, UoH, Hyderabad	9. Dr. K. Srinivasan, DIAT Pune
5. Dr. Pradyumna Pathak, IIT Mandi	10. Dr. K V. Kamma, MNIT Jaipur

Programme Modules:

Quantization of the electromagnetic field: Number states, coherent states, squeezed states, Hanbury-Brown and Twiss experiments – Photon bunching, Photon anti-Bunching, Hong-Ou-Mandel interference.
Theory of Optical coherence: Young's double slit experiment and first order coherence, Coherence functions of arbitrary order, Normal ordering, symmetric ordering & anti-normal ordering of operators, Interferometry.
Phase-space representations of states of light: Wigner distribution, P-function and the notion of non-classicality with some examples of nonclassical states like squeezed states and their applications, Husimi Q function.
Light-matter interaction: Classical model of light-matter interaction, Semi-classical model of light-matter interaction, Quantum light-matter interaction, Rabi Model, Jayne's-cummings model
Open quantum systems: Fermi golden rule, Born-Markov Lindblad Master Equation

Principal Coordinator

Dr. Srinivasa Rao Nelamarri
9636337638 (M)

Joint Principal Coordinator

Prof. Kanupriya Sachdev
9829128200 (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 (APSCHE), 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**