

**Faculty Development Programme**  
on  
**“Quantum Technology”**

Academic Year  
**2025-2026**

**Faculty Attended:**

Mrs.N.Rajini Kiranmai  
Mrs.B.Manju Bhargavi  
Mr. Lt. I.S.Raghuram

## FDP-Broucher

### About Universities

#### Royalaseema University, Kurnool

Royalaseema University, Kurnool, established in 2008 by the Government of Andhra Pradesh, is a premier public university committed to academic excellence, inclusive education, and research-led growth, particularly serving the drought-prone and educationally backward Royalaseema region. The University has evolved from a strong postgraduate academic foundation and today offers a wide spectrum of programs across Science, Arts, Commerce, Management, Engineering, and Technology, with a sustained focus on teaching, research, and societal outreach. Guided by the principles of equity, innovation, and learner-centric education, Royalaseema University upholds constitutional values and strives to empower underprivileged communities through higher education.

#### Cluster University, Kurnool

Cluster University, Kurnool (CUK), established in 2020 as the first Cluster University in South India, represents an innovative higher education model aligned with the National Education Policy (NEP-2020). Formed by integrating three NAAC-accredited autonomous government colleges at Kurnool, the University promotes multidisciplinary learning, skill development, digital education, and industry-academia-community collaboration. Supported by RUSA funding, CUK aims to emerge as a center of academic and research excellence, fostering creativity, critical thinking, innovation, and future-ready human capital.

### Target Audience

Academics, researchers, and postgraduate students across STEM disciplines like Physics, Math, CS, and Engineering. R&D professionals and interdisciplinary experts focused on the theoretical and practical advancement of Quantum Computing.

### Coordinator

**Prof Venkata Sunderanand Putcha, Principal**  
RU College of Engineering, RU, Kurnool  
**Dr M Pedmevathi, QIC Coordinator**  
Cluster University, Kurnool

### Co-Coordinator

**Dr Y Raghunatha Reddy**  
Coordinator for Dept. of Statistics (OR&SQC), CU, Kurnool  
**Dr Mohammed Waaz**  
Dean Academics, Cluster University, Kurnool

### Advisory Committee

**Prof NTK Naik, Rector, RU**  
**Prof C Viswanatha Reddy, Principal, RU College**  
**Dr M Indira Santhi, Principal, GDC(M), CU, Kurnool**  
**Dr K Venkata Reddy, Principal, KVR GDC(W), CU, Kurnool**

### Organizing Committee

**Prof C V Krishna Reddy, Dean, Academics, RU**  
**Prof R Bharath Kumar, Director IQAC, RU**  
**Prof N Narasimhulu, Dean Examinations, RU**  
**Dr K Nagaraja Setty, Dean Examinations, CU**  
**Dr H Akther Banu, Dean Administration, CU**  
**Sri V Narendra Babu, Lect. in Computer Science, SJGC, CU**  
**Sri D Jahiruddin, Technical Support, CU**  
**Sri H Manikanta, Technical Support, CU**

### Registration Link

<https://forms.gle/Zy8Zc52uoU42K5H7>  
<https://sites.google.com/cuklap.ac.in/fdp/home>



### Objectives of the FDP

To provide strong foundations and advanced understanding of Quantum Computing and Quantum Technologies. To introduce quantum algorithms, simulations, cryptography, sensing, and materials. To bridge theory and practice through hands-on and application-oriented sessions. To expose faculty and researchers to current research trends and future directions in quantum technology. To promote interdisciplinary research and curriculum development in emerging quantum domains.

### Learning Outcomes

Master quantum physics and qubit architectures to implement core algorithms like Shor's, Grover's, and QAOA. Apply quantum simulation and cryptographic protocols (QKD) to solve real-world problems and ensure post-quantum security. Explore quantum sensing and photonics to innovate in material science and identify emerging research frontiers.

### Jointly Organizing

## One Week FDP on Quantum Technology



**16-02-2026 to 21-02-2026**

### VENUE

**Senate Hall, Royalaseema University**

#### Chief Patron

**Prof V Venkata Basava Rao**  
Vice-Chancellor  
Royalaseema University & Cluster University (I/c), Kurnool

#### Patron

**Dr B Vijaya Kumar Naidu**  
Registrar  
Royalaseema University, Kurnool

#### Patron

**Dr G Srinivas**  
Registrar (FAO)  
Cluster University, Kurnool

#### Chief Guest

**Mr C V Sridhar**  
Mission Director, Amravati State Quantum Mission  
Amravati Quantum Valley

### Distinguished Resource Persons



**Prof. G Bhagavannarayana**  
Ex-Chief Scientist from CSIR National Physical Laboratory (NPL), New Delhi  
Ex-Director, IIT, R. K. Valley, RGUKT-AP. Currently working as Dean Research (Hon), VSM Group of Institutions, Ramachandrapuram, E.G. Dt., AP. Published more than 30 research articles. One of the top 2% Indian Researchers.



**Dr. HASwath Babu**  
HoD of Arts, Science and Design at IIT Dharwad, Karnataka, India  
Recognized among the top 30 resource persons under the ATAL FDP scheme. Specialized in Quantum Machine Learning (QML), Quantum Natural Language Processing (QNLP), Quantum Internet simulations, and Quantum Sensing with NV centers.



**Dr. T Pandiyarajan**  
HoD of Science, IITM Kurnool  
A visiting Scientist at Faculty of Physics and Mathematical Sciences, University of Autonoma Nueva Leon, Mexico and Functional Materials Division School of Information and Communication Technology, KTH Royal Institute of Technology, Sweden.



**Dr. D Murali**  
Associate Professor from IITM, Kurnool  
Specialized in computational condensed matter physics, particularly ab-initio electronic structure calculations to model real physical behavior of materials for varied applications including photovoltaic effects in perovskite solar cells.



**Dr. P V Prakash Madduri**  
Associate Professor from IITM, Kurnool  
Research areas include Magnetism at nanoscopic and mesoscopic length scales, Core-Shell nanoparticles, Magnetic Skyrmions & Antiskyrmions, Magnetic excitations and Magnonics, Magnetotransport in bulk and nano materials.



**Dr. P Kishore**  
Associate Professor from IITM, Kurnool  
Research areas include Optics, Electronics, Photonics, Fiber Optic Sensors, Fiber Bragg Gratings, Dynamic Liquid Lenses, Structural Health Monitoring. Associated with 03 research projects: ISRO Basket 2025.



**Dr. R Kabaleeshwaran**  
Assistant Professor, CSE, IITM Kurnool  
Recognized among the top 30 resource persons under the ATAL FDP scheme. Specialized in Quantum Machine Learning (QML), Quantum Natural Language Processing (QNLP), Quantum Internet simulations, and Quantum Sensing with NV centers.



**Dr. Gampala Durgababu**  
Assistant Professor, RGUKT, Nuzvid, Eluru  
Research areas include Integrated Photonic devices, Non-linear optical materials, Nano Materials, Thin films, Crystal Growth and Characterization Techniques.

### Inaugural Chief Guest



**Sri CV Sridhar**  
Mission Director, Amravati State Quantum Mission, Amravati Quantum Valley  
Involved in leading collaborations with global Universities, Indian Academia, and National Strategic Mission Programs, driving innovation and strategic partnerships for TCS Research.

### Valedictory Chief Guest



**Prof. Maheswara Rao Valluri**  
Founder, CEO & Chief Scientist at Quinfosys  
Indian Scientist, entrepreneur, and academician specializing in quantum technologies. He is the founder and CEO of Quinfosys, a quantum technology solutions provider, and QuEdX, an educational platform focused on quantum skills.

### Daywise Schedule

Day 1 16-02-2026	Foundations of Quantum Computing, Qubit Technologies, Essentials of Quantum Computing, Quantum Materials
Day 2 17-02-2026	Quantum Algorithms – Physical & Mathematical Views, Quantum Programming
Day 3 18-02-2026	Advanced Quantum Algorithms, Quantum Computer Architecture
Day 4 19-02-2026	Quantum Simulations, Quantum Identities, Quantum Cryptography
Day 5 20-02-2026	Quantum Erasers, QKD, Quantum Materials, Photonic Quantum Computing
Day 6 21-02-2026	Quantum Sensors, Applications, Quiz & Valedictory

### Registration Details

Registration is open to faculty members, working professionals, industry personnel, research scholars (Ph.D), and postgraduate students. Participants will be admitted subject to availability of seats.

### Registration Fee

Professionals / Industry Participants	₹1500/-
Faculty Members (Academia)	₹1000/-
Research Scholars (Ph.D) / PG Students	₹300/-

Scan to Register

The registration fee includes access to all technical sessions, workshop materials, and participation certificate. Registration fee once paid is non-refundable. Limited seats available.

For any other query, Contact : 8639130773, 8985858282 Email id: fdp@cuklap.ac.in

**Last date for Registration 15.02.2026**

## FDP – Program schedule



# Rayalaseema University and Cluster University, Kurnool

Jointly Organizing

## One Week FDP on Quantum Technology

16-02-2026 to 21-02-2026

Venue: Senate Hall, Rayalaseema University

### Program Schedule



Date	Session-1	Session-2	Session-3	Session-4
	10.00 AM-11.30 AM	11.30 AM-1.00 PM	2.00 PM -3.30 PM	3.30 PM-5.00 PM
Day 1 16-02-2026	Inaugural Session Sri.C.V.Sridhar	Prof.G.Bhagavannarayana Quantum Technology-1	Prof.G.Bhagavannarayana Quantum Technology-2	Dr.M.Pavan Venu Prakash Quantum Materials-01
	State Quantum mission-Road map	An Introduction to Quantum Computer and its Potential Role in AI, ML and DL, including the types of Qubit Technologies	Essential Concepts of Quantum Mechanics, including Qubits, Inner product, Hilbert space, Bloch sphere, combination of qubits etc.	
Day 2 17-02-2026	Dr.H.Aswwath Babu Quantum Algorithm-01	Dr.H.Aswwath Babu Quantum Algorithm-02	Prof.G.Bhagavannarayana Quantum Technology-3	Dr.H.Aswwath Babu Quantum Algorithm-03
	Quantum Parallelism	Deutsch Algorithm and Deutsch Jozsa Algorithm	Architecture and Building Blocks (Gates, Bell state generators, Oracles and Circuits) of a Quantum Computer	Grover Algorithm and Shor Algorithm
Day 3 18-02-2026	Dr.H.Aswwath Babu Quantum Algorithm-04	Dr.H.Aswwath Babu Quantum Algorithm-05	Prof.G.Bhagavannarayana Quantum Technology-4	Dr. H. Aswwath Babu Quantum Algorithm-06
	VQE Algorithm (Physics and Mathematical view)	VQE Algorithms (Programming and Execution for H <sub>2</sub> molecule)	An overview of Quantum Computing (Applications like drug discovery, optimization, cybersecurity problems), Communication (BB84 QKD Protocol, Quantum Teleportation, etc.), and Sensing (Transformative Applications of Quantum sensors, Ramsey Interferometry Algorithm, and Quantum protocols and estimation techniques.	QAOA algorithm
Day 4 19-02-2026	Dr.M.Murali Quantum Simulations-01	Dr.M.Murali Quantum Simulations-02	Prof.G.Bhagavannarayana Quantum Technology-5	Dr.Kabaleswaran Quantum Cryptography
			Quantum Identities and Subroutine Techniques for Quantum Algorithms (Amplitude Amplification, Q-kickback, QPE, QFT and Q-walks)	
Day 5 20-02-2026	Dr.K.Pandiyarajan Quantum Communication-01	Dr.K.Pandiyarajan Quantum Communication-02	Dr.M.Pavan venu Prakash Quantum Materials-02	Dr.G. Durga Babu Quantum Optics
	Quantum Erasers and QKD	Hands on session on Quantum Erasers & QKD (Batch 1)	Status and future scope	Quantum Computers with Photonic Qubits
Day 6 21-02-2026	Dr.P.Kishore Quantum Sensors-01	Dr.P.Kishore Quantum Sensors-02	Prof.G.Bhagavannarayana Quantum Technology-6	Prof.G.Bhagavannarayana Quantum Technology-7
	Applications of Quantum Technology- Different Use cases	Hands on session on Quantum Erasers & QKD (Batch 2)	Quantum algorithms to solve Complex Problems with exponential/quadratic speedup (Shor's, Grover's, Deutsch, Deutsch-Jozsa, and QAOA)	Quiz on Quantum Technology
				<b>Valedictory</b>
				<b>Prof.V.Maheswara Rao</b> Quantum Technology -Job Opportunities

**Request Letter**

12-02-2026

Kurnool

To  
The Chairman,  
Internal Quality Assurance Cell, St.  
Joseph's Degree College, Kurnool.

Respected Sir/Madam,

Sub: - Request for permission to attend one week FDP- "Quantum Technology" – Reg.

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One week FDP on "Quantum Tecnology" jointly organized by Rayalaseema University & Cluster University, Kurnool.

So, I request to consider the proposal and permit my faculties (N.rajini Kiranmai, B.Manju Bhargavi, I.S.Raghuram) to attend this FDP to sharpen their ability to be more effective in giving their best to students.

With Regards,

**(S Latha Rani)**  
Head, Computer Science Department.

Copy to:

1. Copy to Principal

## FDP PHOTOS



# Certificates

 **Rayalaseema University & Cluster University, Kurnool**  
Jointly Organized  
**One Week FDP on Quantum Technology**  
16-02-2026 to 21-02-2026

 FDP20260015

**Certificate**

This is to certify that

**Mrs N.RAJINI KIRANMAI**

Lecturer, Dept. of Computer Science, St.Joseph's Degree College, Sunkesula Road, Kurnool, has successfully completed "One-Week Faculty Development Programme on Quantum Technology" held from 16-02-2026 to 21-02-2026 at Rayalaseema University, Kurnool and secured A Grade.

 **Dr. M. Padmavathi**  
Coordinator  
Cluster University  
Kurnool

 **Prof. V. Sundaranand Putcha**  
Coordinator  
Rayalaseema University  
Kurnool

 **Dr. G. Srinivas**  
Registrar (FAC)  
Cluster University  
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 **Dr. B. Vijaya Kumar Naidu**  
Registrar  
Rayalaseema University  
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 **Prof. V. Venkata Basava Rao**  
Vice-Chancellor  
Rayalaseema University &  
Cluster University (I/c), Kurnool



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**One Week FDP on Quantum Technology**  
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 FDP20260018

**Certificate**

This is to certify that

**Mrs B.MANJU BHARGAVI**

Lecturer, Dept. of Computer Science, St.Joseph's Degree College, Sunkesula Road, Kurnool, has successfully completed "One-Week Faculty Development Programme on Quantum Technology" held from 16-02-2026 to 21-02-2026 at Rayalaseema University, Kurnool and secured A Grade.

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 FDP20260017

**Certificate**

This is to certify that

**Mr I SREE RAGHURAM**

Assistant Professor, Dept. of Computer Science, St.Joseph's Degree College, Sunkesula Road, Kurnool, has successfully completed "One-Week Faculty Development Programme on Quantum Technology" held from 16-02-2026 to 21-02-2026 at Rayalaseema University, Kurnool and secured A Grade.

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