Excêl
ENGINEERING COLLEGE
(Autonomous)

**(Approved by AICTE, New Delhi &Affiliated to Anna University, Chennai,
Accredited with "A +" Grade by NAAC And Accredited with NBA)
Komarapalayam– 637303 Namakkal(DT), TamilNadu.
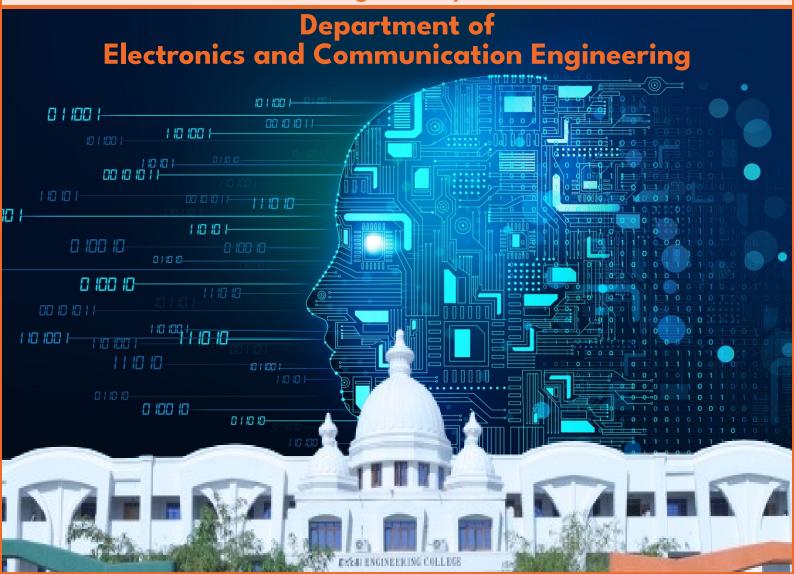E-mail : principaleec@excelcolleges.com**

AICTE TRAINING AND LEARNING (ATAL) ACADEMY
Sponsored
One Week Faculty Development Program
On

EXPLORING THE INSIGHTS IN QUANTUM COMPUTING AND ARTIFICIAL INTELLIGENCE

**ONLINE MODE
20th - 25th Jan 2025
Organised by**

Department of
Electronics and Communication Engineering

ABOUT THE COLLEGE

● Excel Engineering College, established in 2007, is a prominent institution in the field of technical education. It holds autonomous status and is approved by the All India Council for Technical Education (AICTE), New Delhi. The college is affiliated with Anna University, Chennai. The College offers a comprehensive range of programs, including 14 undergraduate (UG) programs, 14 postgraduate (PG) programs, and 4 PhD programs in Engineering and Management disciplines. Department of AERO, CSE, ECE, MECH, AGRI, BME and CIVIL have received accreditation from the National Board of Accreditation (NBA). It holds A+ grade accreditation from NAAC. The College maintains over 50 MOUs with reputed organization and Industries. The College has achieved various National and International rankings.

ABOUT THE DEPARTMENT

● The Department of Electronics and Communication Engineering (ECE) was established in the year 2007 with the goal of providing high-quality education and training in the field of electronics and communication. The department offers a an under graduate programs B.E. Electronics and Communication Engineering and a P.G program in Applied Electronics. The department is accredited by the National Board of Accreditation (NBA) signifies that its academic programs meet high quality standards and are in line with industry requirements. Additionally, being an Anna University Approved research center highlights its commitment to advancing research and contributing to the academic and technological community. The department boasts a team of dedicated and qualified teaching faculty who are experts in various areas of Electronics and Communication Engineering. Embedded, IoT and Artificial Intelligence based projects are done and applied in various schemes.

ABOUT THE FDP

● A Faculty Development Program (FDP) on Quantum Computing and Artificial Intelligence empowers educators with essential insights into two groundbreaking fields. Quantum computing ability to solve complex problems and AI's transformative impact across industries make them critical areas for modern learning. This FDP combines sessions and expert-led discussions to deepen participants knowledge and teaching capabilities. Faculty will explore practical applications and research opportunities, gaining a well rounded understanding of these technologies and their future potential.

KEY OBJECTIVE

- Develop quantum algorithms that can solve problems faster than classical algorithms, particularly in fields like cryptography and optimization.

- Advance quantum error correction techniques to make quantum computations more reliable and practical for real-world applications.

- Achieve demonstrable quantum supremacy, where quantum computers outperform classical computers in specific tasks.

- Enhance automation in various industries by developing AI systems that can perform tasks without human intervention.

- Create advanced algorithms that can analyze large datasets to extract meaningful insights, patterns and predictions.

REGISTRATION FEES

- **Totally FREE.** NO Charge for Registration, Course and Certification

TOPICS TO BE COVERED

- Fundamental Principles of Quantum Computing
- Quantum Information Theory
- Partitioning of Quantum Circuits
- Quantum Artificial Intelligence and Machine Learning
- Quantum Anneling and Gate modeling
- Quantum Devices
- Super Conducting Systems
- Quantum Electronics Design Tools Zuken's CR-8000.

GUIDELINES

- Candidates would be eligible to receive a certificate up on achieving
  1. Attendance – minimum 80% essential.
  2. One assessment on the last day , - MCQs.-(Individual) – Evaluation through ATAL portal- minimum 70 %
  3. Feed back Collection after each session

WHO CAN ATTEND ?

● Faculty and Research scholars from AICTE approved Institutions and Industrial person can attend this FDP.

STEPS TO REGISTER

● Registration can be done only through AICTE-ATAL portal. Visit: india. org/atal "Sign Up" and create a login as "participant". Login using your newly created login credentials, update your profile and click on "FDPs" Link. You can register by clicking on the "+" sign on FDP and press Ctr+F ,enter 1730796947 as Application Number and find FDP on "Exploring the Insights in Quantum Computing and Artificial Intelligence"

IMPORTANT DATES

Last date for receipt of application   : 13.01.2025

Intimation of selection only by email : 15.01.2025

Confirmation by Participants   : 18.01.2025

FDP Dates: 20.01.2025 to 25.01.2025

Starting and Ending Timing : 6.00 PM to 9.30 PM

ADDRESS FOR CORRESPONDENCE

Dr. K. Tamilarasi
Associate Professor
Department of ECE
Excel Engineering College (Autonomous)
9976656038 / 9443846512
eececehod@excelcolleges.com

RESOURCE PERSON

Day 1 : 20.01.2025 Time : 6.30 PM to 8.00 PM

Topic : Fundamental Principles of Quantum Computing and Quantum Mechanics

Dr. S. Balakrishnan
Associate Professor & HoD
Department of Physics
School of Advanced Science, VIT
Vellore.

Day 1 : 20.01.2025 Time : 8.00 PM to 9.30 PM

Topic : Quantum Anneling and Gate Modelling

Mr. Johnbasco Vijayanand
Senior Architect and Quantum Research Associate
Department of Technology Research Excellence
NeST Digital, Bangalore.

Day 2 : 21.01.2025 Time : 6.00 PM to 7.30 PM

Topic : Partitioning of Quantum Circuits

Dr. Arun Kumar Ramamoorthy
Assistant Professor
Faculty of Computing, Engineering and Science
University of South Wales
United Kingdom.

Day 2 : 21.01.2025 Time : 7.30 PM to 9.00 PM

Topic : Quantum Information Theory

Dr.S. Manjula Gandhi
Associate Professor
Department of Computing
Coimbatore Institute of Technology
Coimbatore.

RESOURCE PERSON

Day 3 : 22.01.2025 Time : 6.00 PM to 7.30 PM

Topic : Quantum Artificial Intelligence and Machine learning

Dr.M. Pushpalatha
Professor and Head
Department of Computing Technologies
SRMIST Kattankuluthur
Chennai.

Day 3 : 22.01.2025 Time : 7.30 PM to 9.00 PM

Topic : Quantum States and Transforms

Ms. Arthi Udayakumar
Quantum Computing Developer- Quantum Technology Innovation
Accenture, Bengaluru.

Day 4 : 23.01.2025 Time : 6.00 PM to 7.30 PM

Topic : Quantum Random Number Generation

Shashank Gupta
Post Doctoral Researcher
Okinawa Institute of Science and Technology
Japan.

Day 4 : 23.01.2025 Time : 7.30 PM to 9.00 PM

Topic : Quantum Error Correction

Dr. Aswath babu
Assistant Professor in Physics
Faculty of Humanities and Science
Indian Institute of Information Technology
Dharwad, Karnataka.

RESOURCE PERSON

Day 5 : 24.01.2025 Time : 6.00 PM to 7.30 PM

Topic : Super Conducting System (Distributed Computing System

Anuj Mehrotra
CTO, Quantum Tech and Generative AI
IoTAI Solutions, Delhi.

Day 5 : 24.01.2025 Time : 730 PM to 9.00 PM

Topic : Quantum Devices

Mr.Afsal
Senior Application Engineer MATLAB
ARK Solutions Pvt Ltd
Chennai.

Day 6 : 25.01.2025 Time : 2.00 PM to 3.30 PM

Topic : Quantum Simulation

Dr.P.Sivaraj
Assistant Professor
Department of Electronics and Communication Engineering
PSG College of Technology
Coimbatore.

Day 6 : 25.01.2025 Time : 3.30 PM to 5.00 PM

Topic : Quantum Electronics Design Tool Zuken's CR-8000

Dr. Jayakumar
Vaithiyashankar
IBM Qiskit Advocate Mentor
Bangalore.

Day 6 : 25.01.2025 Time : 5.00 PM to 6.30 PM

Topic: Quantum Ethics and Social Impacts

Dr. M.Dhinakaran
Associate Professor
Department of Electronics and Communication Engineering
Government College of Engineering
Salem.