

Information Brochure

The Institution of Engineers (India)

A Century of Service to the Nation

One Day Seminar

on

***“Exploring Quantum Frontiers:
The future of Computation”***

Date: 27.06.2025

Organized by



The Institution of Engineers (India)
Coimbatore Local Centre

under the aegis of

Computer Engineering Division Board, IEI

in association with



Department of Electronics and Communication Engineering
Karpagam College of Engineering
(An Autonomous Institution)
Coimbatore

Venue: LBS Hall, Karpagam College of Engineering
Coimbatore - 641032

About The Institution of Engineers (India):

The Institution of Engineers (India) or IEI is the largest multidisciplinary professional body that encompasses 15 engineering disciplines and gives engineers a global platform for sharing professional interest. IEI has membership strength of above 2.6 lakh. Established in 1920, with its headquarter Kolkata, IEI has served the engineering fraternity close to a century. During this period of time, IEI has been inextricably linked with the history of modern-day engineering.

In 1935, IEI was incorporated by Royal Charter and remains the only professional body in India which has been accorded this honour. Today, its quest for professional excellence has given it a place of pride in almost every prestigious and relevant organization across the globe. It provides a vast array of technical, professional and supporting services to the Government, Industries, Academia and the Engineering fraternity, operating through its 125 Centres located across the country and 6 overseas chapters. Besides, IEI has bilateral agreements with about 31 international bodies and membership of another 8 international bodies of the developed nations across the globe.

Being recognized as a Scientific and Research Organisation (SIRO) by the Department of Scientific and Industrial Research, Ministry of Science and Technology, Government of India, IEI promotes the cause of research and development by providing Grant-in-Aid support to undergraduate, post graduate students and PhD Research Scholars of Engineering Institutions and Universities. IEI has been recognized as Scientific and Industrial Research Organization (SIRO) by the Ministry of Science & Technology, Government of India and besides conducting its' own research, provides Grant-in-Aid to UG / PG / PhD students of Engineering institutes and Universities.

IEI holds the International Professional Engineers (IntPE) Register for India under the global International Professional Engineers Alliance (IntPEA). The institution also awards the Professional Engineers (PE) Certification. IEI in collaboration with Springer regularly publishes peer-reviewed international journal in five series, namely, Series A, Series B, Series C, Series D and Series E covering fifteen engineering disciplines.

About Coimbatore Local Centre:

The Centre was founded in the year of 1965, under the Chairmanship of Dr G R Damodaran, an educationist, the former Vice - Chancellor of Madras University, philanthropist and also the architect of PSG College of Technology, Coimbatore who lived for the technology development of the Nation. For more than five decades, the IEI Coimbatore Local Centre (CLC) has contributed a lot to the engineering community and to the society as a whole. The Institution of Engineers (India), Coimbatore Local Centre has been adjudged the **“Best Local Centre” based on all-round performance during the year 2023 - 2024** and has also received the **Best Local Centre Award in 2019 - 2020 and 2022 - 2023**.

About the College:

Karpagam College of Engineering (KCE) was established in the year 2000 under the aegis of Karpagam Charity Trust by Dr. R. Vasanthakumar the Chairman and Managing Trustee. Dr. R. Vasanthakumar was a Gold Medalist in Electrical Engineering and has devoted himself to the spread of Engineering and Higher Education among the deserving and needy public. He is a great philanthropist and a shrewd entrepreneur. The Vision of the institute is to provide quality education, ample industrial exposure, and effective teaching-learning methods. KCE aims to offer cutting-edge technical education and produce proficient engineers. In 2010, KCE gained autonomous status. The institution completed the Silver Jubilee and has excelled in academic and research performance, curriculum development, societal impact and Nation building. The

institution offers 11 undergraduate programs, 2 PG programs (MBA and MCA). The institution has been recognized as a Research Institute by Anna University, a testament to our commitment to innovative research and academic excellence. KCE emphasizes building knowledge and skills through strong industry interactions, collaborations, and training via various Centers of Excellence. KCE is accredited by NAAC with A+ (II cycle) and NBA for CSE, CIVIL, EEE, ECE, IT, and MECH. The college has also received accreditation from TCS and Wipro. Our institute has been ranked in the 201-300 band by the National Institutional Ranking Framework (NIRF) in 2024 ranking, a testament to our commitment to academic excellence. We have been awarded a 4-star rating by the Institutions Innovation Council (IIC) successively for three times, recognizing our institution's innovative and entrepreneurial spirit. The institute has signed 120+ MoUs with leading manufacturing industries, service industries, IT industries, research organizations and foreign universities to equip the faculty fraternity and students' community on cutting edge technologies. It helps to collaborate across domains and integrate courses in cross functional ways. Our 5400+ students and 18,000+ Alumni is the cornerstone of our success. The institution is home to a Centres of Excellence (CoE), offering students immersive, hands-on training and expertise in cutting-edge technologies, empowering them to stay industry-ready.

About the Department:

The Department of Electronics and Communication Engineering was established in the year 2000 with the introduction of an undergraduate program B.E. (Electronics and Communication Engineering). A total of 22 batches have graduated so far. The Department has been accredited by the National Board of Accreditation (NBA) and permanently affiliated to Anna University, Chennai. The Department also offers two full time M.E programs (VLSI Design and Communication Systems) and Anna University approved Ph.D Research Centre to expand the scope of research focus of the department. The Department has Centers of Excellence in the field of VLSI Design, Embedded Systems, Communication and Networks and Signal Processing. The Department has signed MoUs with leading industries and organizations for establishing collaborative research and has IE(I) and IEEE student branch chapters for organizing Seminars, workshops and International Conferences. The major areas of faculty expertise in the department include, Antenna Design, Embedded System Design, Signal and Image Processing, VLSI Design, Wireless Communication and Networks, and Artificial Intelligence System. Special Interested Group is formed among the faculty members based on their specialization for carrying out research centric activities. Students pursuing B.E in ECE have a full and flexible CBCS curriculum and following OBE based pedagogy. Professional associations such as IE(I) and IEEE student chapter are formulated for professional interaction.

About the Theme:

Quantum computing is revolutionizing the way about computation, promising to solve complex problems far beyond the reach of classical systems. This one day seminar on "Exploring Quantum Frontiers: The Future of Computation" is intended to introduce participants to the fascinating world of quantum computing and its transformative potential. The program is an introduction to the foundational principles of quantum mechanics, including concepts like superposition, entanglement, and interference, which power quantum computation. Attendees will gain insights into how qubits operate differently from classical bits, enabling groundbreaking computational possibilities. The seminar delves into key quantum algorithms such as Shor's algorithm for cryptography and Grover's search algorithm, showcasing their potential real-world applications in fields like cybersecurity, artificial intelligence, and financial modeling. As quantum computing is still in its early stages, the seminar addresses current challenges such as scalability, error correction, and noise resilience. It concludes with a discussion on the future of quantum technology, highlighting ongoing research, industry trends, and the vast career opportunities awaiting participants in this emerging field. An optional interactive session will provide participants with a hands-on introduction to

building and simulating quantum circuits using beginner-friendly tools like Qiskit. This seminar offers a unique opportunity for the participants to explore the frontiers of computation, empowering them to engage with cutting-edge technology and envision their role in shaping the future.

Sub-Themes

- Introduction to Quantum Computing
- Quantum Algorithms
- Applications of Quantum Computing
- Challenges in Quantum Computing
- The Future of Quantum Computing

Resource Persons:

Expert members from industries and various leading academic institutions.

Eligibility:

IEI Members, UG Students, PG Scholars, Faculty Members, Research Scholars and Practicing Engineers.

How to Apply:

Registration* for the seminar can be made by sending the duly filled application through email or by filling the registration link on or before **24.06.2025**.

Registration Link: <https://tinyurl.com/kceieiseminar>

Registration Fee (including GST):

	₹
IEI Corporate Members	236.00
UG / PG / Research Scholar	236.00
Faculty Members	354.00
Participants from Industry	472.00

Payment:

All payments are to be made through crossed Demand Draft / at par cheque, drawn in favor of **“The Institution of Engineers (India), Coimbatore Local Centre”** payable at **Coimbatore** or **online payment**.

For Online Transfer:

Name : **The Institution of Engineers (India) Coimbatore Local Centre**
Bank : **State Bank of India**
Branch : **Peelamedu Branch, Coimbatore**
Account No. : **10141435551**
IFSC Code : **SBIN0007231**
GST No. : **33AAATT3439Q6ZW**

Note:

- ❖ Limited participants only.
- ❖ No TA / DA will be paid.
- ❖ Kindly bring your college / industry identity card.
- ❖ Registration through email is compulsory.
- ❖ Registration fee includes: refreshments, lunch & participation certificate.

Chief Patrons: **Dr R Vasanthakumar**
Chairman and Managing Trustee, Karpagam Institutions, Coimbatore

Er K Murugaiah
Chief Executive Officer, Karpagam Institutions, Coimbatore

Patron: **Dr V Kumar Chinnaiyan**
Principal, Karpagam College of Engineering, Coimbatore

ORGANIZING COMMITTEE

Chairman: **Dr J Krishnamoorthi**
Chairman, IEI Coimbatore Local Centre

Secretary: **Dr G Madhan Mohan**
Honorary Secretary, IEI Coimbatore Local Centre

Convener **Dr R Sarankumar**
Professor and Head, Department of ECE
Karpagam College of Engineering, Coimbatore

Members **Dr S R Sivarasu**, Committee Member, IEI Coimbatore Local Centre
Dr S Sasikala, Committee Member, IEI Coimbatore Local Centre
Dr S M Swamynathan, Associate Professor, Department of ECE, KCE

CONTACT	
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Registration Form

One Day Seminar
on

***“Exploring Quantum Frontiers:
The future of Computation”***

Date: 27.06.2025

**Venue: LBS Hall, Karpagam College of Engineering
Coimbatore - 641032**

Name: (Block Letters).....

Designation:.....

Organization / Institution:.....

IEI Membership Number & Division.....

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Address for Communication.....

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Mobile Number:..... Email:.....

I / We enclose a DD / CHEQUE / NEFT details for Rs.....Date:.....

Transaction ID Number.....

Dated.....

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Signature