VIT®
Vellore Institute of Technology
(Deemed to be University under section 3 of UGC Act, 1956)

40 YEARS OF TRANSFORMING LIVES

National Level Workshop on "Quantum Leap: A Hands-On Workshop on Quantum Computing, Optimization & Quantum Machine Learning Using Qiskit" (Online)

31st January 2026

Organized by

School of Computer Science and Engineering (SCOPE)
Vellore Institute of Technology
Vellore – 632 014

Organizing Committee

Chief Patron:
Dr. G. Viswanathan, Chancellor

Patrons:
Mr. Sankar Viswanathan, Vice President
Dr. Sekar Viswanathan, Vice President
Dr. G.V. Selvam, Vice President

Co-Patrons:
Dr. V. S. Kanchana Bhaaskaran
Vice Chancellor
Dr. Partha Sharathi Mallick
Pro-Vice Chancellor
Dr. T. Jayabarathi, Registrar

Convener:
Dr. N. Jaisankar, Dean In-charge, SCOPE

Co-Convener:
Dr. H Parveen Sultana, Associate Dean In-charge, SCOPE

Organizing Secretaries:
Dr. T. Mythili
Head - Analytics
SCOPE
Dr. K. S. Sendhil Kumar
Head - Database Systems
SCOPE

Coordinators:
Dr. P. Keerthika, Associate Professor Sr.
Department of Analytics
Dr. C.R.Dhivyaa, Assistant Professor
Department of Database Systems
SCOPE

Contents of the Programme

- Introduction to Quantum Computing
- Mathematical foundation
- Software Frameworks
- Applications of quantum Computing
- IBM Quantum Composer
- IBM Qiskit Demo
- Quantum Algorithms
- Quantum Fourier Transform Demo
- Quantum Machine Learning
- Quantum Encoding
- Quantum Neural Networks Demo
- Quantum Support Vector Machines Demo

Target Audience:

Faculty members, Research Scholars, UG and PG students

Registration:

The participants are requested to register for the workshop through the following link

https://events.vit.ac.in/

Registration fee (Including GST):

- **Faculty Members : Rs. 300/-**
- **Research Scholars : Rs. 200/-**
- **UG/PG Students : Rs. 150/-**

Last date for registration:28.01.2026

ABOUT THE VIT

VIT was established with the aim of providing quality higher education on par with international standards. It persistently seeks and adopts innovative methods to improve the quality of higher education on a consistent basis. The campus has a cosmopolitan atmosphere with students from all corners of the globe. Experienced and learned teachers are strongly encouraged to nurture the students. The global standards set at VIT in the field of teaching and research spur us on in our relentless pursuit of excellence. Our Memoranda of Understanding with various international universities are our major strength.

ABOUT THE SCOPE

The school has one of the best infrastructure including domain-specific labs associated with the technical departments. The main aim is to produce computing graduates with potential, to design and develop systems involving the integration of software and hardware devices, employ innovative approaches in programming and problem solving, and create Large Scale Software Systems. With an objective of developing core competence in the subject matter specializations and special interest groups for learning newer technologies.

The school has formed the following technical departments:

- Department of Analytics
- Department of Computational Intelligence
- Department of Database Systems
- Department of Software Systems
- Department of Information Security
- Department of IoT

ABOUT THE WORKSHOP

A Hands-On Workshop on Quantum Leap: Quantum Computing, Optimization & Quantum Machine Learning Using Qiskit is a national-level, one-day online program designed to introduce participants to both the fundamentals and real-world applications of quantum technologies. The workshop begins with a clear overview of qubits, quantum gates, superposition, entanglement and the quantum circuit model, setting a strong conceptual foundation. This is followed by guided hands-on sessions using Qiskit, where participants learn to build, visualize and execute quantum circuits, explore noise models, work with simulation backends and implement essential quantum algorithms. The workhop also covers key quantum optimization techniques, showcasing their use in solving complex computational problems. In the Quantum Machine Learning segment, the participants learn variational quantum classifiers, quantum feature maps and hybrid quantum-classical models to understand emerging quantum advantages in AI. Designed for students, researchers, industry professionals, and technology enthusiasts, the workshop requires no prior quantum background and emphasizes practical, experience-driven learning. By the end of the program, participants will gain both solid theoretical insight and hands-on skills to confidently continue their journey in the rapidly evolving field of quantum computing.

Speaker

Mr. Karthiganesh Durai

Founder & CEO, KwantumG Research Labs Pvt Ltd,
Co-founder, Quantum Computing India, Bengaluru.

About the Speaker

Mr. Karthiganesh Durai has been working in the quantum computing domain since 2004, with hands-on expertise across major quantum hardware platforms and simulators. He has built Quantum Machine Learning–based solutions and conducted active R&D since 2017, with deep experience in Qiskit, Pennylane, Q#, Braket, Bloqade, and Quantinuum tket. He has completed multiple global certifications in quantum technologies and has guided numerous academic and industry learners through practical, application-oriented quantum computing training.

For further details contact
Email: keerthika.p@vit.ac.in,
dhivyaa.cr@vit.ac.in
Mobile: +91-9942225687, +91-9944913819

Participants are requested to register for the workshop through following web link

https://events.vit.ac.in/