



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

One Day Workshop on

**“Quantum Cyber Security: Preparing
for the Post-Quantum Era”**

16th October 2026

Organized by

**School of Computer Science and
Engineering (SCOPE)**

**Vellore Institute of Technology
Vellore – 632 014**



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Head – Analytics, SCOPE

Coordinators:

Dr. Devipriya A,
Associate Professor Grade 1
Department of Information Security,
SCOPE

Dr. Sivaranjani A, Assistant Professor
Department of Analytics, SCOPE

Topics to be covered

- Fundamentals of Quantum Computing
- Quantum Computing Threats to Cyber Security
- Vulnerabilities of RSA and Elliptic Curve Cryptography (ECC)
- Shor's Algorithm and Grover's Algorithm
- Introduction to Post-Quantum Cryptography
- Quantum Key Distribution (QKD)
- BB84 Protocol
- Quantum Random Number Generation
- Real-world Applications of Quantum Communication
- Hands-on Session using IBM Quantum
- Quantum Random Number Generator Demo
- Quantum Key Distribution Concepts Demo

Target Audience: (Internal & External)

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:

- Faculty Members : Rs. 350/-
- Research Scholars : Rs. 300/-
- UG/PG Students : Rs. 200/-

Last date for registration: 14.10.2026

About 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 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
- Department of Quantum AI

About Workshop

One-day hands-on workshop designed to provide participants with a comprehensive understanding of the transformative impact of quantum computing on modern cybersecurity and the emerging solutions for securing digital systems in the post-quantum era. The workshop begins with an introduction to quantum technologies, covering the fundamentals of quantum computing platforms to establish a strong conceptual foundation. It then explores the cybersecurity challenges posed by quantum computing, including the vulnerabilities of widely used cryptographic algorithms such as RSA and ECC, the significance of Shor's and Grover's algorithms and the necessity of transitioning to Post-Quantum Cryptography

The workshop further introduces

participants to the principles of quantum cryptography and secure communication, with special emphasis on QKD, the BB84 protocol. A dedicated hands-on session using the IBM Quantum platform enables participants to build basic quantum circuits with Qiskit, implement a quantum random number generator and gain practical exposure to quantum security concepts through interactive demonstrations.

Speaker

Mr. Dr. Jayakumar Vaithiyashankar

Founder & CEO, Anuthantra Pvt. Ltd,
Bengaluru

Dr. Jayakumar Vaithiyashankar is the Founder and CEO of Anuthantra Pvt. Ltd., an IBM Quantum Educator, and an IBM Qiskit Advocate Mentor. He is actively building a quantum computing community in India and holds the IBM Certified Associate Developer credential in Quantum Computation using Qiskit. With 18 years of combined experience in R&D and university-level lecturing, he bridges industry and academia through applied quantum computing education.

Contact us

Coordinators:

Dr. Devipriya A

✉ Email: devipriya.av@vit.ac.in

📞 Mobile: +91-9600940078

Dr. Sivaranjani A

✉ Email: sivaranjani.a@vit.ac.in

📞 Mobile: +91-9786299167