



Faculty Development Program



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

Event Outcome

Title : Quantum Learning - Phase -1

Date : 2025-05-05 - 2025-05-09

Time : 10:00 - 17:30

Venue : SJT - 107

- QC with cbits, qubits, gates , hands on with qiskit quantum gates
- Quantum Key Distribution (QKD) Demystified:
From Single Photons to Secure Communication
- Practically scalable quantum key distribution
- Quantum communication, AI & ML algorithm development
- Post-Quantum Cryptography and low power design

	<p>Resource Person 1 - Details Name : Dr Kavitha Yogaraj Designation : Senior Quantum Computational Scientist, IBM Quantum Qiskit Advocate University/ Company : IBM, Bengaluru Address : India, 560029.</p>
	<p>Resource Person 2 - Details Name : Dr Rajesh Kumar Krishnan Designation : Vice President , Engineering at QNu Labs University/ Company : Qnu Labs, Bengaluru Address : India, 560025.</p>
	<p>Resource Person 3 - Details Name : Dr Shashank Gupta Designation : Research Lead, Qnu Labs University/ Company : Qnu Labs , Bengaluru Address : India, 560025.</p>
	<p>Resource Person 4 - Details Name : Dr Dhinakaran Vinayagamurthy Designation : Quantum Innovation Center lead , IBM Quantum India University/ Company : IBM , Bengaluru Address : India, 560029.</p>
	<p>Resource Person 5 - Details Name : Dr Noorul Hussain Designation : CEO, Intrust Innovation Labs University/ Company : IITM Research Park, Chennai Address : India, 600113.</p>
	<p>Resource Person 6 - Details Name : Dr Kumar Gautam Designation : Founder, QRACE and EGREEN QUANTA University/ Company : QRACE, New Delhi Address : India, 110075.</p>

Resource Person's Profile :

1. Profile of Dr Kavitha Yogaraj

Dr. Kavitha has developed interests in Quantum Qiskit libraries for the Quantum Data Scientist role at IBM. Scikit libraries for Machine Learning, Java and microservices, event-driven systems Kafka, and Dockers Openshift platform. Currently, she is working as a Quantum Computational Scientist at IBM's Quantum team, where she is building hybrid classical machine learning and quantum Algorithms for Industrial Applications.

2. Profile of Dr Rajesh Kumar Krishnan

Dr. Rajesh Kumar Krishnan is currently the VP of Engineering at QNu Labs. Rajesh has over three years of experience as the Chief Executive Officer at Aabelon Embedded Technologies Pvt. Ltd. There, they were responsible for system planning and engineering, digital design, product development, marketing, and sales strategies. Rajesh was also in charge of the company's financial records and proactively planned to take care of unforeseen events.

3. Profile of Dr Shashank Gupta

Dr. Shashank has an Integrated PhD in Theoretical Physics (2015-21) from S. N. Bose National Centre for Basic Sciences, Kolkata, India. He has worked on the foundations and applications of multipartite quantum resources during his PhD tenure. He then joined QNu Labs, an Indian start-up working in Quantum Cryptography, as a Senior Research Associate (2021-23). He and a dedicated team of engineers worked on breaking distance barriers in quantum key distribution.

4. Profile of Dr Dhinakaran Vinayagamurthy

Dr. Dhinakaran Vinayagamurthy is a Researcher in the newly formed Quantum Computing research group at the IBM Research India lab in Bangalore, and the Engagement Manager for the IIT Madras-IBM Quantum partnership. His research interests are in quantum error mitigation, cryptography and security. At IBM, he have worked on projects around blockchain interoperability, encrypted databases, IBM Blockchain Transparent Supply and privacy-preserving machine learning.

5. Profile of Dr Noorul Hussain

Dr. U. Noorul Hussain is the Researcher of Intrust Innovation Labs, a deep-tech security startup specializing in quantum cryptography and AI Security, with a strong focus on innovative security solutions for BFSI, critical infrastructure, national security, power sector, etc.

6. Profile of Dr Kumar Gautam

Dr. Kumar Gautam is the founder and president of QRACE and the director of Egreen Quanta LLP. He holds a postdoctoral research position at GIST, South Korea, where he focuses on the quantum vehicle routing problem. Dr. Gautam earned his Ph.D. from Delhi University, specializing in quantum gate design based on Schrodinger dynamics. With over eight years of teaching experience, Dr. Gautam is proficient in MATLAB, quantum computation, Python, and quantum stochastic differential equations (QSDE).

Continuous intensive Learning

QisKit and a few more

Coordinator's: Prof. JEYANTHI N 10266 - Professor Grade 1 - SCORE
Prof. VIVEKANANDA GN 20137 - Associate Professor Grade 1 - SCORE