



Faculty Development Program



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

Event Outcome

Title : Quantum Computing for Sustainable Smart Systems

Date : 2025-01-27 - 2025-01-31

Time : 10:00 - 17:30

Venue : SJT 107

- Enhanced Computational Thinking: Quantum computing exposes faculties to sophisticated ideas in computational thinking, including superposition and entanglement.
- Interdisciplinary Learning: Quantum computing connects computer science with physics, mathematics, and engineering.
- Industry Collaboration: This partnership may offer students valuable hands-on experience via internships, cooperative education programs, and industry-sponsored projects, thereby enhancing their employability and practical skills.
- Research Opportunities: Faculty members can participate in innovative research initiatives, making strides in areas like quantum algorithms, quantum cryptography, and quantum machine learning.
- Real-life problem solving: The Learners will be able to provide conceptual solutions and preliminary demonstration of real life problems based on the knowledge acquired on Quantum computing.

	<p>Resource Person 1 - Details Name : Balakrishnan S Designation : Associate Professor Grade 2, School of Advanced Sciences University/ Company : VIT, Vellore Address : India, 632014.</p>
	<p>Resource Person 2 - Details Name : Dr Aswath Babu H Designation : Associate Professor, PHYSICS University/ Company : IIIT Dharwad, Dharwad Address : India, 580009.</p>
	<p>Resource Person 3 - Details Name : Dr Jayakumar Vaithiyashankar Designation : Founder , CEO University/ Company : Anuthantra Pvt Ltd, Bengaluru Address : INDIA, 560010.</p>
	<p>Resource Person 4 - Details Name : Dr S Manjula Gandhi Designation : Associate Professor, Software systems University/ Company : Coimbatore Institute of Technology, Coimbatore Address : India, 641014.</p>
	<p>Resource Person 5 - Details Name : Mr Jinesh V N Designation : CoFounder, CoFounder University/ Company : Anuthantra Pvt Ltd, Bengaluru Address : India, 560010.</p>
	<p>Resource Person 6 - Details Name : Dr Kunwar Singh Designation : Associate Professor, CSE University/ Company : NIT, Trichy Address : India, 620015.</p>
	<p>Resource Person 7 - Details Name : Dr Sathyaprakash P Designation : Senior Grade Assistant Professor, CSE University/ Company : SASTRA, Thanjavur Address : India, 613005.</p>
	<p>Resource Person 8 - Details Name : Dr Shashi Kant Pandey Designation : Scientist, SETS University/ Company : Society for Electronic Transactions and Security, chennai Address : India, 600024.</p>

**Resource Person 9 - Details****Name :** Samuel P**Designation :** Associate Professor Grade 2, School of Advanced Sciences**University/ Company :** VIT, Vellore**Address :** India, 632014.**Resource Person 10 - Details****Name :** Usha Devi G**Designation :** Professor Grade 1, School of Computer Science Engineering and Information Systems**University/ Company :** VIT, Vellore**Address :** India, 632014.**Resource Person 11 - Details****Name :** Sudha M**Designation :** Associate Professor Sr., School of Computer Science Engineering and Information Systems**University/ Company :** VIT, Vellore**Address :** India, 632014.

Resource Person's Profile :

1. Profile of Balakrishnan S

Dr.S. Balakrishnan joined for his PhD degree at National Institute of Technology, Tiruchirappalli, Tamilnadu in the year 2007. He received CSIR Senior Research Fellowship for his doctoral studies. Research interests of HIM includes Quantum Computation, Quantum Communication, Quantum Game Theory and foundations of Quantum Mechanics. He has published 45 research papers in the reputed journals and several conference papers to his credit. He has presented his research findings at various forums.

2. Profile of Dr Aswath Babu H

Dr. Aswath Babu earned his PhD in Quantum Optics and Nonlinear Dynamics from IIT Kanpur postdoctoral research in Quantum Electrodynamics Group at IIT Madras. He collaborated with researchers at NIT Calicut for a year and currently in IIIT Dharwad from 2016. With over 8 years of experience in research and teaching, he has made substantial contributions to the field of Quantum Computing.

3. Profile of Dr Jayakumar Vaithiyashankar

Dr. Jayakumar Vaithiyashankar, Founder and CEO of Anuthantra Pvt Ltd, Bengaluru, is an IBM Quantum Educator, Qiskit Advocate Mentor, and IEEE Senior Member. He is an IBM Certified Associate Developer in Quantum Computation using Qiskit. He has 15 yrs of experience in the field of computer science as in Teaching and Industry.

4. Profile of Dr S Manjula Gandhi

Dr. Manjula Gandhi S is working as an Associate Professor at Coimbatore Institute of Technology for last 24 years and an IBM Qiskit Advocate from September 2020, IBM Quantum Educator, IBM Certified Associate Developer-Quantum Computation using Qiskit, Mentor at Qiskit advocate mentorship program, translation lead for translating qiskit textbook into Tamil language.

5. Profile of Mr Jinesh V N

Jinesh V N, Anuthantra Pvt Ltd, Bengaluru, is an Educator, 14 years of academic experience, he has been part of syllabus and curriculum committee for PG studies in Bangalore University for Theory of Computation subject. He actively participated in building research community in various domains of Computation.

6. Profile of Dr Kunwar Singh

Dr . Kunwar Singh is working as an Associate Professor and Head in the Department of Computer Science and Engineering , NIT-Trichy. He obtained his Ph.D. from IIT Madras. His area of research is in cryptology, Blockchain Technology and Quantum Cryptography. His research is supported by grants from DST, SERB-DST and SPARC IIT Kharakpur. He has published many papers in peer reviewed journals and conferences in the area of Cryptology.

7. Profile of Dr Sathyaprakash P

Dr Sathyaprakash, is currently as Senior Grade Assistant Professor at SASTRA University, Thanjavur. His research domain and expertise is on Quantum Computing Tools and Techniques. He has more than 15 yrs. of professional experience and 6 years in Quantum Computing.

8. Profile of Dr Shashi Kant Pandey

Dr. Shashi Kant Pandey is working at SETS as a Scientist and has received his Ph.D. from the Department of Mathematics, University of Delhi, Delhi. He has completed Master of Science (Mathematics) From Banaras Hindu University, Varanasi. His research focuses on Boolean functions and, more specifically, on the cryptographic and combinatorial characterization of Boolean functions. Some other verticals of his research are Post Quantum Cryptography and Privacy-Preserving technology.

9. Profile of Samuel P

Dr P Samuel is currently working as Associate Professor, Department of Physics, School of Advanced Sciences, Vellore Institute of Technology, Vellore.

He served as Scientist at Institute of Physics of the Czech Academy of Sciences, Prague. He did his Post Doctoral Research at University of Central Florida, USA.

10. Profile of Usha Devi G

Dr Usha Devi G is currently working as a Professor in the Department of IT, School of Computer Science Engineering and Information Systems at Vellore Institute of Technology, Vellore. Her research interest includes Machine Learning, Networking and Security.

11. Profile of Sudha M

Dr Sudha M is currently working as an Associate Professor in the Department of IT, School of Computer Science Engineering and Information Systems at Vellore Institute of Technology, Vellore. Her research interest includes Machine Learning, Cloud and Security.

Quantum technology is progressively transforming various sectors with advanced capabilities that go beyond the boundaries of traditional computing. As climate change, energy crises, and resource management issues intensify, quantum technology offers unique solutions to achieve sustainable development.

IBM QISKIT

Coordinator's: Prof. USHA DEVI G 11985 - Professor Grade 1 - SCORE
Prof. SUDHA M 11968 - Associate Professor Sr. - SCORE