



Faculty Development Program



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

Discussion Points

Title : QUANTUM COMPUTING AND ARTIFICIAL INTELLIGENCE

Date : 12-Feb-2024 - 16-Feb-2024

Time : 10:00 - 17:30

Venue : SJT G07

- Introduction to Quantum mechanics and Quantum computing
- Basics of Quantum operators with Tutorial session
- Applicability of Quantum Computing in Healthcare Sectors
- Quantum Chemistry and Quantum Finance
- Implementation of Quantum Chemistry and Quantum finance using Quantum Machine Learning
- IBM Quantum Qiskit Hands-on
- Quantum Algorithms and Quantum Artificial Intelligence
- Quantum Machine Learning and Demonstration
- Quantum Optimization and Demonstration
- Quantum Cryptography and its implementation

	<p>Resource Person 1 - Details Name : Dr S Nickolas Designation : Professor NIT Trichy, CA University/ Company : NIT , Trichy Address : India, 620015.</p>
	<p>Resource Person 2 - Details Name : Dr Jayakumar S Designation : IBM Quantum Educator , CSE University/ Company : Presidency University, Bangalore Address : India, 560064.</p>
	<p>Resource Person 3 - Details Name : Balakrishnan S Designation : Associate Professor Grade 1, School of Advanced Sciences University/ Company : VIT, Vellore Address : India, 632014.</p>
	<p>Resource Person 4 - Details Name : Dr Raghavendra V Designation : Quantum Research Faculty, CSE University/ Company : SRM Institute of Science and Technology, Chennai Address : India, 603203.</p>
	<p>Resource Person 5 - Details Name : Dr Sathyaprakash Designation : IBM Quantum Educator , School of Computing University/ Company : Sastra university, Tanjavur Address : India, 613401.</p>
	<p>Resource Person 6 - Details Name : Mr Lokesh S Designation : IBM Qiskit Advocate Assistant Vice President, Well Forges University/ Company : Well Forges, Bengaluru Address : India, 560103.</p>
	<p>Resource Person 7 - Details Name : Mr Shashi Kant Pandey Designation : Scientist, SETS Chennai University/ Company : Society for Electronic transaction and security, Chennai Address : India, 600113.</p>
	<p>Resource Person 8 - Details Name : Ms Foram P Shingala Designation : Scientist, SET University/ Company : Society for Electronic transaction and security, Chennai Address : India, 600113.</p>

Resource Person's Profile :

1. Profile of Dr S Nickolas

Dr. S. Nickolas, is working as Professor in the Department of Computer Applications with 33 years of experience in NIT, Trichy. He completed his M.E. (Computer Science) from R.E.C.(now NIT), Trichy in the year 1992 and Ph.D. in the year 2007 from NITT. His area of research interest includes Machine Learning, Deep Learning, Data Mining, Big Data Analytics, Cloud Computing and Software Metrics. He is the Principal Investigator of the CUDA-NVIDIA Teaching Centre of the Institute for the year 20

2. Profile of Dr Jayakumar S

Dr. Jayakumar Vaithiyashankar serves as IBM Quantum Educator and IBM Qiskit Advocate Mentor. He is actively building a Quantum Community in India. He is also an IBM Certified Associate . IBM Quantum Qiskit Certified Professional. He has 14 yrs of experience in the field of computer science. He is Assistant Professor Sr at Presidency University Bangalore

3. Profile of Balakrishnan S

Dr Balakrishnan S is a CSIR Senior Research Fellow at National Institute of Technology, Tiruchirappalli. He published 33 quantum related papers in reputed peer reviewed journals and conference proceedings. He served as Resource persons for various Quantum workshops and acting as reviewer and panel member for various journals and conferences. HOD Physics SAS VIT Vellore

4. Profile of Dr Raghavendra V

Dr Raghavendra V is currently Research Scientist and Head of Research Qkrishi DST INSPIRE Fellowship. He has 10 yrs of experience in the field of computer science, as Research scientist, CSIR-Central Leather Research Institute, Chennai .Junior Research Fellow at, Indian Institute of Science, Bengaluru. He is a certified IBM Quantum Computing educator.

5. Profile of Dr Sathyaprakash

Dr Sathyaprakash is Serving as IBM Quantum Educator, Serving as reviewer and guest editor for reputed journals. Elevated as Senior IEEE member. He has also served as a technical Program committee member at International Conferences on Quantum Machine Learning and as a reviewer in journals and conferences. He has 12 yrs of experience in the field of Computer science and 5 years in Quantum Computing.

6. Profile of Mr Lokesh S

Mr Lokesh S is currently Assistant Vice President Well Forges, Bengaluru. He is IBM Qiskit Advocate Completed the course Quantum Machine Learning (with IBM Quantum) by Open HPI. He Completed IBM certified Quantum Qiskit professional (Only 700 people completed in the world). He has 2 yrs of experience in IBM Quantum Machine Learning -open HPI

7. Profile of Mr Shashi Kant Pandey

Mr Shashi Kant Pandey is currently scientist at Society for Electronic transaction and security Chennai, Received National level NCERT award for Innovation .Alumnus of Banaras Hindu University and University of Delhi. Completed NPTEL course Introduction to Quantum Computing: Quantum Algorithms and Qiskit Visiting professor of University of Delhi. He has 9 years of experience in teaching and 2 yrs as Scientist at SETS

8. Profile of Ms Foram P Shingala

Ms Foram P Shingala is currently as Scientist at Society for Electronic transaction and security, Chennai. She has 9 yrs of experience in the field of computer science. She served as Senior System Engineer in CTS, Project Associate Project Associate in Indian Institute of Technology, She has 4 yrs of experience in quantum cryptography

In the future, quantum computing and AI are expected to make significant advances in many sectors. Industries such as healthcare, finance, logistics, and materials science stand to benefit from the powerful combination of quantum computing's processing power and AI's ability to extract insights. This 5-Day FDP will focus on the fundamental and the core concepts of Quantum computing and AI.

IBM Qiskit (open-source)

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