Vishwakarma Institute of Technology, Pune

(An Autonomous Institute affiliated to Savitribai Phule Pune University)

Department of Information Technology

One Week Online Faculty Development Program

on

"Unveiling Quantum Computing from Fundamentals to Real-World Applications "

19th – 23rd August 2025

Registration Details

Registration Fees:
*(Includes GST)
Faculty: ₹360/-
Other: ₹ 480/-
https://learner.vierp.in/events

Join the below WhatsApp group after Registration
. https://chat.whatsapp.com/JW12T13snNs5AdsCezHBDv

Chief Patrons

Shri Rajkumarji Agarwal
Chairman, BRACT, Pune
Shri Bajrangdas ji Lohiya
Vice Chairman, VI, Pune
Shri Bharat Agarwal
Managing Trustee, BRACT, Pune

Patrons

Dr. Bipin Sule
Chief Executive Office, Vishwakarma Group
Dr. Rajesh Jalnekar
Director , VIT, Pune
Dr. Vivek Deshpande
Director, Innovation Funds, VIT, Pune

Advisory Committee

Dr. Rajesh Ingle
IEEE Computer Society Pune Chapter and Vice Chancellor, DES Pune University
Dr. Amar Buchade
Chair, IEEE Pune Section and Associate Professor, AI&DS, VIT, Pune
Dr. Abhijit Khurape
Secretary, IEEE Pune Section
Dr. Atul Kulkarni, Director, Corporate Relations
Dr. Vaishali Patil, Dean Admin
Dr. P.N. Mahalle, Dean Academics
Dr. Swati Shilaskar, Dean R&D

Convenor

Dr. Sachin Sakhare
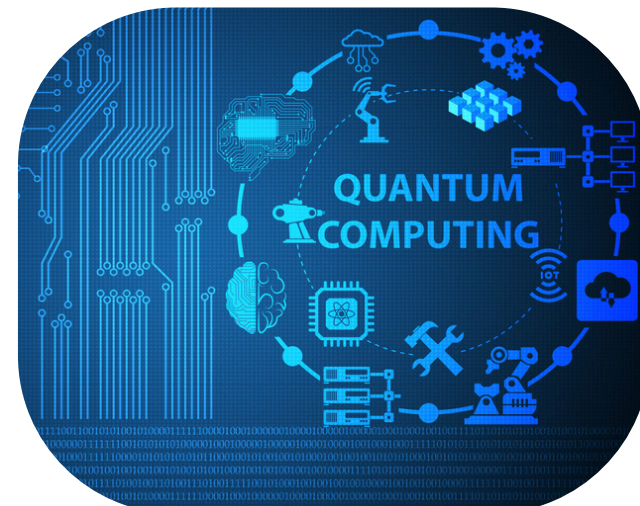HOD, IT

Co-Convenor

Dr. Kavita Sultanpure
Mrs. Riddhi Mirajkar
IT, VIT, Pune

Vi VISHWAKARMA INSTITUTES VI

IEEE Pune Section

IEEE COMPUTER SOCIETY Pune Chapter

About FDP

- Understand quantum mechanics and its application to quantum computing, including qubits and quantum gates.
- Learn key quantum algorithms, like Shor's and Grover's, and their practical applications.
- Gain knowledge with quantum programming languages and tools, including simulators and cloud services.
- Understand quantum cryptography basics and quantum optimization techniques. Identify research trends in quantum computing and develop strategies for integrating quantum concepts into curricula.

QUANTUM COMPUTING

About the Institute and the Department

Vishwakarma Institute of Technology, Pune, a highly commendable private institute, occupies a place of pride amongst the premier technical institutes of the western region of India. Established in 1983, financed and run by Bansilal Ramnath Agrawal Charitable Trust, it is affiliated to Savitribai Phule Pune University. The institute runs 7 Under Graduate, 4 Post Graduate & 3 Ph.D. programs which are affiliated to the university. The institution has been awarded ISO 21001:2018 EOMS Certification & granted autonomous status since academic year 2008-2009. The institute has marched towards the pinnacle of glory through its remarkable achievement & laurels in the field of engineering education.

The Department of Information Technology runs UG program that cater to the ever increasing needs of technical brilliance in all allied areas of information technology such as Data Structure, AI, Machine Learning, Data Analytics, IoT, Embedded System etc.

Organizing Committee

Prof. (Dr.) J. V. Bagade
Prof. (Dr.) P. S. Dhabe
Dr. K. B. Vayadande
Mrs. A. R. Sawant
Mrs. D. R. Deshpande
Mrs. S.B. Patil
Mrs. R. S. Jadhav
Mr. P. R. Kunekar
Dr. P. A. Cholke
Dr. C. R. Shewale
Mr. K. R. Pathak
Mrs. S. P. Bhoite
Dr. S. V. Wankhade
Dr. C. D. Sukte
Dr. L. K. Ahire
Dr. P. Y. Pawar
Mrs. R. S. Vaidya
Mrs P. R. Khalde
Mr. Dattatray Malhare
Mr. Harshad Kamble
Quantum Computing SIG

SPEAKERS

Dr. Bhawana Rudra
Assistant Professor, National Institute of Technology,Surathkal Karnataka

Mr. Saikat Basu
Quantum Computing Research Lead, LTIMindtree

Dr. Jitendra Tembhurne
Assistant Professor IIIT Nagpur

Mr. V. Raghavendra
Assistant Professor, Computing Technologies, SRMIST

Mr. Partha Acharya
Solution Architect, R&D wing, TCS

Dr. Shravani Shahapure

Ms. Arpita Sanyal (Bhaduri)
Assistant Professor and HOD, Department Of Computer Science, Maharani Kasiswari College, University Of Calcutta

Prof. Amlan Chakrabarti
Professor and Director, A.K. Choudhary School of Information Technology, University Of Calcutta

Schedule

Day and Date	Session	Time	Topic
Day 1 **19 August 2025** **Introduction to Quantum Computing**	**Session 1**	10:00 AM – 12:00 PM	Basics of Quantum Mechanics for Computing
	Session 2	12:00 PM – 02:00 PM	Qubits, Superposition, and Quantum Gates
Day 2 **20 August 2025** **Quantum Circuits & Algorithms**	**Session 1**	10:00 AM – 12:00 PM	Quantum Circuits & Entanglement Quantum Measurement & Observables
	Session 2	12:00 PM – 02:00 PM	Quantum Algorithms – Deutsch, Grover's, and Introduction to Shor's Algorithm
Day 3 **21 August 2025** **Hands-on with Qiskit & IBM Quantum**	**Session 1**	10:00 AM – 12:00 PM	IBM Quantum Experience Overview Qiskit Installation & Setup
	Session 2	12:00 PM – 02:00 PM	Writing & Simulating Basic Quantum Programs in Qiskit

Schedule

Day 4 **22 August 2025** **Applications &** **Research Scope**	**Session 1**	10:00 AM – 12:00 PM	Applications in Cryptography, Chemistry, and Artificial Intelligence
	Session 2	12:00 PM – 02:00 PM	Research Trends, Open Problems & Funding in Quantum Computing
Day 5 **23 August 2025** **Curriculum Integration** **& Future Roadmap**	**Session 1**	10:00 AM – 12:00 PM	Variational Quantum Algorithms, (VQA) Quantum Machine Learning
	Session 2	12:00 PM – 02:00 PM	Panel Discussion: Quantum Curriculum & Open Learning Platforms for UG/PG Education