



Teaching Learning Practice



Title : Title: The Quantum Horizon: How Quantum Computing is Architecting the AI of Tomorrow

Date : 2025-10-24 - 2025-10-24

Time : 10:00 - 17:30

Venue : HOMI BHABHA GALLERY, SJT

Event Outcome

- participants will gain a clear framework for understanding the synergy between quantum computing and AI. They will be able to distinguish the hype from the reality of quantum supremacy



Resource Person 1 - Details

Name : Salvatore Distefano

Designation : Professor, CSE

University/ Company : University of Messina, Italy

Address : Italy, 604407.



Resource Person 2 - Details

Name : Manuel Mazzara

Designation : Professor, CSE

University/ Company : Innopolis University, Kazan Russia

Address : Russia, 604407.



Resource Person 3 - Details

Name : Ganesan K

Designation : Professor Higher Academic Grade, School of Computer Science Engineering and Information Systems

University/ Company : VIT, Vellore

Address : India, 632014.



Resource Person 4 - Details

Name : Radhakrishnan Delhibabu

Designation : Professor Grade 1, School of Computer Science and Engineering

University/ Company : VIT, Vellore

Address : India, 632014.

Resource Person's Profile :

1. Profile of Salvatore Distefano

An accomplished academic with over 250 scientific publications and visiting professor roles at universities in the USA and Russia. He serves on editorial boards for journals like IEEE Transactions on Dependable and Secure Computing. His research spans dependable systems, cloud computing, IoT, and machine learning. He has contributed to major EU research projects (FP7, H2020), developed several software tools, and is a co-founder of the startup SmartMe.io.

2. Profile of Manuel Mazzara

Prof. Dr. Manuel Mazzara is a Professor of Computer Science at Innopolis University. His research focuses on Software Engineering, Service-Oriented Architecture, and formal methods, with many highly cited publications. Holding a Ph.D. from the University of Bologna, he has collaborated with industry and the UN. His work targets software development processes and products. He is the Director of the Institute of Software Development and Engineering and Head of the International Cooperation Office

3. Profile of Ganesan K

Dr. K. Ganesan, with a Ph.D. in Quantum Chaos, has held numerous leadership roles at VIT, including Dean of SITE and Director of TIFAC-CORE. An accomplished academic, he has over 80 publications, 27 patents (including one US patent), and has secured grants worth 47 Crores from agencies like DRDO and IBM. He has completed 25 major industry consultancy projects with companies like Renault-Nissan and has conducted over 375 training programs, demonstrating extensive industry and academic expertise

4. Profile of Radhakrishnan Delhibabu

Radhakrishnan Delhibabu is a Professor in the School of Computer Science and Engineering at VIT, Vellore. His research focuses on AI and Machine Learning, Quantum Information Theory, Cognitive Modeling, and BCI. He holds a Ph.D. from Anna University and RWTH Aachen, Germany. Formerly an Associate Professor at Kazan Federal University, Russia, he has numerous publications and holds professional certifications from IBM (Quantum), Google (ML), AWS, and Azure.

The Quantum Science and Technology (QST) Club at VIT invites you to explore the disruptive synergy between quantum computing and artificial intelligence. This session navigates the "Quantum Leap," examining how quantum algorithms are poised to redefine machine learning, optimization, and complex simulations, forging the intelligent systems of the future.

We will dissect the truth behind Quantum Supremacy, moving beyond media hype to understand the real-world capabilities and limitations of today's NISQ-era devices. As these powerful systems emerge, securing our data becomes critical. We will investigate "Quantum Fingerprints," discussing the paradigm shift towards post-quantum cryptography and quantum key distribution needed to protect our digital world.

Finally, we will explore the practical integration of these technologies through concepts like Quantum Microservices, which make quantum power accessible via hybrid cloud architectures. Join us for a forward-looking discussion on the convergence that will shape the next generation of computation and secure intelligence.

IBM Qiskit: A comprehensive open-source SDK with excellent tutorials and access to IBM's quantum systems.

Google Cirq: A Python framework designed for developing and running algorithms on Noisy Intermediate-Scale Quantum (NISQ) processors.

Xanadu PennyLane: The leading library for quantum machine learning (QML), integrating seamlessly with PyTorch and TensorFlow.

Amazon Braket & Azure Quantum: Cloud platforms offering access to diverse quantum hardware.

**Coordinator's: Prof. RADHAKRISHNAN DELHIBABU 15387 - Professor Grade 1 -
SCOPE
Prof. DENIS ASHOK S 12481 - Professor Higher Academic Grade -
SMEC**