



International Workshop on “Quantum Mathematics and Imaging for Smart Manufacturing and Industry 4.0”



QMI-2025 (*Hybrid Mode*) PROGRAM SCHEDULE

Venue: VIT Chennai

Timing: 10:00 am to 4:30 pm

Date: 15/12/2025 to 19/12/2025

Faculty Coordinators: Dr. N. Ramesh Babu,

Dr. S. Harshavarthini, Dr. N. Padmaja

REGISTRATION – 9:00 am to 9:30 am & INAUGURATION – 9:30 am to 10:00 am (15/12/2025)					
TIME	DAY 1	DAY 2	DAY 3	DAY 4	DAY 5
	(15/12/2025)	(16/12/2025)	(17/12/2025)	(18/12/2025)	(19/12/2025)
10:00 am to 11:15 am	SESSION 1	SESSION 5	SESSION 9	SESSION 13	SESSION 17
	Technical Session: Real-Time Activity Recognition in Badminton Using Deep Learning Models (Virtual Mode)	Technical Session: Decoding Quantum Physics: Concepts that Power Quantum Computing	Technical Session: Mathematics for Quantum Computing and Potential Applications in the Near Term	Technical Session: Encoding schemes for Quantum Image Processing	Technical Session: Quantum Cryptography: Concepts, Challenges and Future Implications
	Speaker: Prof. P. Raveendran <i>Honorary Professor Department of Electrical Engineering, Universiti Malaysia, Kuala Lumpur, Malaysia.</i>	Speaker: Dr. H. Aswath Babu <i>IBM Qiskit Advocate Assistant Professor and Head of the Department of Arts, Science and Design, IIT Dharwad, India.</i>	Speaker: Dr. Mostafizur Rahaman <i>Research Scientist IBM Quantum, Bengaluru, India.</i>	Speaker: Ms. A. Janani <i>Quantum Engineer IBM Research, Bengaluru, India.</i>	Speaker: Dr. Kunwar Singh <i>Associate Professor Department of CSE, NIT Trichy, Tamil Nadu, India.</i>
Chair: Dr. Kalyani Desikan	Chair: Dr. A. David Maxim Gururaj	Chair: Dr. S. Lakshmanan	Chair: Dr. A. Manivannan	Chair: Dr. Saroj Kumar Dash	

TEA BREAK (11:15 am to 11:30 am)

	SESSION 2	SESSION 6	SESSION 10	SESSION 14	SESSION 18
11:30 am to 12:45 pm	Technical Session: Pixels to Predictions: Image Processing using ML and DL	Hands-On Session: Fundamentals of Quantum Computing	Hands-On Session: Quantum Computing Algorithms	Hands-On Session: Quantum Image Processing	Technical Session: Quantum-Safe Cryptography and its Industrial Relevance in the Era of Industry 4.0
	Speaker: Dr. D. Saraswathi <i>Associate Professor</i> <i>School of Computer</i> <i>Science Engineering,</i> <i>VIT Chennai,</i> <i>Tamil Nadu, India.</i>	Speaker: Dr. H. Aswath Babu <i>IBM Qiskit Advocate</i> <i>Assistant Professor and</i> <i>Head of the Department of</i> <i>Arts, Science & Design,</i> <i>IIT Dharwad, India.</i>	Speaker: Dr. Mostafizur Rahaman <i>Research Scientist</i> <i>IBM Quantum,</i> <i>Bengaluru, India.</i>	Speaker: Ms. A. Janani <i>Quantum Engineer</i> <i>IBM Research,</i> <i>Bengaluru, India.</i>	Speaker: Dr. Amit Kumar Chauhan <i>Senior Research Associate</i> <i>QNu Labs Pvt. Ltd.,</i> <i>Bengaluru, India.</i>
	Chair: Dr. M. Kaliyappan				Chair: Dr. Rajivganthi Chinnathambi

LUNCH BREAK (12:45 pm to 1:45 pm)

	SESSION 3	SESSION 7	SESSION 11	SESSION 15	SESSION 19
1:45 pm to 3:00 pm	Technical Session: From Black Boxes to Glass Boxes: Foundations and Applications of Interpretable Machine Learning (<i>Virtual Mode</i>)	Technical Session: Quantum Sensing Revolution: Advancing Healthcare Diagnostics	Technical Session: Quantum Inspired Solutions	Technical Session: Quantum Algorithm Development: Challenges and Innovations	Technical Session: Why do we need Post-Quantum Cryptography?
	Speaker: Dr. Keerthana Jaganathan <i>Lecturer</i> <i>School of Computer</i> <i>Science, Northumbria</i> <i>University Newcastle,</i> <i>UK.</i>	Speaker: Dr. Pranab Dutta <i>CEO & Co-founder</i> <i>GDQ Labs,</i> <i>Bengaluru, India.</i>	Speaker: Mr. Karthiganesh Durai <i>Founder & CEO</i> <i>KwantumG Research</i> <i>Labs Pvt. Ltd.,</i> <i>Bengaluru, India.</i>	Speaker: Mr. Sagar Dollin <i>Team Lead</i> <i>Quantum Software,</i> <i>QpiAI India Pvt. Ltd.,</i> <i>Bengaluru, India.</i>	Speaker: Prof. P. Balasubramaniam <i>Senior Professor of Mathematics</i> <i>Dean School of Sciences, The</i> <i>Gandhigram Rural Institute</i> <i>(Deemed to be University),</i> <i>Gandhigram, India.</i>
	Chair: Dr. V. Prabhakar	Chair: Dr. K. Muthunagai	Chair: Dr. A. Felix	Chair: Dr. V. Parthiban	Chair: Dr. S. Dhanasekar

TEA BREAK (3:00 pm to 3:15 pm)

	SESSION 4	SESSION 8	SESSION 12	SESSION 16	
3:15 pm to 4:30 pm	<p>Technical Session: 3D Medical Image Computation using Deep Learning Techniques</p> <p>Speaker: Dr. T. Kalaiselvi <i>Associate Professor Department of Computer Science and Applications, The Gandhigram Rural Institute (Deemed to be University), Gandhigram, Tamil Nadu, India.</i></p> <p>Chair: Dr. B. Srutha Keerthi</p>	<p>Hands-On Session: Quantum Sensing: Building Next-Gen Medical Sensors</p> <p>Speaker: Dr. Pranab Dutta <i>CEO & Co-founder GDQ Labs, Bengaluru, India.</i></p>	<p>Hands-On Session: Implementation of Quantum Inspired Solutions</p> <p>Speaker: Mr. Karthiganesh Durai <i>Founder & CEO KwantumG Research Labs Pvt. Ltd., Bengaluru, India.</i></p>	<p>Hands-On Session: Quantum Programming: From Circuits to Algorithms</p> <p>Speaker: Mr. Sagar Dollin <i>Team Lead Quantum Software, QpiAI India Pvt. Ltd., Bengaluru, India.</i></p>	<p>FEEDBACK & VALEDICTORY 3:30 pm to 4:30 pm</p> 