

# Quantum System Monitoring with IoT technology

*Tuesday, 18 March 2025 16:00 (30 minutes)*

“Quantum computers promise transformative advancements in computation, yet their performance remains critically hindered by environmental noise. Qubits, the fundamental units of quantum information, are inherently fragile and highly sensitive to even minimal disturbances from their surroundings. Factors such as electromagnetic interference: We introduce the Telemetry Project, an initiative designed to measure and analyze environmental factors that disturb quantum systems. By integrating Internet of Things (IoT) technologies with quantum computing and leveraging high-performance computing techniques for concurrent data analysis from a centralized database, our approach provides deeper insights into the interplay between environmental noise and quantum system performance. This integration not only advances our understanding of quantum behavior in real-world conditions but also paves the way for developing more resilient and reliable quantum computations in an HPC environment.”

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**Session Classification:** Hybrid Quantum Computing Workshop - II