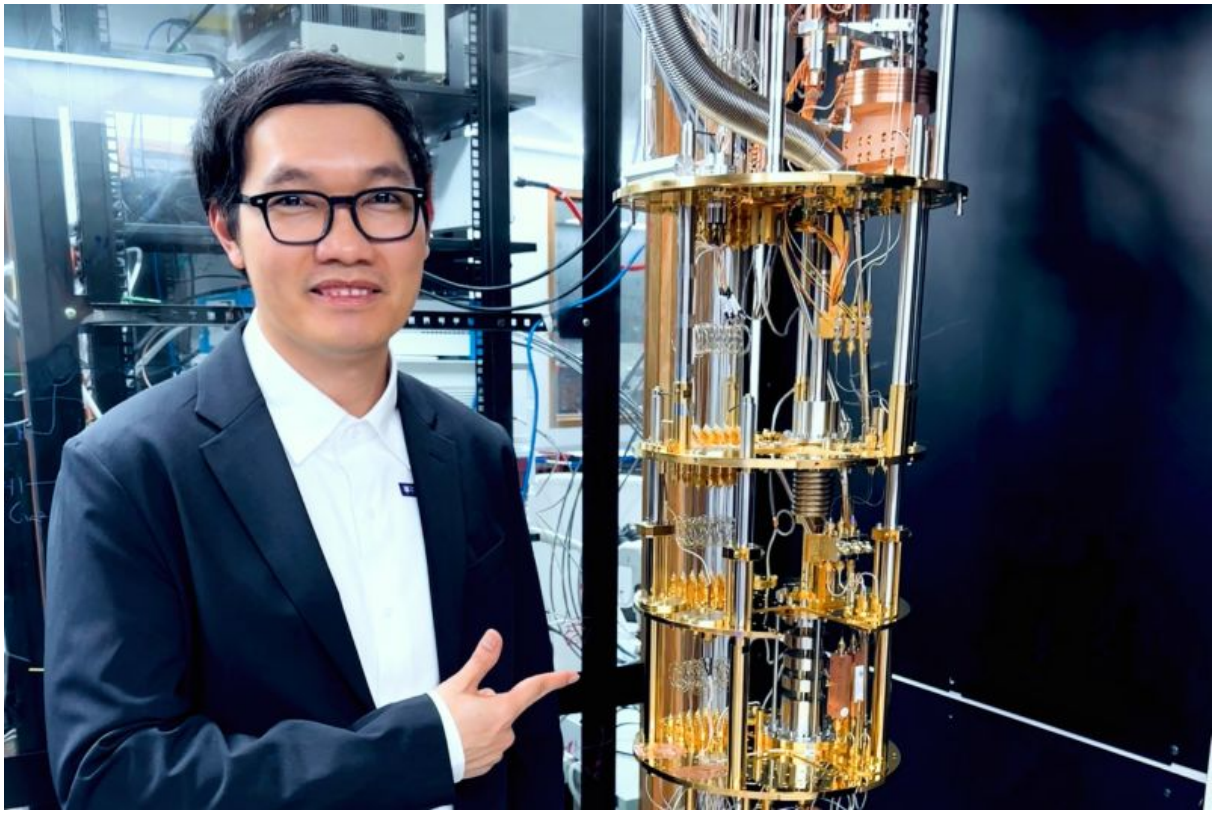
IEEE Dissertation Award for quantum computing PhD graduate

FEIT quantum computing PhD graduate Dr Hoa Nguyen from the School of Computing and Information Systems (CIS) has received the prestigious 2026 Institute of Electrical and Electronics Engineers (IEEE) Technical Committee on Hyper-Intelligence (HITC) “Outstanding PhD Dissertation Award,” for contributions to intelligent resource management and software systems for quantum cloud computing.

Dr Nguyen completed his PhD (Computer Science) in 2025, researching serverless and reinforcement learning–based resource management for quantum cloud computing. He now works on Australia's National Quantum Computing Testbed as a Research Scientist in the CSIRO Quantum Systems Team.



Dr Hoa Nguyen with a quantum computer at his workplace, the National Quantum Computing Testbed Australia.

Dr Nguyen was supported by the competitive Vingroup Science and Technology Scholarship, which sponsors talented Vietnamese students to pursue postgraduate degrees in STEM fields at top global

universities. He was supervised by Redmond Barry Distinguished Professor Rajkumar Buyya, Director, Quantum Cloud Computing and Distributed Systems (qCLOUDS) Lab, and Associate Professor Muhammad Usman, an Honorary Principal Fellow in the School of Physics.

Professor Buyya said he was delighted to congratulate Dr Nguyen, and the award recognises his contributions to quantum computing, cloud computing and scalable quantum-software systems.



Dr Nguyen and Professor Buyya.

“Hoa developed new serverless architectures and deep reinforcement learning-based algorithms for efficient quantum-resource management in cloud environments,” Professor Buyya said. “He designed and released open-source frameworks (QFaaS, iQuantum and QSimPy) to build, simulate and evaluate these techniques.

“Quantum computing promises to tackle hard problems in drug discovery, finance and optimisation, but efficient scheduling and orchestration across distributed quantum and classical resources remains a major challenge. Hoa's thesis provides architectural models, adaptive algorithms and practical software to address this gap and is among the first to bring serverless and learning-based scheduling into the quantum domain.”

Dr Nguyen said he was honoured to receive the award.

“Before my PhD, my background was in computer networks and cybersecurity, so moving into quantum computing meant learning a new field from the ground up, with plenty of trial and error. That is why this award means so much to me. It recognises years of persistence, and I’m grateful to share it with

Professor Buyya, Professor Usman, my family and friends, and the research community that supported me," he said.

"A field I was once wary of is now where I hope to build a long-term career. Working at the intersection of quantum computing, AI, and cloud, I will continue to research and develop intelligent methods and software systems that make quantum computing more practical, efficient and accessible, and bring applications such as quantum machine learning closer to real-world use.

"I hope this work supports both Australia's National Quantum Computing Testbed, which I am helping to develop at CSIRO, and the wider quantum community."

IEEE is the world's largest technical professional organisation dedicated to advancing technology in electrical engineering, computing, electronics and related fields. The award will be presented at the IEEE AI for Science Congress 2026 in Malaysia in late December.

Technology and society

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