Northwestern Quantum Week
Quantum Innovation Symposium
April 22, 2026 | Northwestern University

Heejeong Jeong

Heejeong Jeong is Head of Quantum Computing at Pasqal US Inc., where she leads quantum computing initiatives and strategic engagement in the US quantum ecosystem. She received her Ph.D. in Physics from Duke University in 2006, where her doctoral research produced the first experimental observation of optical precursors using cold ^{39}K atoms in a magneto-optical trap.

After completing postdoctoral research at Dartmouth College, she joined Samsung Electronics and Samsung Advanced Institute of Technology, where she conducted research and development on next-generation optoelectronic devices. She later held academic positions at HKUST, KAIST, and the University of Malaya, pursuing research and education in quantum optics and atomic physics, including work on sub-natural narrowband biphoton generation in ^{87}Rb and collaboration on Rydberg-atom-based quantum computing.

Before joining Pasqal, she served as Vice Director of Q Center at Sungkyunkwan University and Head of R&D at QuNova Computing Inc. Her career spans atomic physics, quantum optics, photonics, and neutral-atom quantum computing, bridging fundamental science and emerging quantum technologies.

Pasqal's enterprise-level neutral atom quantum computing

Abstract: Quantum computing is no longer confined to the laboratory. Pasqal, a global leader in neutral-atom quantum computing, is working to bridge the gap between research-grade demonstrations and real-world deployments. This talk traces that journey — from the Nobel Prize-winning science behind neutral-atom technology to enterprise-grade full-stack systems now operating at HPC centers and available via major cloud platforms.

I will explain why neutral atoms offer a compelling path forward: room-temperature operation, natural qubit uniformity, scalability toward 10,000+ qubits, and a dual analog-digital architecture enabling near-term value while advancing toward fault-tolerant quantum computing. I will briefly share our results across optimization, simulation, and machine learning, including use cases in logistics, telecommunications, finance, and drug discovery. This talk will also highlight our recent milestones, including the establishment of Pasqal's US headquarters in Chicago and its role in the Midwest quantum ecosystem.