UNIVERSITY of WASHINGTON

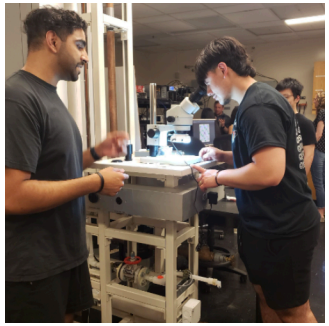
QUANTUMX

FALL 2024

NEWS

QuantumX welcomes three new faculty members

"Mo Chen brings critical expertise in superconducting qubit technologies and a deep understanding of noise in real quantum systems," said QuantumX chair Kai-Mei Fu. "With the addition of Jerry Li and Chinmay Nirkhe, the UW is poised to determine the broad computation and information landscape that quantum technologies will impact."



'24-25 Accelerating Quantum-Enabled Technologies Cohort

QuantumX welcomed its fourth cohort of graduate students to the Accelerating Quantum-Enabled Technologies (AQET), a National Science Foundation Research Traineeship program. The 19 students are studying electrical and computer engineering, materials science and engineering, physics, chemistry and computer science and engineering.

Peter Shor (MIT): UW Public Lecture in Quantum Science and Engineering

QuantumX hosted Massachusetts Institute of Technology (MIT) Morss Professor of Applied Mathematics Peter Shor on October 10. Shor met with AQET students before his public lecture on quantum computing, now available on our YouTube Channel.

Amazon Braket as an educational tool for quantum computing

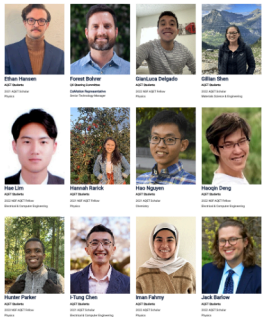
Amazon Web Services (AWS) sponsored an AQET capstone project, mentoring students working on the quantum error mitigation topic. Students used Amazon Braket, a fully managed quantum computing service, to access quantum computing hardware and analyze the impact of noise and error mitigation techniques on variational quantum algorithms.

Max Parsons — engineering quantum technology while making state-of-the-art hardware more accessible for research and education

Parsons directs the Quantum Technologies Training and Testbed (QT3) Lab, which is equipped with state-of-the-art hardware and provides unique opportunities for students to gain hands-on experience exploring quantum phenomena in an interdisciplinary environment.

The Quantum Quest

UW has been a significant player in quantum research for decades and is poised to tackle problems of mind-boggling complexity. In QuantumX, the faculty and students are playing a key role.



Explore the new QuantumX website

We are excited to announce the launch of the refreshed QuantumX website. Designed with our users in mind, the updated site features a modern look, streamlined navigation and enhanced access to information on our cutting-edge quantum research, events and educational opportunities.

SELECTED PUBLICATIONS

Perspective on quantum sensors from basic research to commercial applications
Jean Lautier-Gaud, Jongmin Lee, Peter D. D. Schwindt, Sara L. Mouradian, Frank A. Narducci, Charles A. Sackett
Aerospace Research Central

A Lieb-Robinson bound for open quantum systems with memory
Rahul Trivedi, Mark Rudner
Arxiv.org

Non-volatile tuning of cryogenic optical resonators
Uthkarsh Adya, Rui Chen, I-Tung Chen, Sanskriti Joshi, Arka Majumdar, Mo Li, Sajjad Moazeni
Arxiv.org

ARQUIN: Architectures for multinode superconducting quantum computers
James Ang, Gabriella Carini, Sophia Economou, Andrei Faraon, Kai-Mei Fu
Association for Computing Machinery

Semiconductor-superconductor hybrid device including an electrode array
Charles Masamed Marcus, Andreas Simon Pöschl, Alisa Danilenko
Google Patents

Local probe of bulk and edge states in a fractional Chern insulator
Zhurun Ji,Jiun-Haw Chu, Xiaodong Xu, Zhi-Xun Shen
Nature
Isolation of single donors in ZnO
Lasse Vines, Steven R. Spurgeon, Kai-Mei Fu
Physical Review Journals
Optically resolved exchange splittings in the doped van der Waals ferromagnet
Thom J. Snoeren, Kimo Pressler, Daniel R. Gamelin
Physical Review Journals
Technologies for modulation of visible light and their applications
Sanghyo Park, Milica Notaros, Sara Mouradian
Science Direct
Verifier-on-a-Leash: New schemes for verifiable delegated quantum computation, with quasilinear resources
Andrea Coladangelo, Alex B. Grilo, Stacey Jeffery, Thomas Vidick
Theory of Computing

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QuantumX wants to hear from you! Send your latest news and events to: uwqis@uw.edu.

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