

QUANTUMX

FALL 2025



QuantumX launches research program for undergraduates

Ten undergraduates from across the country spent the summer exploring cutting-edge research in quantum information science as part of QuantumX's first National Science Foundation Research Experience for Undergraduates program.



Kai-Mei Fu elected to the Washington State Academy of Sciences

Professor Fu was elected for their foundational contributions to fundamental and applied research on the optical and spin properties of quantum point defects in crystals and for service and leadership in the quantum community.

Q&A: From TVs to the future of computing, UW professor explains what makes quantum dots shine

UW Chemistry Professor Brandi Cossairt discusses her lab's research making quantum dots for a variety of potential applications, including advanced computing.



Nicholas Yama wins 2025 UW NanoES Student Achievement Award

The Institute for Nano-Engineered Systems (NanoES) awarded ECE Ph.D. student Nicholas Yama its 2025 Student Achievement Award for his work in advanced hybrid integrated photonics for quantum information applications.

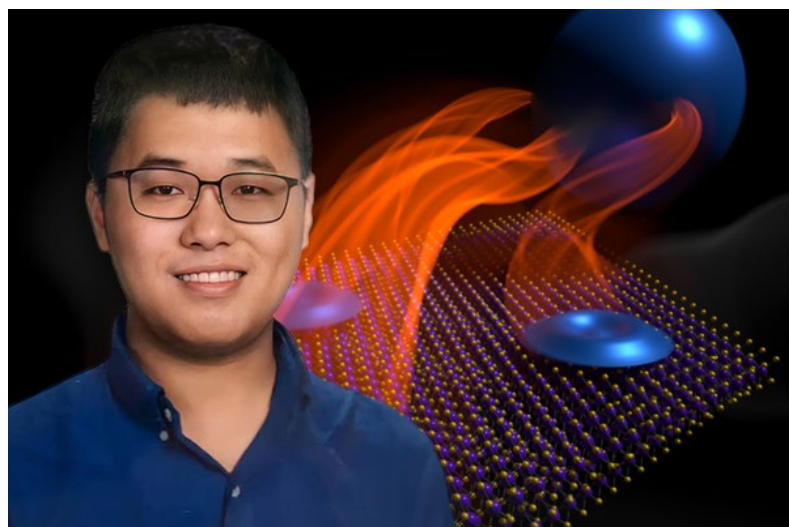
 INSTITUTE FOR
NANO-ENGINEERED SYSTEMS
UNIVERSITY of WASHINGTON



2025
Student
Achievement
Award

Jiaqi Cai honored with 2025 Graduate Medal in Natural Sciences

Cai received the award for his doctoral research which led to a landmark discovery in condensed matter physics: the experimental realization of the fractional quantum anomalous Hall effect (FQAH) — a phenomenon long theorized but never observed.



CAPSTONE 2025

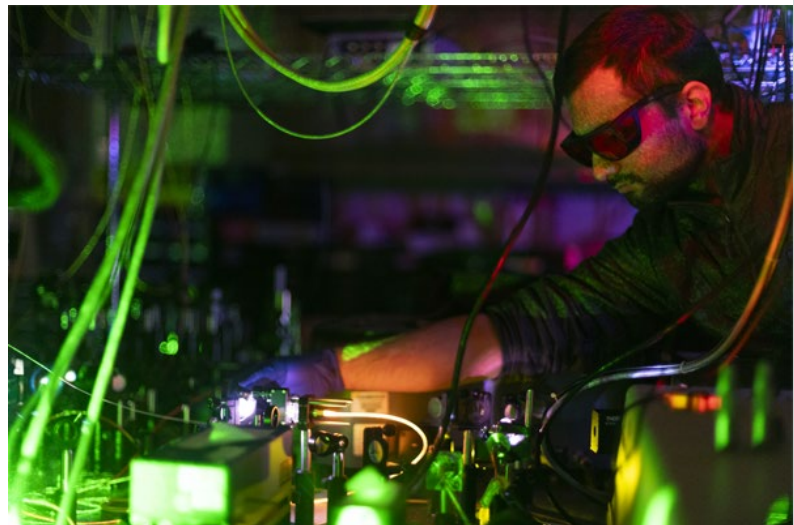


AQET Capstone: Modeling a nitrogen-vacancy center with NVIDIA CUDA-Q Dynamics

UW students used Dynamics functionality within NVIDIA CUDA-Q Platform, running on AWS, to model the promising qubit candidate for quantum information networks.

GRADUATE CERTIFICATE IN QUANTUM INFORMATION SCIENCE AND ENGINEERING

This fifteen credit [graduate certificate](#) is designed to meet a critical educational need to train the next generation of scientists and engineers with emphasis on the interdisciplinarity of the Quantum Information Science and Engineering field.



RESEARCH HIGHLIGHTS

[Efficiently preparing chiral states via fermionic cooling on bosonic quantum hardware](#)

Gilad Kishony, Mark S. Rudner, Erez Berg

[Arxiv.org](#)

[MPC in the Quantum Head \(or: Superposition-Secure \(Quantum\) Zero-Knowledge\)](#)

Andrea Coladangelo, Ruta Jawale, Dakshita Khurana, Giulio Malavolta, Hendrik Waldner

[Arxiv.org](#)

[Quantum Simulations of Fundamental Physics](#)

Martin J. Savage

[Strongly interacting Hofstadter states in magic-angle twisted bilayer graphene](#)

Minhao He, Xiaoyu Wang, Jiaqi Cai, Jonah Herzog-Arbeitman, Ran Peng, Takashi Taniguchi, Kenji Watanabe, Ady Stern, B. Andrei Bernevig, Matthew Yankowitz, Oskar Vafek, Xiaodong Xu

Nature Physics

[Stabilizer scars](#)

Jeremy Hartse, Lukasz Fidkowski, and Niklas Mueller

Physical Review Letters

[Quantum magic and computational complexity in the neutrino sector](#)

Ivan Chernyshev, Caroline E. P. Robin, Martin J. Savage

Physical Review Research

[Intermodal microwave-to-optical transduction using silicon-on-sapphire optomechanical ring resonator](#)

I-Tung Chen, Nicholas Yama, Haoqin Lin, Qixuan Lin, Yue Yu, Abhi Saxena, Arka Majumdar, Kai-Mei Fu, Mo Li

Science Advances

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