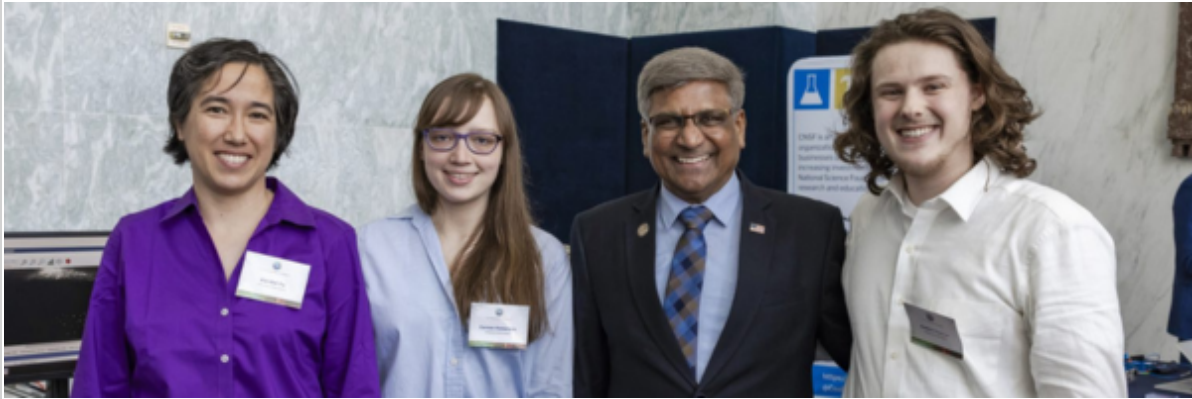




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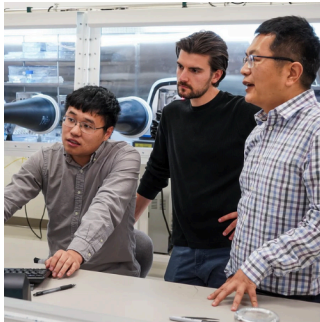
Summer 2024

NEWS



[NSF invites QuantumX to showcase research to lawmakers in Washington, D.C.](#)

RESEARCH HIGHLIGHTS



[Physicists puzzle over emergence of strange electron aggregates](#)

Quantum Magazine recently featured research based on a shocking new effect seen in electrons. Research by QuantumX and physics professors [Xiaodong Xu](#) and [Matthew Yankowitz](#) were highlighted.



[Simulating the universe's most extreme environments with utility-scale quantum computation](#)

Research by QuantumX and physics professor [Martin Savage](#) was featured in IBM's Quantum Research Blog. Savage's research group published findings demonstrating scalable techniques that could one day enable simulations of fundamental physics experiments at the highest energies.

PUBLICATIONS

[Artificial-Intelligence-Driven Shot Reduction in Quantum Measurement](#)

Senwei Liang, Linghua Zhu, Xiaolin Liu, Chao Yang, Xiaosong Li

Arxiv.org

[A computational test of quantum contextuality, and even simpler proofs of quantumness](#)

Atul Singh Arora, Kishor Bharti, Alexandru Cojocaru, Andrea Coladangelo

Arxiv.org

[Ferromagnetism and Topology of the Higher Flat Band in a Fractional Chern Insulator](#)

Heonjoon Park, Jiaqi Cai, Ting Cao, Di Xiao, Xiaodong Xu

Arxiv.org

[Near-visible topological edge states in a silicon nitride platform](#)

David Sharp, Christopher Flower, Rui Chen, Mohammad Hafezi, Arka Majumdar

Optica

[Bloch oscillation phases investigated by multipath Stückelberg atom interferometry](#)

Tahiyat Rahman, Anna Wirth-Singh, Subhadeep Gupta

Physical Review Research

[Quantifying the accuracy of steady states obtained from the universal Lindblad equation](#)

Frederik Nathan, Mark S. Rudner

Physical Review B

[Quantum simulations of hadron dynamics in the Schwinger model using 112 qubits](#)

Roland C. Farrell, Marc Illa, Anthony N. Ciavarella, Martin J. Savage

Physical Review D

[Scalable Circuits for Preparing Ground States on Digital Quantum Computers: The Schwinger Model Vacuum on 100 Qubits](#)

Roland C. Farrell, Marc Illa, Anthony N. Ciavarella, Martin J. Savage

PRX Quantum

[Quantum copy-protection of compute-and-compare programs in the quantum random oracle model](#)

Andrea Coladangelo, Christian Majenz, Alexander Poremba

Quantum Journal

[The quantum cartpole: A benchmark environment for non-linear reinforcement learning](#)

Kai Meinerz, Simon Trebst, Mark Rudner, Evert van Nieuwenburg

SciPost

UPCOMING EVENTS



UW Public Lecture in Quantum Science and Engineering: Peter Shor

Save the date: Morss Professor of Applied Mathematics Peter Shor will speak at 7:30 p.m. on Oct. 10 in Kane Hall. Shor's research interests have mainly been in theoretical computer science: he formerly worked on algorithms, computational geometry and combinatorics; and currently works on quantum computing.

UW is a member of the Quantum Economic Development Consortium, QED-C. Click [here](#) to register for access to events and opportunities.

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