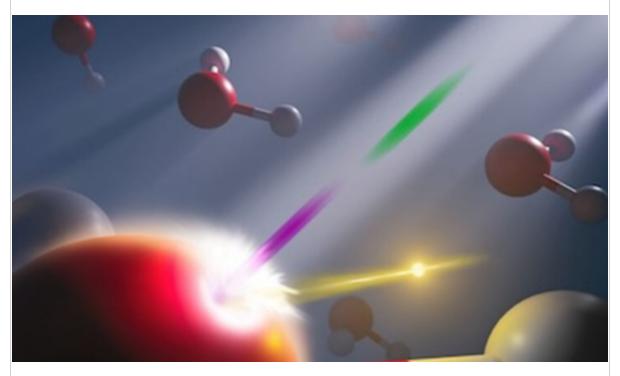


# QUANTUMX

Spring 2024



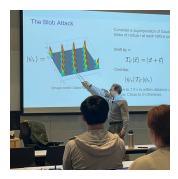
### First-ever atomic freeze-frame of liquid water

In an experiment akin to stop-motion photography, an international team of scientists has isolated the energetic movement of an electron in a sample of liquid water — while "freezing" the motion of the much larger atom it orbits.



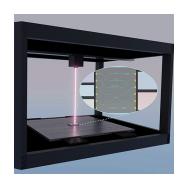
#### **AQET Scholar Q&A with Audrey Budlong**

As an undergraduate at the University of Washington, Audrey Budlong worked on research projects in neurophysics, quantum computing and astrophysics, as well as nuclear and particle physics. This led her to a particular interest in quantum information science. Now she is a second-year physics graduate student and AQET scholar.



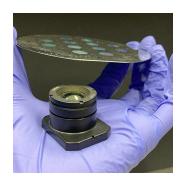
## AQET seminars offer students exposure to a broad range of disciplines

Over the winter quarter, QuantumX's Accelerated Quantum Engineering and Technology (AQET) students met with and learned from leading engineers and scientists in the quantum information field. Speakers industry and academia gave students a fresh perspective on their research, emerging technologies, and possible career paths.



#### A laser printer for photonic chips

A research team led by UW QuantumX, ECE and Physics Professor Mo Li has invented a new way to print and reconfigure photonic integrated circuits (microchips) using a speedy, low-cost device about the size of a conventional desktop laser printer.



## <u>Ultra-flat optics for broadband thermal</u> <u>imaging</u>

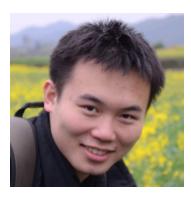
Ultra-thin meta-optics have the potential to make imaging systems lighter and thinner than ever. Using a new inverse design framework, a UW ECE and QuantumX-led research team has demonstrated broadband thermal imaging with meta-optics for applications ranging from consumer electronics to thermal sensing and night vision.



#### <u>UW QuantumX professors Charles Marcus, Di</u> <u>Xiao and Xiaodong Xu among highly</u> <u>cited researchers</u>

The University of Washington is proud to announce that more than 40 faculty and researchers who completed their work while at UW have been named on the annual Highly Cited Researchers 2023 list from Clarivate.

## Congratulations



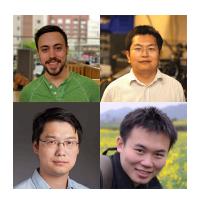
<u>Ting Cao receives</u> <u>early CAREER award</u>

MSE Assistant Professor
Ting Cao has been
awarded a prestigious NSF
Early CAREER Award
to better understand the
quantum behaviors of van
der Waals magnets.



Sarah Mouradian receives AFOSR YIP award

UW ECE Professor Sara Mouradian has been awarded a three-year grant from the Air Force Office of Scientific Research through its Young Investigator Program.



<u>CEI announces</u> <u>collaborative SEED</u> <u>grants</u>

Matthew Yankowitz, Xiaodong Xu, Di Xiao and Ting Cao receive CEI SEED grants for developing parafermion qubits for topological quantum computation.

## In the News

Nation's first quantum-computing manufacturing plant opens in Bothell
Herald Net
Scaling up a trapped-ion quantum computer
Physics.aps.org

### **Recent Publications**

<u>Optimizing shot assignment in variational quantum eigensolver</u> measurement

**ACS** Publications

<u>Direct measure of DNA bending by quantum magnetic imaging of a nano-mechanical torque-balance</u>

ArXiv.org

<u>Deeply subwavelength integrated excitonic van der Waals nanophotonics</u> *Optica* 

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