

C²QA Virtual All Hands Meeting

Wed October 4, 2023

9:30 – 4:30pm ET

The Zoom connection information will be provided via email to registrants prior to the event.

Wed, Oct 4, 2023 (ET)

- 9:30am** **Director's Welcome**
Andrew Houck, Director, C²QA
- 9:45am** **Words from our DOE Program Manager**
Thomas Settersten, Dept of Energy. Atomic, Molecular and Optical Sciences Program Manager.
- 10:00am** **Qubits Talk**
Robert Schoelkopf, C²QA Devices Subthrust Leader
- 10:25am** **Qubits Flash Talk**
Synthesizing X-Basis Qubit Measurements with Parametric Drives, Michael Hatridge, C²QA Principal Investigator
- 10:35am** **Qubits Flash Talk**
Investigating $1/f$ Flux Noise in Superconducting Qubits with Applied Magnetic Fields. David Rower, C²QA Graduate Student.
- 10:45am** **Break**
- 11:00am** **Networks Talk**
Indistinguishable telecom band photons from a single erbium ion in the solid state. Lukasz Dusanowski, C²QA Postdoc
- 11:25am** **Networks Flash Talk**
Quantum interactions in rare-earth solid-state spin systems. Andrei Faraon, C²QA Principal Investigator
- 11:35am** **Networks Flash Talk**
Silicon-Lattice-Matched Boron-Doped Gallium Phosphide: A Scalable Acousto-Optic Platform. Kai-Mei Fu, C²QA Deputy Director.
- 11:45am** **Theory Talk**
Instruction Set Architecture and Abstract Machine Models for Hybrid Oscillator-Qubit Processors. Yuan Liu, C²QA Postdoc

AGENDA

- 12:10pm** **Theory Flash Talk**
Generalized Quantum Signal Processing. Daniel Motlagh, C²QA Invited Speaker.
- 12:20pm** **Theory Flash Talk**
Quantum Control and Near-Term Algorithms, Sophia Economou. C²QA Principal Investigator
- 12:30pm** **Lunch Break**
- 1:30pm** **New Opportunities**
LDPC Codes. Ted Yoder, C²QA Principal Investigator.
- 1:45pm** **New Opportunities**
Erasure Conversion. Jeff Thompson, C²QA New Qubits for Computing & Networks Subthrust Leader
- 2:00pm** **New Opportunities**
New Opportunities for Diamond Growth. Nathalie de Leon, C²QA Materials Thrust Leader
- 2:15pm** **New Opportunities**
Exponential Speedups for Quantum Walks in Random Hierarchical Graphs. Aram Harrow, C²QA Principal Investigator
- 2:30pm** **New Opportunities**
New Insights in Recombination Mechanisms and the Search for Novel Quantum Defects.
- 2:45pm** **New Opportunities**
JHUs New HIQT and Potential Future Directions for C²QA. Tyrel McQueen, C²QA Principal Investigator
- 3:00pm** **New Opportunities**
Heterogeneous Architectures. Sam Stein, C²QA Postdoc.
- 3:15pm** **Director's Concluding Remarks and Break**
- 3:30pm** **Virtual Poster Session**
- 4:30pm** **Virtual Poster Session Concludes and Meeting Closes**