

Simulating many-body systems: Recent results and near-term opportunities in quantum hardware

MONDAY Aug 14

[8:00-9:00] Breakfast (H-Bar)

[9:00-9:45] **Alexandre Bourassa**: *Suppressing quantum errors by scaling a surface code logical qubit*

[9:45-10:30] **David Zajac**: *Hardware Developments in IBM Quantum Processors*

[10:30-11:00] Coffee (H-Bar)

[11:00-11:45] **Vedika Khemani**: *Quantum information phases in space-time: measurement-induced entanglement and teleportation on a noisy quantum processor*

[11:45-12:30] **Abhinav Kandala**: *Evidence for the utility of quantum computing before fault tolerance.*

[12:30-1:30] Lunch / discussion (H-Bar)

[1:30-2:15] **Dave Hayes**: *The H-series QCCD quantum processors*

[2:15-3:00] **Drew Potter**: *Random insights into 2d tensor network contractions*

[3:00-3:30] Coffee (H-Bar)

[3:30-4:15] **Sarang Gopalakrishnan**: *Looking for quasiparticles in the statistics of quantum snapshots*

[4:15-5:00] **Vinul Wimalaweera**: *Simulating dynamical phase transitions in the thermodynamic limit with tensor network circuits*

[6:00] Dinner (Restaurant, TBD)

TUESDAY Aug 15

[8:00-9:00] Coffee/breakfast (H-Bar)

[9:00-9:45] **Guifre Vidal**: *Qubit MERA and quantum criticality*

[9:45-10:30] **Henrik Dryer:** *Long-Range Entangled States in Trapped Ions from Measurement and Feed-Forward*

[10:30-11:00] **Coffee (H-Bar)**

[11:00-11:45] **Timon Hilker:** *FermiQP – Towards a hybrid fermionic quantum processor in an optical lattice*

[11:45-12:30] **Adam Kaufman:** *Quantum simulation and computing with neutral atom arrays*

[12:30-2:30] **Lunch / discussion (location TBD)**