Contribution ID: **13** Type: **not specified**

Keynote: Neutral Atom Quantum Computing with a MicroTCA Architecture

Tuesday 6 December 2022 16:00 (30 minutes)

The race is on across the globe to build a useful quantum computer. Many modalities are being investigated to build a Quantum Computer including, but not limited to, Superconducting Josephson Junctions, Trapped Ions, Spin Qubits in Semiconductor Devices, and Trapped Neutral Atoms.
In this talk I will give a brief overview of Neutral Atom technology including the newly demonstrated pure, nuclear spin qubit found in a variety of Alkaline-earth (-like) atoms and go over recent results from both Atom Computing as well as Academia. Furthermore, I will touch on the complicated control environment for creating these quantum processors and how the unified MicroTCA architecture is allowing us to build highly synchronized, and dynamic control systems.

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Session Classification: Session 2

Track Classification: New Technologies