Day 1: August 12, 2024

7:30am   Check-in

8:30am   Workshop: **Quantinuum**

12:00pm   Lunch

1:00pm   Keynote   Brian Neyenhuis (Quantinuum)
Quantinuuum's Trapped-Ion Quantum Computers

2:00pm   Contributed Talk   Grace Sommers (Princeton University)
Fault-Tolerant Quantum Criticality in Dynamically Generated Concatenated Codes

2:30pm   Contributed Talk   Phil Lotshaw (Oak Ridge National Laboratory)
Quantum approximate optimization

3:00pm   Break

3:30pm   Contributed Talk   Katie Klymko (Lawrence Berkeley National Laboratory)**Quantum Computation with Neutral Atoms: Key Outcomes from NERSC's First R&D Collaboration with QuEra Computing**

4:00pm   Contributed Talk   Jim Furches (Virginia Tech)
Evaluating Non-Local Quantum Strategies on NISQ Hardware: Connecting Benchmarks to Performance

4:30pm   Contributed Talk   Himanshu Thapliyal (University of Tennessee - Knoxville)
Approximate Computing for Noise Resilient Optimized Quantum Circuits

Day 2: August 13, 2024

7:30am   Check-in

8:30am   Workshop: **IBM**

12:00pm   Lunch

1:00pm   Keynote   Antonio Mezzacapo (IBM)
Chemistry Beyond the Reach of Exact Solutions of the Schroedinger Equation on a Quantum-centric Supercomputer

2:00pm   Contributed Talk   Madhava Syamlal (QubitSolve)
Computational Fluid Dynamics on Quantum Computers

2:30pm   Contributed Talk   Anthony Ciavarella (Lawrence Berkeley National Lab)
Quantum Simulation of SU(3) Lattice Gauge Theory at Leading Order in Large N

3:00pm   Break

3:30pm   Contributed Talk   Esam El-Araby (The University of Kansas)
Multidimensional Quantum Convolution for Variational Quantum Algorithms

4:00pm   Contributed Talk   In-Saeng Suh (Oak Ridge National Laboratory)
Quantum-HPC Hybrid Computing in Materials Discovery

4:30pm   Contributed Talk   Jan Balewski (NERSC/LBNL)
Classification of Non-Linearly Separable Datasets on NISQ Devices

5:00pm   Contributed Talk   IQM

5:30pm   Poster Session   5:30pm-7pm

Day 3: August 14, 2024

7:30am   Check-in

8:30am   Workshop: **IonQ**

12:00pm   Lunch

1:00pm   Keynote   John Gamble (IonQ)
Scalable Trapped-Ion Quantum Computing with Ionq

2:00pm   Contributed Talk   Suman Debnath (Oak Ridge National Laboratory)
Research On Use of Quantum Computers in Power Grid

2:30pm   Contributed Talk   Elijah Pelofske (Los Alamos National Laboratory)
High-Round QAOA for MAX k-SAT on Trapped Ion NISQ Devices

3:00pm   Break

3:30pm   Contributed Talk   Sahil Gulania (Argonne National Laboratory)
Quantum Error Mitigation and Correction Mediated by Yang-Baxter Equation and Artificial Neural Network

4:00pm   Contributed Talk   Hisham Amer (Virginia Tech)
Experimental Realization of Dynamically Corrected Gates on IBM hardware

4:30pm   Contributed Talk   Weiwen Jiang (George Mason University)
QDA: Quantum Design Automation of Dynamically Corrected Quantum Computing Circuits

Day 4: August 15, 2024

7:30am   Check-in

8:30am   Workshop: **Amazon Braket**

12:00pm   Lunch

1:00pm   Keynote   Josh Mutus (Rigetti)
Distributed Quantum Computing, Tomorrow And Today

2:00pm   Contributed Talk   **Toño Coello Perez**
Exploring and Benchmarking Prospects for HPC-Quantum Integration on a Leadership-Scale Computing Platform

2:30pm   Contributed Talk   Yuhua Duan (National Energy Technology Laboratory)
Quantum Computing and Simulations for Energy-related Applications

3:00pm   Break

3:30pm   Contributed Talk   Seongmin Kim (Oak Ridge National Laboratory)
Performance Analysis of QAOA for Metamaterial Design on HPC and Quantum Systems

4:00pm   Contributed Talk   Sanket Sharma (University of Tennessee - Knoxville)
Two-Nucleon Scattering on a Quantum Computer

4:30pm   Contributed Talk   Elaine Wong (Oak Ridge National Laboratory)
A Cross Platform QIR Execution Engine