



Agenda

Day 1 (Wed., July 25)	
QC Programs (Chair: Paul Messina)	
8:50-9:00 AM	Welcome to the Quantum Computing Workshop - <i>Hal Finkel, Argonne</i>
9:00-10:00 AM	Quantum Information Science@ANL: Current Status and Opportunities - <i>Supratik Guha, Argonne National Laboratory</i>
10:00-11:00 AM	Chicago Quantum Exchange: Creating and Controlling Qubits for Quantum Information Processing - <i>David Awschalom, The University of Chicago</i>
11:00-11:15 AM	Break
11:15-12:15 PM	Superconducting Qubits for Computation and Applications to Hybrid Quantum Systems - <i>Andrew Cleland, The University of Chicago</i>

12:15-1:15 PM	<i>(Working Lunch) Modular Superconducting Quantum Computing - David Shuster, The University of Chicago</i>
QC Programs (Chair: Valerie Taylor)	
1:15-2:15 PM	<i>Leading the evolution of compute: Quantum Computing - Jim Held, Intel Corporation</i>
2:15-3:15 PM	<i>Advancing Scientific Discovery with Quantum Computing - Travis Humble, Oak Ridge National Laboratory</i>
3:15-3:30 PM	Break
3:30-4:30 PM	<i>Overview of Quantum Computing Program at Fermilab - Joe Lykken, Fermilab</i>
4:30-5:00 PM	<i>Quantum Computers as a Platform for Scientific Discovery - Bert de Jong, Lawrence Berkeley National Laboratory</i>
5:00-5:30 PM	<i>Overview of Quantum Computing Program at LANL - Scott Pakin, Los Alamos National Laboratory</i>
Day 2 (Thurs., July 26)	
Hands-on Session (Chair: Stefan Wild)	
9:00-10:30 AM	<i>Introduction to Quantum Computing and Hands-on with QuaC - Matt Otten, Argonne National Laboratory</i>
10:30-10:45 AM	Break

10:45-12:00 AM	Quantum Computing Introduction for Computational Scientists and Hands-on with ProjectQ - <i>Yuri Alexeev and Huihuo Zheng, Argonne National Laboratory</i>
Software Stack Session (Chair: Hal Finkel)	
12:00-1:00 PM	(<i>Working Lunch</i>) REMOTE TALK: OpenFermion: The Electronic Structure Package for Quantum Computers - <i>Ryan Babbush, Google</i>
1:00-2:00 PM	Simulation and compilation of quantum programs for near-term, noisy quantum hardware with the Atos QLM - <i>Thomas Ayrat and Simon Martiel, Atos</i>
2:00-3:15 PM	Closing the Gap Between Quantum Algorithms and Hardware through Software-Enabled Vertical Integration and Co-Design - <i>Fred Chong, The University of Chicago</i>
3:15-3:30 PM	Break
3:30-4:00 PM	Combinatorial Optimization Using Forest - <i>Keri McKiernan, Rigetti Computing</i>
4:00-4:30 PM	Quantum Programming, Compilation, and Execution with XACC - <i>Alex McCaskey, Oak Ridge National Laboratory</i>
4:30-5:00 PM	Classically Programming a Quantum Annealer - <i>Scott Pakin, Los Alamos National Laboratory</i>

Day 3 (Fri., July 27)

Research Presentations (Chair: Hal Finkel)

9:00-10:00 AM	Efficient Fault-Tolerant Quantum Computing - <i>Martin Suchara, AT&T</i>
10:00-10:30 AM	Quantum Material Simulation on the DW-2000Q - <i>Denny Dahl, DWave</i>
10:30-10:45 AM	Break
10:45-11:45 AM	Trading Space for Time: Dealing with Noise in Quantum Computers with Small Numbers of Qubits - <i>Matt Otten, Argonne National Laboratory</i>
11:45-12:15 PM	Modern Quantum Computing Applications and Benchmarks – Local and Over the Cloud - <i>Raphael Pooser, Oak Ridge National Laboratory</i>
12:15-1:15 PM	<i>(Working Lunch)</i> Identification of Collaboration Opportunities – <i>Hal Finkel, Argonne National Laboratory</i>
1:15-1:45 PM	Graph Clustering Approaches Using Near-term Quantum Computing - <i>Susan Mniszewski, Los Alamos National Laboratory</i>

Student Presentations (Chair: Yuri Alexeev)

1:45-2:15 PM	Multilevel Quantum Annealing For Graph Partitioning - <i>Hayato Ushijima-Mwesigwa, Clemson</i>
2:15-3:15 PM	Topological Quantum Computing and Compiling - <i>Jonathan Paprocki, GA/Argonne National Laboratory</i>

3:15-3:30 PM	Break
3:30-4:00 PM	Machine Learning on Near-Term Quantum Computers - <i>Ruslan Shaydulin, Clemson/Argonne National Laboratory</i>
4:00-4:30 PM	Large scale Intel-QS Simulations by Using Data Compression - <i>Xinchuan "Ryan" Wu, The University of Chicago/Argonne National Laboratory</i>
4:30-5:00 PM	Optimization of Quantum Circuits with Linear Programming - <i>Jonathan Paprocki, GA/Argonne National Laboratory</i>