

Dynamics and Dissipation in Quantum Simulation

Monday, July 9

8:30 am Registration & Coffee
9:00 am Welcome

Quantum Simulation with Photons and Atoms	<i>Session chair: Andrew Daley</i>
--	------------------------------------

9:15 am	Topological and strongly correlated photons	Jonathan Simon, University of Chicago
9:45 am	Complex coherent quantum many-body dynamics through dissipation	Dieter Jaksch, Oxford
10:15 am	Quantum Phases of Spinful Fermi Gases in Optical Cavities	Maria Luisa Chiofalo, Università di Pisa

10:45 am Break

11:15 am	Photon-mediated spin interactions with multimode cavity QED for quantum neural networks	Benjamin Lev, Stanford
11:45 am	Multimode cavity QED as a tool for quantum simulation	Jonathan Keeling, St. Andrews
12:15 am	Interfacing Spins with Photons for Quantum Simulation	Monika Schleier-Smith, Stanford

12:45 pm Lunch

Many-body Dynamics and Quantum Simulation	<i>Session chair: Monika Schleier-Smith</i>
--	---

2:30 pm	Eigenstate thermalization in quantum circuit models	Sarang Gopalakrishnan, CUNY
3:00 pm	Many-body Localization	Vedika Khemani, Harvard
3:30 pm Break		
4:00 pm	Universal Prethermal Dynamics of Bose Gases Quenched to Unitarity	Robert Smith, Cambridge

4:45 pm Poster session

Tuesday, July 10

New Platforms and Applications for Quantum Simulation	<i>Session chair: Jonathan Keeling</i>
--	--

9:00 am	Quantum vs Classical Optimization: A Status Update on the Arms Race	Helmut Katzgraber, Texas A&M
9:30 am	Optical Ising Machines	Alireza Marandi, Caltech
10:00 am	Fermionic quantum systems in optical lattices with single-atom resolution	Stefan Kuhr, Strathclyde

10:30 am Break

11:00 am	Noise-resilient quantum circuits	Isaac Kim, Stanford
11:30 am	Quantum simulation in open quantum systems	Andrew Daley, Strathclyde
12:00 pm	Hyperbolic Lattices in Circuit Quantum Electronics	Alicia Kollar, Stanford

12:30 pm Lunch

Industry Perspectives on Quantum Simulation and Industry-University Links	<i>Session Chair: Ben Lev</i>
--	-------------------------------

2:00 pm	Non-ergodic delocalized states for efficient population transfer within a narrow band of the energy landscape	Vadim Smelyanskiy, Google
2:30 pm	Verifying Scrambling via Quantum Teleportation	Norm Yao, UC Berkeley

3:00 pm Break

3:30 pm Panel / Round Table Discussion

4:30 pm End of workshop