



# Lattice 2023

## Monday, 31 July 2023

### Quantum Computing and Quantum Information - Comitium (13:30 - 15:30)

-Conveners: Henry Lamm

time	[id] title	presenter
13:30	[254] How many quantum gates do gauge theories require?	MURAIRI, Edison
13:50	[154] Real-time dynamics of the Schwinger model via variational quantum algorithms	NAGANO, Lento
14:10	[85] State preparation in quantum simulations of lattice gauge theories	KANE, Christopher
14:30	[7] Measurement-based quantum simulation of Abelian lattice gauge theories	OKUDA, Takuya

# Tuesday, 1 August 2023

## Quantum Computing and Quantum Information - Comitium (13:30 - 15:30)

-Conveners: Raghav Jha

time	[id] title	presenter
13:30	[306] Finite-group Laplacian and the physical Hilbert space of finite-group gauge theories	MARIANI, Alessandro
13:50	[172] Canonical Momenta in Digitized SU(2) Lattice Gauge Theory	GAROFALO, marco
14:10	[29] Simulating the lattice $SU(2)$ Hamiltonian with discrete manifolds	ROMITI, Simone
14:30	[258] Qubitization strategies for bosonic field theories	CERVIA, Michael
14:50	[257] Fuzzy Qubitization of Gauge Theories	CAROSSO, Andrea

# Wednesday, 2 August 2023

## Quantum Computing and Quantum Information - Comitium (09:00 - 10:40)

-Conveners: Giuseppe Clemente

time	[id] title	presenter
09:00	[64] Testing importance sampling on a quantum annealer for strong coupling lattice QCD	Dr KIM, Jangho
09:20	[81] Three ways of calculating mass spectra for the 2-flavor Schwinger model in the Hamiltonian formalism	MATSUMOTO, Akira
09:40	[200] Simulating the Femto-universe on a Quantum Computer	BUTT, Nouman
10:00	[122] O(3) model in 1+1-dimensions using qumodes	JHA, Raghav
10:20	[149] Scalar quantum electrodynamics with Rydberg atoms	MEURICE, Yannick

# Thursday, 3 August 2023

## Quantum Computing and Quantum Information - Comitium (13:30 - 15:30)

-Conveners: Yannick Meurice

time	[id] title	presenter
13:30	[223] Digital Quantum Simulation for the Spectroscopy of Schwinger Model	GHIM, Dongwook
13:50	[366] Simulating Z2 lattice gauge theory on a quantum computer	LAMM, Henry
14:10	[39] Quantum Simulation of Finite Temperature Schwinger Model via Quantum Imaginary Time Evolution	PEDERSEN, Juan William
14:30	[49] Variational ansatz inspired by quantum imaginary time evolution and its application to the Schwinger model	WANG, Xiaoyang
14:50	[298] Exploring lattice supersymmetry with variational quantum deflation	SCHAICH, David
15:10	[373] Hybrid Quantum Estimation of Thermal Averages via Partial Mixed States Preparation	CLEMENTE, Giuseppe

## Quantum Computing and Quantum Information - Comitium (16:00 - 18:00)

-Conveners: Takuya Okuda

time	[id] title	presenter
16:00	[32] Chiral fermion on quantum computers	YAMAMOTO, Arata
16:20	[111] Improved Fermion Hamiltonians for quantum simulations	GUSTAFSON, Erik
16:40	[182] Error mitigation strategies for simple quantum systems	ZAMBELLO, Kevin
17:00	[216] Gauge redundancy as approximate error correction codes for quantum simulations	LIU, Wanqiang
17:20	[190] Relations between Quantum Error Correction and Gauge Theory	HONDA, Masazumi
17:40	[371] Thermodynamics of non-Abelian $D_4$ lattice gauge theory via Quantum Metropolis Sampling	MAIO, Lorenzo

# Friday, 4 August 2023

## Quantum Computing and Quantum Information - Comitium (09:00 - 10:40)

-Conveners: David Schaich

time	[id] title	presenter
09:00	[260] Symmetry Breaking and Clock Model Interpolation in 2D Classical O(2) Spin Systems	HOSTETLER, Leon
09:20	[102] Entanglement entropy from non-equilibrium lattice simulations	BULGARELLI, Andrea
09:40	[87] Investigating dynamical quantum phase transitions in the massive Thirring model using matrix product states	Prof. LIN, C.-J. David
10:00	[20] Simulations of the Hyperbolic Ising Model	TOGA, Goksu
10:20	[202] Simulating Field Theories with Quantum Computers	ASADUZZAMAN, Muhammad