Accepted Posters for NISQ 2019

Num	Authors	Title
1	Andrew Childs and Jin-Peng Liu	Quantum spectral methods for differential equations
2	Omar Shehab, Isaac Kim, Nhung Nguyen, Kevin Landsman, Cinthia Alderete, Daiwei Zhu, Norbert Linke and Christopher Monroe	On boosting near-term variational quantum algorithms using past causal cones
3	Kristine Boone, Arnaud Carignan-Dugas, Joel Wallman and Joseph Emerson	Randomized benchmarking under different gate sets
4	Colleen Farrelly and Uchenna Chukwu	Quantum Persistent K-Cores for Community Detection and Ranking
5	Saikat Sur	Effect of Dynamical Processes on spin chain dynamics
6	Eugen Dumitrescu and Raphael Pooser	Benchmarking near-term devices with field theory simulations
7	Martin Lichtman, Ksenia Sosnova and Allison Carter	Modular Quantum Computing Using a Dual Species Ion Trap
8	Andrew Guo, Minh Tran, Yuan Su, Jim Garrison, Zachary Eldredge, Andrew Childs, Alexey Gorshkov and Michael Foss-Feig	Locality and digital quantum simulation of power-law interactions
9	Nicolas Sawaya, Thi Ha Kyaw, Tim Menke, Alan Aspuru-Guzik and Gian Giacomo Guerreschi	Integer-to-qubit mappings for Hamiltonian simulation
10	Chae-Yeun Park and Michael Kastoryano	Information geometry in machine learning ground states
11	Kesha Hietala, Robert Rand, Shih-Han Hung, Xiaodi Wu and Michael Hicks	Verified Optimization in a Quantum Intermediate Representation
12	Kathleen Hamilton and Raphael Pooser	Incorporating Error Mitigation into Gradient-Based Training of Quantum Circuit Born Machines
13	Michel Nowak	One step towards quantum hyper-parameter search
14	Takahiro Tsunoda, Andrew Patterson, Xiao Yuan, Suguru Endo, Joseph Rahamim, Peter Spring, Martina Esposito, Salha Jebari, Kitti Ratter, Brian Vlastakis, Simon Benjamin and Peter Leek	Hardware efficient gates for the Variational Quantum Eigensolver using native coupling and spin echoes
15	Cunlu Zhou and Leonid Faybusovich	Self-Concordance and Matrix Monotonicity with Applications to Quantum Entanglement Problems
16	Oleksandr Kyriienko	Ground state energy estimation by the quantum inverse iteration algorithm
17	Khadijeh Sona Najafi, Sophia Economou and Edwin Barnes	Implementing high fidelity single and entangling two-qubit gates in single magnetic molecule qudits
18	Ronald Sadlier and Travis Humble	Near-Optimal Scheduling of Noisy Quantum Gates
19	Harper Grimsley, Ho Lun Tang, Sophia Economou, Edwin Barnes and Nicholas Mayhall	ADAPT-VQE: A variational algorithm for quantum simulations of molecules with compact circuits
20	Daniel Stilck Franca, Johannes Borregaard and Matthias Christandl	Computation of local expectation values of quantum many-body states on NISQ devices
21	Sayonee Ray and Adrian Chapman	Disorder-free localization in the Kitaev honeycomb model
22	Bhuvanesh Sundar, Roger Paredes, David Damanik, Leonardo Duenas-Osorio and Kaden Hazzard	Quantum speedup for constrained weighted counting problems
23	Ali I. Rad, Sandesh S. Kalantre, Justyna P. Zwolak and Jacob M. Taylor	Towards State Recognition of 2D Arrays of Quantum Dots: Device Simulation
24	Gopikrishnan Muraleedharan, Christopher Jackson, Akimasa Miyake and Ivan Deutsch	Efficient generation of a pseudorandom unitary transformation for Boson Sampling using random Hamiltonian dynamics
25	Joseph Iosue, Peter McMahon and Robert Parrish	An initial condition robust outer-loop optimization strategy for a Quantum Approximate Optimization Algorithm
26	Vaibhaw Kumar, Casey Tomlin, Daniel Campbell, Chao Wu, Alexi Russell, Susan Mniszewski, Daniel O' Malley and Jd Dulny	A gate model paradigm for reverse annealing: A case study on the problem of Unfair Sampling

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27	Aaron Somoroff, Long Nguyen, Yen-Hsiang Lin, Ray Mencia, Ivan Pechenezhskiy, Konstantin Nesterov, Maxim Vavilov, Quentin Ficheux and Vladimir Manucharyan	Towards a Fluxonium-Based Quantum Processor
28	Beatrice Nash, Vlad Gheorghiu and Michele Mosca	Quantum circuit optimizations for NISQ architectures
29	Shih-Han Hung, Kesha Hietala, Shaopeng Zhu, Mingsheng Ying, Michael Hicks and Xiaodi Wu	Quantitative Robustness Analysis of Quantum Programs
30	Sandesh Kalantre, Justyna Zwolak, Tom McJunkin, J. P. Dodson, E. R. MacQuarrie, D. E. Savage, M. G. Lagally, S. N. Coppersmith, Mark Eriksson and Jacob Taylor	In-situ machine learning assisted auto-tuning of quantum dot devices
31	Bryan T. Gard, Linghua Zhu, George S. Barron, Nicholas J. Mayhall, Sophia E. Economou and Edwin Barnes	Efficient Symmetry-Preserving State Preparation for the Variational Quantum Eigensolver Algorithm
32	Ryan Shaffer, Eli Megidish and Hartmut Häffner	Benchmarking protocol for approximate verification of analog quantum simulators
33	Megan Lilly and Travis Humble	Characterizing Quantum Processors Using Modeling and Simulation
34	Daniel Mills and Brian Coyle	The Superiority of Quantum Machine Learning on NISQ Technology
35	Ryan LaRose, Arkin Tikku, Etude O'Neel-Judy, Lukasz Cincio and Patrick Coles	Variational Quantum State Diagonalization
36	Aditya Nema and Pranab Sen	Efficiently estimating average fidelity of a quantum logic gate using few classical random bits
37	Akhil Francis, Jim Freericks and Alexander Kemper	Evaluating Many-Body Correlation Functions using Quantum Computation
38	Yanzhu Chen, Maziar Farahzad, Shinjae Yoo and Tzu-Chieh Wei	Detector tomography on IBM 5-qubit quantum computers and mitigation of imperfect measurement
39	Iris Cong, Soonwon Choi and Mikhail Lukin	Quantum Convolutional Neural Networks
40	Alireza Seif and Yi-Kai Liu	Characterizing Correlated Dephasing Noise in Many-Qubit Systems, Using Compressed Sensing
41	Shangjie Guo, Yidan Wang, Thomas Purdy and Jacob Taylor	Giant Atom Bounded in Continuum
42	Fangli Liu, Rex Lundgren, Jonathan Curtis, Paraj Titum, James Garrison and Alexey Gorshkov	Circuit Complexity across a Topological Phase Transition
43	Patrick Geraghty and Edwin Hach	Proposed Metrics for Quantifying Entanglement Accessibility of a Quantum System
44	Swarnadeep Majumder, Leonardo Andreta De Castro and Kenneth R Brown	Real-time calibration using spectator qubits
45	In-Chan Choi and Jiehye Jung	A binary integer multi-commodity flow model for efficient quantum oracle implementation
46	Nikodem Grzesiak	Efficient Arbitrary Simultaneously Entangling Gates on a trapped-ion quantum computer
47	Changyuan Liu	Extension to Quantum Simulation of Deuteron Ground State Energy
48	Valerio Scarani	Tree-size complexity of states and intermediate-size quantum computers
49	Nobuyuki Yoshioka, Yuya Nakagawa, Kosuke Mitarai and Keisuke Fujii	TBA
50	A Ben Dodds, Viv Kendon, Charles S Adams and Nicholas Chancellor	Practical designs for permutation symmetric problem Hamiltonians on hypercubes
51	Jason Larkin and Daniel Justice	Projecting Quantum Computational Advantage versus Classical State-of-the-Art
52	Minh Tran, Brittany Richman and Jacob Taylor	Probing Josephson Junction array with Transmon qubit
53	Troy Sewell and Stephen Jordan	Noise-resilience of critical Ising spin chain ground-state preparation
54	Zohreh Davoudi and Andrew Shaw	Extended quantum simulation on NISQ devices using an interference quantum state tomography
55	Daochen Wang	Possibilistic simulation of quantum circuits by classical circuits
56	Andrew Shaw	A New Noise-Mitigation Scheme for Computations on NISQ-era Devices