QIP 2019 talk schedule

Monday, January 14

08.50 - 09.00	Opening remarks	
09.00 - 10.00	Invited talk: **Urmila Mahadev** (Glenn Miller Ballroom) Classical Verification of Quantum Computations Chair: Ashley Montanaro	
10.00 - 10.30	Coffee break	
	Chair: Ashwin Nayak (Center Ballroom)	Chair: Ke Li (West Ballroom)
10.30 - 11.05	**Anupam Prakash** Efficient quantum algorithms for some instances of the hidden multiple shift problem	**Nicholas LaRacuente** Complete Logarithmic Sobolev Inequality and Irreducible Graphs *merged with* **Daniel Stilck França** Functional inequalities via group transference techniques and application to estimation of decoherence times and capacities
11.05 - 11.40	**Francois Le Gall** Sublinear-Time Quantum Computation of the Diameter in CONGEST Networks	**Andreas Bluhm** Compatibility of quantum measurements and inclusion constants for free spectrahedra
11.40 - 12.15	**Andris Ambainis** Quantum Speedups for Exponential-Time Dynamic Programming Algorithms	
12.15 - 13.45	Lunch break	
	Chair: Bei Zeng (Center Ballroom)	Chair: Jeongwan Haah (West Ballroom)
13.45 - 14.20	**Xin Wang** Entanglement cost of quantum state preparation and channel simulation	**Hector Bombin** Colorful Quantum Computation
14.20 - 14.55	**Pranab Sen** Simultaneous decoding, unions, intersections and a one-shot quantum joint typicality lemma	**Daniel Litinski** A Game of Surface Codes: Large-Scale Quantum Computing with Lattice Surgery
14.55 - 15.30	**Simon Becker** Convergence rates for quantum evolution & entropic continuity bounds in infinite dimensions	**Earl Campbell** A theory of single-shot error correction for adversarial noise
15.30 - 16.00	Coffee break	
16.00 - 17.00	Plenary talk: **Jeongwan Haah** (Glenn Miller Ballroom) Quantum algorithm for simulating real time evolution of lattice Hamiltonians Chair: Andrew Childs	
18.00 - 19.30	Poster session I (Stadium Club)	

Tuesday, January 15

09.00 - 10.00	Invited talk: **Jun Ye** (Glenn Miller Ballroom) Title TBD Chair: Graeme Smith	
10.00 - 10.30	Coffee break	
	Chair: Rotem Arnon-Friedman (Center)	Chair: Shelby Kimmel (West Ballroom)
10.30 - 11.05	**Thomas Vidick** A Cryptographic Test of Quantumness and Certifiable Randomness from a Single Quantum Device	**Xinyi Chen** Online Learning of Quantum States
11.05 - 11.40	**Urmila Mahadev** Classical Homomorphic Encryption for Quantum Circuits	**Ingo Roth** Recovering quantum gates from few average gate fidelities
11.40 - 12.15	**Atul Singh Arora** Weak Coin Flipping	**Steve Flammia** Efficient learning of Pauli channels
12.15 - 13.45	Lunch break	
	Chair: Sean Hallgren (Center Ballroom)	Chair: Lídia del Rio (West Ballroom)
13.45 - 14.20	**Henry Yuen** Quantum proof systems for iterated exponential time, and beyond	**Tomáš Gonda** Almost Quantum Correlations are Inconsistent with Specker's Principle
14.20 - 14.55	**Nicholas Spooner** Spatial Isolation Implies Zero Knowledge Even in a Quantum World	**Renaud Vilmart** Completeness of the ZX-Calculus
15.30 - 17.00	Poster session II (Stadium Club)	
17.30 - 19.00	Reception hosted by CU Boulder (UMC)	
19.00 - 21.00	Industry session (UMC)	

Wednesday, January 16

09.00 - 10.00	Invited talk: **Daniel Harlow** (Glenn Miller Ballroom) A Holographic Generalization of the Eastin-Knill Theorem Chair: Andris Ambainis	
10.00 - 10.30	Coffee break	
	Chair: Daniel Gottesman (Center Ballroom)	Chair: François Le Gall (West Ballroom)
10.30 - 11.05	**Johannes Bausch** Undecidability of the Spectral Gap in One Dimension	**Daniel Grier** A Quantum Query Complexity Trichotomy for Regular Languages
11.05 - 11.40	**Evgeny Mozgunov** No chiral modes in frustration-free systems	**André Chailloux** A note on the quantum query complexity of permutation symmetric functions
11.40 - 12.15	**Milad Marvian** On the computational complexity of curing non-stoquastic Hamiltonians *merged with* **Joel Klassen** Two-local qubit Hamiltonians: when are they stoquastic?	**Srinivasan Arunachalam** A Converse to the Polynomial Method
12.15 - 13.45	Lunch break	
	Chair: Cécilia Lancien (Center Ballroom)	Chair: Elizabeth Crosson (West Ballroom)
13.45 - 14.20	**Richard Cleve** Constant gap between conventional strategies and those based on C*-dynamics for self-embezzlement	**Matthew Coudron** Trading locality for time: certifiable randomness from low-depth circuits
14.20 - 14.55	**Lisa Yang** Characterizing Parallel Repetition of Non-Signaling Games: Counterexamples and a Dichotomy Theorem	**Luke Schaeffer** Exponential separation between shallow quantum circuits and unbounded fan-in shallow classical circuits
15.00 - 16.00	Business meeting	
16.00 - 18.30	Free time (lab tours)	
18.30 - 22.00	Conference dinner (Embassy Suites Hilton)	

Thursday, January 17

09.00 - 10.00	Plenary talk: **Avishay Tal** (Glenn Miller Ballroom) Oracle Separation of BQP and PH Chair: Richard Cleve	
10.00 - 10.30	Coffee break	
	Chair: Toby Cubitt (Center Ballroom)	Chair: Joseph Renes (West Ballroom)
10.30 - 11.05	**Leo Zhou** Hamiltonian Sparsification and Gap-Simulations	**Aleksander Kubicki** A quantitative no-programming theorem
11.05 - 11.40	**András Gilyén** Quantum singular value transformation and beyond: exponential improvements for quantum matrix arithmetics	**Christian Majenz** Asymptotic performance of port-based teleportation
11.40 - 12.15	**Yigit Subasi** Quantum algorithms for systems of linear equations inspired by adiabatic quantum computing	**Matthew Coudron** Universality of EPR pairs in Entanglement-Assisted Communication Complexity, and the Communication Cost of State Conversion
12.15 - 13.45	Lunch break	
	Chair: Robin Blume-Kohout (Center)	Chair: Steve Flammia (West Ballroom)
13.45 - 14.20	**Tongyang Li** Quantum SDP Solvers: New Input Models, Improved Algorithms, and Applications	**Elizabeth Crosson** Good approximate quantum LDPC codes from spacetime circuit Hamiltonians
14.20 - 14.55	**John Napp** Low-depth gradient measurements can improve convergence in variational hybrid quantum-classical algorithms	**Vivien Londe** A construction of quantum (almost) locally testable codes
14.55 - 15.30	**Joran van Apeldoorn** Algorithms and lower bounds for convex optimization using quantum oracles	**Victor V. Albert** Characterizing and developing bosonic error-correcting codes
15.30 - 16.00	Coffee break	
16.00 - 17.00	Plenary talk/best student paper: **Andrea Coladangelo** (Glenn Miller Ballroom) Unconditional separation of finite and infinite-dimensional quantum correlations Chair: Matthias Christandl	
18.30 - 22.00	Rump session (Rembrandt Yard Art Gallery & Event Center)	

Friday, January 18

09.00 - 10.00	Plenary talk: **Antoine Grospellier** (Glenn Miller Ballroom) Constant overhead quantum fault-tolerance with quantum expander codes Chair: David Gosset	
10.00 - 10.30	Coffee break	
	Chair: Johannes Bausch (Center Ballroom)	Chair: Iman Marvian (West Ballroom)
10.30 - 11.05	**Bill Fefferman** Quantum Supremacy and the Complexity of Random Circuit Sampling	**Miguel Navascues** Resetting uncontrolled quantum systems
11.05 - 11.40	**David Gosset** Simulation of quantum circuits by low-rank stabilizer decompositions	**Carlo Sparaciari** The first law of general quantum resource theories
11.40 - 12.15	**Sergey Bravyi** Approximation algorithms for quantum many-body problems	**Alvaro Alhambra** Heat Bath Algorithmic Cooling with Thermal Operations
12.15 - 13.45	Lunch break	
	Chair: Robin Kothari (Center Ballroom)	Chair: Felix Leditzky (West Ballroom)
13.45 - 14.20	**Dominic Berry** Quantum simulation of chemistry with sublinear scaling in basis size *merged with* **Guang Hao Low** Hamiltonian simulation in the interaction picture	**Philippe Faist** Thermodynamic capacity of quantum processes
14.20 - 14.55	**Ryan Babbush** Simulating correlated electrons in the surface code with a single T-factory	**Ralph Silva** Quantum clocks are more accurate than classical ones
14.55 - 15.30	**Isaac Kim** Noise-resilient quantum circuits	**Iman Marvian** Coherence distillation machines are impossible in quantum thermodynamics
15.30 - 16.00	Coffee break	
16.00 - 17.00	Plenary talk: **Saeed Mehraban** (Glenn Miller Ballroom) Approximate unitary t-designs by short random quantum circuits using nearest-neighbor and long-range gates Chair: Graeme Smith	