

**QIP 2024\_Plenary schedule in list format**

	Date	Time	No.	Title	Authors
<b>Invited Plenary</b>	Jan. 15 (Monday)	9:30-10:30		Logical quantum processor based on reconfigurable atom arrays	Dolev Bluvstein
	Jan. 17 (Wednesday)	11:00-12:00		Challenges and Capabilities of Quantum Computing	Fernando Brandao
	Jan. 18 (Thursday)	9:00-10:00	428	Learning quantum Hamiltonians at any temperature in polynomial time	Ainesh Bakshi, Allen Liu, Ankur Moitra and Ewin Tang
<b>Plenary</b>	Jan. 18 (Thursday)	11:00-12:00	96	Clustering of conditional mutual information and quantum Markov structure at arbitrary temperatures	Tomotaka Kuwahara
	Jan. 16 (Tuesday)	9:00-10:00	221	Unitary Complexity and the Uhlmann Transformation Problem	John Bostanci, Yuval Efron, Tony Metger, Alexander Poremba, Luowen Qian and Henry Yuen
	Jan. 17 (Wednesday)	9:00-10:00	416	Universal embezzlers	Lauritz van Luijk, Alexander Stottmeister, Reinhard F. Wemer and Henrik Wilming
<b>Short Plenary</b>	Jan. 15 (Monday)	11:00-11:30	81	High-threshold and low-overhead fault-tolerant quantum memory	Sergey Bravyi, Andrew Cross, Jay Gambetta, Dmitri Maslov, Patrick Rall and Theodore Yoder
	Jan. 18 (Thursday)	10:00-10:30	135	Computational Entanglement Theory	Rotem Arnon-Friedman, Zvika Brakerski and Thomas Vidick
	Jan. 19 (Friday)	11:30-12:00	226	Learning shallow quantum circuits	Hsin-Yuan Huang, Yunchao Liu, Michael Broughton, Isaac Kim, Anurag Anshu, Zeph Landau and Jarrod McClean
	Jan. 19 (Friday)	10:00-10:30	239	An efficient quantum parallel repetition theorem and applications	John Bostanci, Luowen Qian, Nicholas Spooner and Henry Yuen
	Jan. 16 (Tuesday)	10:00-10:30	282	Robust sparse IQP sampling in constant depth	Louis Paletta, Christophe Vuillot, Mazyar Mirrahimi, Anthony Leverrier and Alain Sarlette
	Jan. 15 (Monday)	11:30-12:00	353	An Exponential Separation Between Quantum Query Complexity and the Polynomial Degree	Andris Ambainis and Aleksandrs Belovs
	Jan. 16 (Tuesday)	11:30-12:00	371	Exponential quantum speedup in simulating coupled classical oscillators	Rolando Somma, Ryan Babbush, Dominic Berry, Robin Kothari and Nathan Wiebe
	Jan. 19 (Friday)	11:00-11:30	446	Quantum Thermal State Preparation	Chi-Fang Chen, Michael Kastoryano, Fernando Brandao and András Gilyén
	Jan. 17 (Wednesday)	10:00-10:30	449	A new operator extension of strong subadditivity of quantum entropy	Ting-Chun Lin, Isaac Kim and Min-Hsiu Hsieh
	Jan. 16 (Tuesday)	11:00-11:30	578	Layer Codes: Saturating the BPT Bound in 3D	Dominic Williamson and Nouédyne Baspin

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Date	Room		Time	No.	Title	Authors
<b>Jan. 15 (Monday)</b>	1F, R101 AB	EC1	13:30-14:00	80	Limitations of local update recovery in stabilizer-GKP codes: a quantum optimal transport approach	Robert König and Cambyse Rouzé
	1F, R101 AB		14:00-14:30	204	Complexity and order in approximate quantum error-correcting codes	Jinmin Yi, Weicheng Ye, Daniel Gottesman and Zi-Wen Liu
	1F, R101 AB		14:30-15:00	485	Approaching the Quantum Singleton Bound with Approximate Error Correction	Thiago Bergamaschi, Louis Golowich and Sam Gunn
	1F, R101 CD	ALG1	13:30-14:00	211	Quantum chi-squared tomography and mutual information testing	Steve Flammia and Ryan O'Donnell
	1F, R101 CD		14:00-14:30	321	Testing quantum satisfiability	Ashley Montanaro, Changpeng Shao and Dominic Verdon
	1F, R101 CD		14:30-15:00	451	On the quantum time complexity of divide and conquer	Jonathan Allcock, Jinge Bao, Aleksandrs Belovs, Troy Lee and Miklos Santha
	2F, R201 ABC	M	13:30-14:00	4	Quantum Money from Abelian Group Actions	Mark Zhandry
	2F, R201 ABC		14:00-14:30	163	Bounding the Quantum Value of Compiled Nonlocal Games: From CHSH to BQP Verification	Anand Natarajan and Tina Zhang
	2F, R201 ABC		14:30-15:00	173	Trade-offs between Entanglement and Communication	Uma Girish and Srinivasan Arunachalam
	1F, R101 AB	EC2	15:30-16:00	114	Constant-Overhead Fault-Tolerant Quantum Computation with Reconfigurable Atom Arrays	Qian Xu, Pablo Ataides, Christopher Pattison, Nithin Raveendran, Dolev Bluvstein, Jonathan Wurtz, Bane Vasic, Mikhail Lukin, Liang Jiang and Hengyun Zhou
	1F, R101 AB		16:00-16:30	172	Videman's algorithm for quantum LDPC codes	Anirudh Krishna, Inbal Livni Navon and Mary Wootters
	1F, R101 AB		16:30-17:00	318	Geometrically Local Quantum and Classical Codes from Subdivision	Ting-Chun Lin, Adam Wills and Min-Hsiu Hsieh
	1F, R101 AB		17:00-17:30	335	Improved rate-distance trade-offs for quantum codes with restricted connectivity	Nouédyne Baspin, Venkatesan Guruswami, Anirudh Krishna and Ray Li
	1F, R101 CD	IT1	15:30-16:00	410	Gelfand-Tsetlin basis for partially transposed permutations, with applications to quantum information	Dmitry Grinko, Adam Burchardt and Maris Ozols
	1F, R101 CD		16:00-16:30	480	The mixed Schur transform: efficient quantum circuit and applications	Quynh Nguyen
	1F, R101 CD		16:30-17:00	429	Quantum Algorithm for Reducing Induced Representations with Applications to Port-based Teleportation	Jiani Fei, Sydney Timmerman and Patrick Hayden
	1F, R101 CD		17:00-17:30	576	Generalised group designs: overcoming the 3-design-barrier and constructing novel 2-designs in arbitrary dimensions	Ágoston Kaposi, Zoltán Kolarovszki, Adrian Solymos and Zoltán Zimborás
	1F, R101 CD		17:30-18:00	440	A Constructive Approach to Zauner's Conjecture via the Stark Conjectures	Marcus Appleby, Steve Flammia and Gene Kopp
	2F, R201 ABC	Crypto1	15:30-16:00	219	Cryptography from Quantum One-Wayness	Dakshita Khurana and Kabir Tomer
	2F, R201 ABC		16:00-16:30	116	Quantum Public-Key Encryption with Tamper-Resilient Public Keys from One-Way Functions	Fuyuki Kitagawa, Tomoyuki Morimae, Ryo Nishimaki and Takashi Yamakawa
2F, R201 ABC	16:30-17:00		532	Robust Quantum Public-Key Encryption with Applications to Quantum Key Distribution	Giulio Malavolta, Michael Walter	
2F, R201 ABC	17:00-17:30		518	A tight and general finite-size security proof for quantum key distribution	Thomas Van Himbeek, Peter Brown	

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Date	Room		Time	No.	Title	Authors
<b>Jan. 16 (Tuesday)</b>	1F, R101 AB	EC3	13:30-14:00	337	Tensor Network Decoding Beyond 2D	Christophe Piveteau, Christopher T. Chubb and Joseph M. Renes
	1F, R101 AB		14:00-14:30	438	Circuit-to-Hamiltonian from tensor networks and fault tolerance	Anurag Anshu, Nikolas Breuckmann and Quynh Nguyen
	1F, R101 AB		14:30-15:00	430	Measurement Quantum Cellular Automata and Anomalies in Floquet Codes	David Aasen, Jeongwan Haah, Zhi Li and Roger Mong
	1F, R101 CD	IT2	13:30-14:00	128	Catalytic and asymptotic equivalence for quantum entanglement	Ray Ganardi, Tulja Varun Kondra and Alexander Streltsov
	1F, R101 CD		14:00-14:30	264	Reversibility of quantum resources through probabilistic protocols	Bartosz Regula and Ludovico Lami
	1F, R101 CD		14:30-15:00	455	A new entanglement conversion distance for a complete characterization of entanglement embezzlement and closed-form expressions for entanglement distillation and dilution	Elia Zanoni, Thomas Theurer, Kun Fang and Gilad Gour
	2F, R201 ABC	Samp	13:30-14:00	206	Effect of non-unital noise on random circuit sampling	Bill Fefferman, Soumik Ghosh, Michael Gullans, Kohdai Kuroiwa and Kunal Shama
	2F, R201 ABC		14:00-14:30	389	Complexity-theoretic foundations of BosonSampling with a linear number of modes	Ishaun Datta, Adam Bouland, Daniel Brod, Bill Fefferman, Daniel Grier, Felipe Hernandez and Michal Oszmaniec
	2F, R201 ABC		14:30-15:00	424	On the Pauli Spectrum of QAC0	Shivam Nadimpalli, Natalie Parham, Francisca Vasconcelos and Henry Yuen
	1F, R101 AB	HC1	15:30-16:00	88	Quantum Merlin-Arthur and proofs without relative phase	Roozbeh Bassirian, Bill Fefferman and Kunal Marwaha
	1F, R101 AB		16:00-16:30	86	Local Hamiltonian Problem with succinct ground state is MA-Complete	Jiaqing Jiang
	1F, R101 AB		16:30-17:00	375	The Power of Unentangled Quantum Proofs with Non-negative Amplitudes	Fernando Jeronimo and Pei Wu
	1F, R101 AB		17:00-17:30	345	Complexity Classification of Product State Problems for Local Hamiltonians	John Kallaugher, Ojas Parekh, Kevin Thompson, Yipu Wang and Justin Yirka
	1F, R101 CD	IT3	15:30-16:00	425	Monogamy of highly symmetric states	Rene Allerstorfer, Matthias Christandl, Dmitry Grinko, Ion Nechita, Maris Ozols, Denis Rochette and Philip Verduyn Lunel
	1F, R101 CD		16:00-16:30	235	Entanglement monogamy via multivariate trace inequalities	Mario Berta and Marco Tomamichel
	1F, R101 CD		16:30-17:00	457	Exact Steering Bound for Two-Qubit Werner States	Yujie Zhang and Eric Chitambar
	1F, R101 CD		17:00-17:30	268	Discreteness of asymptotic tripartite entanglement measures	Jop Briet, Matthias Christandl, Itai Leigh, Amir Shpilka, Fulvio Gesmundo and Jeroen Zuiddam
	2F, R201 ABC	Crypto2	15:30-16:00	231	Quantum Pseudorandom Scramblers	Chuhan Lu, Minglong Qin, Fang Song, Penghui Yao and Mingnan Zhao
	2F, R201 ABC		16:00-16:30	392	Public-key pseudoentanglement and the hardness of learning ground state entanglement structure	Adam Bouland, Bill Fefferman, Soumik Ghosh, Tony Metger, Umesh Vazirani, Chenyi Zhang and Zixin Zhou
	2F, R201 ABC		16:30-17:00	310	The active-volume architecture and elliptic-curve cryptography	Daniel Litinski and Naomi Nickerson
2F, R201 ABC	17:00-17:30		323	A mathematical foundation for self-testing: Lifting common assumptions	Pedro Baptista, Ranyiliu Chen, Jędrzej Kaniewski, David Rasmussen Lolck, Laura Mančinská, Thor Gabelgaard Nielsen and Simon Schmidt	

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Date	Room		Time	No.	Title	Authors
<b>Jan. 17 (Wednesday)</b>	1F, R101 AB	IT4	13:30-14:00	56	Quantum Renyi and f-divergences from integral representations	Christoph Hirche and Marco Tomamichel
	1F, R101 AB		14:00-14:30	85	The Quantum Entropy Cone near its Apex	Lasse H. Wolff, Matthias Christandl and Bergfinnur Durhuus
	1F, R101 AB		14:30-15:00	222	Expected Utility Theory and its novel application in Quantum Information Science	Paul Skrzypczyk, Andrés Dacuara, Francesco Buscemi, Peter Sidajaya and Valerio Scarani
	1F, R101 CD	MB1	13:30-14:00	258	Unifying speed limit and Lieb-Robinson bound: Wisdom from optimal transport	Tan Van Vu, Tomotaka Kuwahara and Keiji Saito
	1F, R101 CD		14:00-14:30	75	Going Beyond Gadgets: The Importance of Scalability for Analogue Quantum Simulators	Dylan Harley, Ishaun Datta, Frederik Ravn Klausen, Andreas Bluhm, Daniel Stilck França, Albert Werner and Matthias Christandl
	1F, R101 CD		14:30-15:00	502	Local minima in quantum systems	Chi-Fang Chen, Hsin-Yuan Huang, John Preskill and Leo Zhou
	2F, R201	ALG2	13:30-14:00	175	Quantum Lower Bounds for Finding Stationary Points of Nonconvex Functions	Chenyi Zhang and Tongyang Li
	2F, R201		14:00-14:30	261	Quantum speedups for linear programming via interior point methods	Simon Apers and Sander Gribling
	2F, R201		14:30-15:00	342	Exponential Quantum Streaming Advantage for Maximum Directed Cut	John Kallaugher, Ojas Parekh and Nadezhda Voronova

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Date	Room		Time	No.	Title	Authors
Jan. 18 (Thursday)	1F, R101 AB	MatPhys	13:30-14:00	43	Heisenberg-limited metrology with perturbing interactions, and efficient sampling of short-time quantum evolution	Chao Yin and Andrew Lucas
	1F, R101 AB		14:00-14:30	55	Quantum metrology in the finite-sample regime	Johannes Jakob Meyer, Sumeet Khatri, Daniel Stilck França, Jens Eisert and Philippe Faist
	1F, R101 AB		14:30-15:00	381	Spectral gap implies rapid mixing for commuting Hamiltonians	Jan Kochanowski, Alvaro Alhambra, Ângela Capel and Cambyse Rouze
	1F, R101 CD	ClSim	13:30-14:00	174	Classical simulation of peaked shallow quantum circuits	Sergey Bravyi, David Gosset and Yinchen Liu
	1F, R101 CD		14:00-14:30	338	Classical simulation of non-Gaussian fermionic circuits	Beatriz Cardoso Dias and Robert Koenig
	1F, R101 CD		14:30-15:00	196	Quadratic Lower bounds on the Approximate Stabilizer Rank: A Probabilistic Approach	Saeed Mehraban and Mehrdad Tahmasbi
	2F, R201 ABC	HC2	13:30-14:00	62	Commuting Local Hamiltonian Problem on 2D beyond qubits	Sandy Irani and Jiaqing Jiang
	2F, R201 ABC		14:00-14:30	10	A distribution testing oracle separating QMA and QCMA	Anand Natarajan and Chinmay Nirkhe
	2F, R201 ABC		14:30-15:00	250	NLTS Hamiltonians and Strongly-Explicit SoS Lower Bounds from Low-Rate Quantum LDPC Codes	Louis Golowich and Tali Kaufman
	1F, R101 AB	BH	15:30-16:00	39	Relating non-local computation to information theoretic cryptography	Alex May, Rene Allerstorfer, Harry Buhman, Florian Speelman and Philip Verduyn Lunel
	1F, R101 AB		16:00-16:30	393	Making Existing Quantum Position Verification Protocols Secure Against Arbitrary Transmission Loss	Rene Allerstorfer, Andreas Bluhm, Harry Buhman, Matthias Christandl, Llorenç Escola Ferras, Florian Speelman and Philip Verduyn Lunel
	1F, R101 AB		16:30-17:00	319	Security of position-based verification limits Hamiltonian simulation via holography	Harriet Apel, Toby Cubitt, Patrick Hayden, Tamara Kohler and David Pérez-García
	1F, R101 AB		17:00-17:30	269	Black-Hole Radiation Decoding is Quantum Cryptography	Zvika Brakerski
	1F, R101 AB		17:30-18:00	214	What exactly does Bekenstein bound?	Patrick Hayden and Jinzhao Wang
	1F, R101 CD	Learn	15:30-16:00	514	Certifying highly-entangled states from few single-qubit measurements	Hsin-Yuan Huang, John Preskill and Mehdi Soleimanifar
	1F, R101 CD		16:00-16:30	274	The advantage of quantum control in many-body Hamiltonian learning	Alicja Dutkiewicz, Thomas O'Brien and Thomas Schuster
	1F, R101 CD		16:30-17:00	110	Learning Quantum States With Respect to the Stabilizer Formalism	Sabee Grewal, Vishnu Iyer, William Kretschmer and Daniel Liang
	1F, R101 CD		17:00-17:30	245	Efficient learning of ground & thermal states within phases of matter	Emilio Onorati, Cambyse Rouze, Daniel Stilck França and James Watson
	1F, R101 CD			249	Provably Efficient Learning of Phases of Matter	Emilio Onorati, Cambyse Rouze, Daniel Stilck França and James Watson
	1F, R101 CD		17:30-18:00	427	A Unified Theory of Barren Plateaus for Deep Parametrized Quantum Circuits	Marco Cerezo, Michael Ragone, Bojko N. Bakalov, Frederic Sauvage, Alexander F. Kemper, Carlos Ortiz Marrero and Martin Larocca
	1F, R101 CD		563	The Adjoint Is All You Need: Characterizing Barren Plateaus in Quantum Ansätze	Enrico Fontana, Dylan Herman, Shouvanik Chakrabarti, Niraj Kumar, Romina Yalovetzky, Jamie Heredge, Shree Hari Sureshbabu and Marco Pistoia	
	2F, R201 ABC	ALG3	15:30-16:00	400	A Quantum Speed-Up for Approximating the Top Eigenvector of a Matrix	Yanlin Chen, András Gilyén and Ronald de Wolf
	2F, R201 ABC		16:00-16:30	527	Non-Linear Transformations of Quantum Amplitudes: Exponential Improvement, Generalization, and Applications	Arthur Rattew and Patrick Rebentrost
	2F, R201 ABC		16:30-17:00	543	Quantum eigenvalue processing	Guang Hao Low and Yuan Su
	2F, R201 ABC		17:00-17:30	395	Linear combination of Hamiltonian simulation for non-unitary dynamics with optimal state preparation cost	Dong An, Jin-Peng Liu and Lin Lin
	2F, R201 ABC		17:30-18:00	283	Breaking badly: unexpected Trotter error scaling for realistic quantum systems	Daniel Burgarth, Paolo Facchi, Alexander Hahn, Mattias Johansson and Kazuya Yuasa

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Jan. 19 (Friday)	1F, R101 AB	ALG4	13:30-14:00	53	Efficient Quantum State Synthesis with One Query	Gregory Rosenthal
	1F, R101 AB		14:00-14:30	510	A One-Query Lower Bound for Unitary Synthesis and Breaking Quantum Cryptography	Alex Lombardi, Fermi Ma and John Wright
	1F, R101 AB		14:30-15:00	435	Quantum complexity of the Kronecker coefficients	Sergey Bravyi, Anirban Chowdhury, David Gosset, Vojtech Havlicek, Christian Ikenmeyer, Sathyawageeswar Subramanian and Guanyu Zhu
	1F, R101 CD	MB2	13:30-14:00	188	Analysis of SoS Relaxations for the Quantum Rotor Model	Sujit Rao
	1F, R101 CD		14:00-14:30	362	Matrix product state approximations to quantum states of low energy variance	Kshiti Sneh Rai, J. Ignacio Cirac and Álvaro M. Alhambra
	1F, R101 CD		14:30-15:00	553	Certified algorithms for equilibrium states of quantum lattice systems	Hanma Fawzi, Omar Fawzi and Samuel Scalet
	2F, R201 ABC	QQ	13:30-14:00	166	Quantum query complexity of functions of matrices	Ashley Montanaro and Changpeng Shao
	2F, R201 ABC		14:00-14:30	202	Query-optimal estimation of unitary channels in diamond distance	Jeongwan Haah, Robin Kothari, Ryan O'Donnell and Ewin Tang
	2F, R201 ABC		14:30-15:00	447	The Power of Adaptivity in Quantum Query Algorithms	Uma Girish, Avishay Tal, Kewen Wu and Makrand Sinha
	1F, R101 AB	Found	15:30-16:00	254	Quantum Uncertainty Principles for Measurements with Interventions	Yunlong Xiao, Yuxiang Yang, Ximing Wang, Liu Qing and Mile Gu
	1F, R101 AB		16:00-16:30	66	Self-duality and Jordan structure of quantum theory follow from homogeneity and pure transitivity	Howard Barnum, Cozmin Ududec and John van de Wetering
	1F, R101 AB		16:30-17:00	37	Commuting operations factorise	Renato Renner and Ramona Wolf
	1F, R101 CD	MB3	15:30-16:00	104	The resource theory of tensor networks	Matthias Christandl, Vladimir Lysikov, Vincent Steffan, Albert Werner and Freek Witteveen
	1F, R101 CD		16:00-16:30	259	Matrix product algebras and their application for phase classification	David Pérez-García, Andras Molnar, Alberto Ruiz-de-Alarcón, José Garre Rubio, Norbert Schuch and Ignacio Cirac
	1F, R101 CD		16:30-17:00	328	Classification of dynamical Lie algebras for translation-invariant 2-local spin systems in one dimension	Roeland Wiersema, Efehan Kökcü, Alexander Kemper and Bojko Bakalov
	1F, R101 CD		17:00-17:30	377	Towards a unification of different measures of correlations and locality in Gibbs states	Andreas Bluhm, Ángela Capel, Massimo Moscolari, Antonio Pérez Hernández, Stefan Teufel and Tom Wessel
	2F, R201 ABC	IT5	15:30-16:00	67	Connecting entanglement distillation and entanglement testing with restricted measurements	Ludovico Lami and Bartosz Regula
	2F, R201 ABC		16:00-16:30	134	Entanglement cost for infinite-dimensional physical systems	Hayata Yamasaki, Kohdai Kuroiwa, Patrick Hayden and Ludovico Lami
	2F, R201 ABC		16:30-17:00	146	Bypassing Joint Typicality in Network Quantum Shannon Theory	Pau Colomer, Andreas Winter, Mario Berta, Hao-Chung Cheng and Li Gao
	2F, R201 ABC		17:00-17:30	419	The Schmidt rank for the commuting operator framework	Lauritz van Luijk, René Schwonnek, Alexander Stottmeister and Reinhard F. Werner