QPL 2026 program (17 – 21 August 2026 in Amsterdam, NL)

Overview of the program

Welcome to Amsterdam! Registration opens at 8:50 AM on Monday, August 17, at the University of Amsterdam's Roeterseiland campus. The conference runs through Friday, August 21, 2026, with three parallel sessions each afternoon. On Wednesday, there is a boat tour and conference dinner after the parallel sessions.

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Monday, August 17th

8:50 – 9:30	Registration
Long plenary talks	
9:30 – 10:15	Alex Maltesson, Ludvig Rodung, Niklas Budinger, Giulia Ferrini, Cameron Calcluth **Equivalence of continuous- and discrete-variable gate-based quantum computers with finite energy**
10:15 – 11:00	Raphaël Mothe, Jessica Bavaresco **Efficient quantum-circuit simulation of classical control of causal order**
Coffee break	
Short plenary talks	
11:30 – 11:55	Vinicius Pretti Rossi, Beata Zjawin, Roberto D. Baldijão, David Schmid, John H. Selby, Ana Belén Sainz **How typical is contextuality?**
11:55 – 12:20	Dichuan Gao, Razin A. Shaikh, Aleks Kissinger **Graphical algebraic geometry: from ideals and varieties to qudit ZH completeness**
Lunch break	

	Parallel A	Parallel B	Parallel C
14:30 – 14:55	Yîlè Yīng, Maria Ciudad Alanon, Daniel Centeno, Jacopo Surace, Marina Maciel Ansanelli, Ruizhi Liu, David Schmid, Robert Spekkens **On whether quantum theory needs complex numbers: the foil theories perspective**	Tomoaki Kawano, Ryo Kashima **Restricted negation in orthomodular logic**	Alexandre Clément **A complete equational theory for real-Clifford+CH quantum circuits**
14:55 – 15:20	Timothée Hoffreumon, Mischa P. Woods **On the experimental falsification of real QT / A real matrix theory consistent with QT (merged)**	Alexandru Baltag, Sonja Smets **Logic meets Wigner's friend (and their friends)**	Xiaoning Bian, Sarah Meng Li, Neil J. Ross, John van de Wetering, Yuming Zhao **A complete and natural rule set for multi-qudit Clifford circuits in all odd prime dimensions**
15:20 – 15:45	Roberto D. Baldijão, Marco Erba, David Schmid, John Selby, Ana Belén Sainz **Tomographically-nonlocal entanglement**	Bert Lindenhovius, Vladimir Zamdzhiev **Operator spaces, linear logic and the Heisenberg–Schrödinger duality of quantum theory**	Colin Blake **Completeness for prime-dimensional phase-affine circuits**
Coffee break			
16:15 – 16:40	Beata Zjawin, Marina Maciel Ansanelli, David Schmid, Yîlè Yīng, John H. Selby, Ciarán M. Gilligan-Lee, Ana Belén Sainz, Robert Spekkens **The resource theory of causal influence and knowledge of causal influence**	Priyaa Varshinee Srinivasan, Jean-Simon Pacaud Lemay, Robin Cockett **Generalized inverses of quantum channels: a categorical perspective**	Fedor Kuyanov, Aleks Kissinger **Efficient classical simulation of low-rank-width quantum circuits using ZX-calculus**

16:40 – 17:05	Leonardo Vaglini, Nasra Daher Ahmed, Ravi Kunjwal **Causal inequalities witness non-stabilizerness without magic**	Andre Kornell, Bert Lindenhovius **The category of quantum graphs is closed**	Kwok Ho Wan, Zhenghao Zhong, Ainhoa Zapirain **Simulating magic state cultivation with few Clifford terms**
17:05 – 17:30	Carla Ferradini, Giulia Mazzola, V. Vilasini **Emergent causal order and time direction: bridging causal models and tensor networks**	James Hefford **Nuclearity and trace in monoidal bicategories with application to extended CFTs**	Mark Koch **Classical Clifford+T sampling without computing marginals**

Tuesday, August 18th

Long plenary talks	
9:30 – 10:15	Maximilian Rüsch, Aleks Kissinger, Benjamin Rodatz / Benjamin Rodatz, Boldizsár Poór, Aleks Kissinger **Completeness for fault equivalence of Clifford ZX diagrams / Fault tolerance by construction**
10:15 – 11:00	Samson Abramsky, Rui Soares Barbosa, Carmen Constantin, Martti Karvonen **Algebraic paradoxes in adaptive quantum computation**
Coffee break	
Short plenary talks	
11:30 – 11:55	Manuel Mekonnen, Thomas D. Galley, Markus P. Müller **Invariance under quantum permutations rules out parastatistics**
11:55 – 12:20	Marek Arsenault, Hlér Kristjánsson **A higher-order perspective on quantum signal processing**
Lunch break	

	Parallel A	Parallel B	Parallel C
14:30 – 14:55	Andrey Boris Khesin, Sarah Meng Li, Boldizsár Poór, Benjamin Rodatz, John van de Wetering, Richie Yeung **SpiderCat: optimal fault-tolerant cat state preparation**	Daniel Brod, Lorenzo Catani, Robert Spekkens **The toy theory is the unique noncontextual theory satisfying A_1^3-symmetry**	Matthew Wilson **Agent policies from higher-order causal functions**
14:55 – 15:20	Kwok Ho Wan, Henry Price, Qing Yao **Holographic codes seen through ZX-calculus**	Tim Achenbach, Andreas Bluhm, Leevi Leppäjärvi, Ion Nechita, Martin Plávala **Factorization of multimeters: a unified view on nonclassical quantum phenomena**	V. Vilasini, Lin-Qing Chen, Liuhang Ye, Renato Renner **Events and their localisation are relative to a lab**
15:20 – 15:45	Cole Comfort, Giovanni de Felice **The delayed stabiliser ZX-calculus**	Cihan Okay, Aziz Kharoof **The geometry of fiber products of probability polytopes**	Zixuan Liu, Ognyan Oreshkov **Parity erasure: a foundational principle for indefinite causal order**
Coffee break			
16:15 – 16:40	Vincenzo Fiorentino, Kuntal Sengupta **Superposition and its connections to uncertainty, entanglement and the quantum tensor product**	Tom Williams, Mina Doosti, Farid Shahandeh **Sheaf-theoretic preparation contextuality via stochastic extension**	Luca Apadula, Alexei Grinbaum, Časlav Brukner **Reference frames for process matrices: from coordinate parametrization to spacetime representation**
16:40 – 17:05	Gaurang Agrawal, Matt Wilson **Deriving the generalised Born rule from first principles**	Theodoros Yianni, Farid Shahandeh, Nyan Raess **Linear algebra of generalized contextuality in prepare-transform-measure scenarios**	Yassine Benhaj, Kuntal Sengupta, Cyril Branciard **How many systems can be dephased before the quantum switch becomes causally definite?**

17:05 – 17:30	James Hefford, Matt Wilson **Quantum theory can decohere from a causally-indefinite post-quantum theory**	David Schmid, Roberto D. Baldijão, John Selby, Ana Belen Sainz, Robert W. Spekkens **Noncontextuality inequalities for prepare-transform-measure scenarios**	Raphaël Le Bihan, Alastair Abbott, Mnacho Echenim **Probing the composition of processes with first-order-ISOMIX logic**
Poster session (with reception) 17:30 – 19:30			

Wednesday, August 19th

Long plenary talks	
9:30 – 10:15	Miriam Backens, Simon Perdrix / Miriam Backens **Completeness for flow-preserving rewrite rules / Generating one-way computations with flow: flow-preserving rewriting that ignores the interpretation**
10:15 – 11:00	Quanlong Wang, Richard D. P. East, Razin A. Shaikh, Lia Yeh, Boldizsár Poór, Bob Coecke **Beyond Penrose tensor diagrams with the ZX calculus: applications to quantum computing, quantum machine learning, condensed matter physics, and quantum gravity**
Coffee break	
Industry session 11:30 – 12:20	
Lunch break	

	Parallel A	Parallel B	Parallel C
14:30 – 14:55	Luca Apadula, Alessandro Bisio, Giulio Chiribella, Paolo Perinotti, Kyrylo Simonov **Higher-order transformations of bidirectional quantum processes**	Nathan Claudet, Simon Perdrix **Insights in graph state entanglement via r-local complementation: structure and a quasi-polynomial algorithm**	Pablo Arrighi, Doğukan Bakircioglu, Nathan Houyet **Quantum theory over dual-complex numbers**
14:55 – 15:20	Matthew Wilson, James Hefford, Timothée Hoffreumon **Supermaps on generalised theories**	Piotr Mitosek, Miriam Backens **Working with measurement-based computations on qudits**	Nicolas Moulonguet, Augustin Vanrietvelde **Subsystems as subsets of quantum channels, and the strange case of blind agents**
15:20 – 15:45	Samson Abramsky, Radha Jagadeesan **Essential unitarity for higher-order quantum computation**	Aleks Kissinger, John van de Wetering **ZX-flow: a flexible criterion for deterministic computation with ZX-diagrams**	John Harding, Alexander Wilce **Classical explanations in (and of) general probabilistic theories**
Coffee break			
16:15 – 16:40	Thomas Bartsch, Yuhan Gai, Sakura Schäfer-Nameki **Beyond Wigner – how non-invertible symmetries preserve probabilities**	Haytham McDowall-Rose, Razin A. Shaikh, Lia Yeh **From fermions to qubits: a ZX-calculus perspective**	Amrapali Sen, Flavio Del Santo **Superluminal transformations and indeterminism**
16:40 – 17:05	Vanessa Brzić, Satoshi Yoshida, Mio Murao, Marco Túlio Quintino **Higher-order quantum computing with known input states**	Lia Yeh, Jiaxin Huang, Aleks Kissinger, Sarah Meng Li, John van de Wetering **A three-way normal form for stabiliser codes across ZX diagrams, circuits, and tableaus**	Maarten Grothus, V. Vilasini **Impossibility of superluminal signalling rules out causal loops in conical spacetimes**
Boat tour 17:30 – 18:30			
Conference dinner starting 19:00			

Thursday, August 20th

Long plenary talks	
9:30 – 10:15	Cole Comfort, Robert I. Booth **Denotational semantics for stabiliser quantum programs**
10:15 – 11:00	Kathleen Barsse, Romain Péchoux, Simon Perdrix **Quantum control and general recursion beyond the unitary case**
Coffee break	
Short plenary talk	
11:30 – 11:55	Aabhas Gulati, Ion Nechita, Clément Pellegrini **Entanglement in the Dicke subspace**
Conference photo 11:55 – 12:20	
Lunch break	

	Parallel A	Parallel B	Parallel C
14:30 – 14:55	Arianne Meijer-van de Griend, Leo Becker **Pauli gadget synthesis for gatesets with arbitrary even-arity Clifford gates**	Haruki Emori **Quantum statistical functions**	Nadish de Silva, Santanil Jana, Ming Yin **Three-qubit nonlocality paradoxes: beyond GHZ**
14:55 – 15:20	Soichiro Yamazaki, Seiseki Akibue **Multi-qubit controlled gate with optimal T-count**	Michael Zurel, Jack Davis **Basis-independent stabilizerness and maximally noisy magic states**	Shashaank Khanna, Matthew Pusey, Roger Colbeck **Identifying causal structures which cannot support quantum correlations without fine-tuning**
15:20 – 15:45	Akash Kundu **Tensor and gadget reinforcement learning for improved, hardware-aware quantum architecture search**	Cameron Calcluth, Oliver Hahn, Juani Bermejo Vega, Alessandro Ferraro, Giulia Ferrini **Classical simulation of circuits with realistic odd-dimensional Gottesman–Kitaev–Preskill states**	C. E. Lopetegui-Gonzalez, G. Masse, E. Oudot, U. I. Meyer, F. Centrone, F. Grosshans, P. E. Emeriau, U. Chabaud, M. Walschaers **A unified framework for Bell inequalities from continuous-variable contextuality**
15:45 – 16:10	Mark Deaconu, Nihar Gargava, Amolak Ratan Kalra, Michele Mosca, Jon Yard **Buildings for synthesis with Clifford+R**	Massimo Frigerio, Mattia Walschaers, Andrei Aralov, Carlos Ernesto Lopetegui-Gonzalez, Emilie Gillet **Algebraic techniques for photonic state preparation and characterization**	Martin J. Renner, Edwin Peter Lobo, Arturo Konderak, Remigiusz Augusiak, Antonio Acín **Full nonlocality for non-maximally entangled states**
Coffee break 16:10 – 16:40			
Career fair 16:40 – 19:00			

Friday, August 21st

Long plenary talks	
9:30 – 10:15	Thea Li, Vladimir Zamdzhiev **Quantum coherence spaces revisited: a von Neumann (co)algebraic approach**
10:15 – 11:00	Matilde Baroni, Dominik Leichtle, Ivan Šupić, Damian Markham, Marco Túlio Quintino **Composable simultaneous purification: when all communication scenarios reduce to spatial correlations**
Coffee break	
Business meeting 11:30 – 12:20	
Lunch break	

	Parallel A	Parallel B	Parallel C
14:30 – 14:55	Simon Burton, Hussain Anwar **Meromorphic quantum computing**	Noé Delorme, Simon Perdrix **Diagrammatic reasoning with control as a constructor, applications to quantum circuits**	David Schmid, John H. Selby, Vinicius Pretti Rossi, Roberto D. Baldijão, Ana Belén Sainz **Shadows and subsystems of generalised probabilistic theories: when tomographic incompleteness is not a loophole for contextuality proofs**
14:55 – 15:20	Christine Li, Lia Yeh **Transversal AND in quantum codes**	Chris Heunen, Robin Kaarsgaard, Louis Lemonnier **One rig to control them all**	Jan-Åke Larsson **The contextual Heisenberg microscope**
15:20 – 15:45	Jin Ming Koh, Anqi Gong, Andrei C. Diaconu, Daniel Bochen Tan, Alexandra A. Geim, Michael J. Gullans, Norman Y. Yao, Mikhail D. Lukin, Shayan Majidy **Phantom codes: entangling logical qubits without physical operations**	William Schober, Scott Wesley **A complete equational theory for quantum circuits with generalized control**	Daniel McNulty **Quantifying quantum measurement incompatibility via graph invariants**
Coffee break			
16:15 – 16:40	Vivien Vandaele **Asymptotically optimal quantum circuits for comparators and incrementers**	Sacha Cerf, Harold Ollivier **The perturbative method for quantum correlations**	Raffaele D'Avino, Lorenzo Caramelli, Raja Yehia, Gabriel Senno, Roberto González Pousa, Antonio Acín, Tamás Kriváchy **Device independent quantum key distribution with a single measurement per site**
16:40 – 17:05	Giuseppe De Riso, Giuseppe Catalano, Seth Lloyd, Vittorio Giovannetti, Dario De Santis **A resource-efficient quantum-walker quantum RAM**	Subhendu Bikas Ghosh, Snehasish Roy Chowdhury, Guruprasad Kar, Arup Roy, Tamal Guha, Manik Banik **Strong inequivalence of quantum nonlocal resources**	Paul Becsi, Matthew Joseph Hoban **Bounding classical and quantum correlations in Bayesian networks with quasiprobabilities**
End of QPL 2026. Goodbye!			