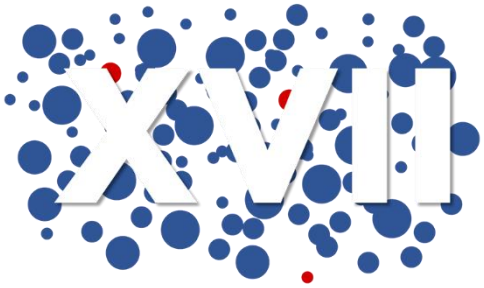
National Quantum Information Centre in Gdańsk (KCIK) & International Centre for Theory of Quantum Technologies (ICTQT)



XVII Symposium KCIK-ICTQT on
QUANTUM INFORMATION
13-15 May 2026, Sopot-Gdańsk, Poland

PROGRAMME

Venue: Centrum Dydaktyczno-Konferencyjne (Conference Centre), University of Gdańsk, 9 Piaskowa Str., **Sopot (sessions I-VIII)**
Faculty of Mathematics, Physics and Informatics, University of Gdańsk, 57 Wita Stwosza Str., **Gdańsk (session IX)**

Wednesday, May 13

08:30	Registration & networking	
09:30 – 09:40	**Welcome Speeches**	
Session I	**Foundations**	**Chair:** Marek Żukowski
09:40 – 10:10	**Philippe Grangier**	*Heading towards an Algebraic Heisenberg Cut*
10:10 – 10:40	**Marek Czachor**	*Swapping Space for Time: A new and quite counterintuitive type of quantum interferometry*
10:40 – 11:10	**Michał Eckstein**	*A unified framework for causation and correlations in relativistic spacetimes*
11:10 – 11:40	**Sohyun Park**	*Can tachyons explain all possible non-local effects?*
	Coffee break & networking	
Session II	**Quantum Information and Technologies**	**Chair:** Jakub Rembieliński
12:20 – 12:50	**Josef Lazar**	*Quantum Technology Landscape at the Czech Academy of Sciences and Beyond*
12:50 – 13:20	**Jan Kołodyński**	*Quantum information meets particle physics: Detecting entanglement in para-positronium annihilation photons*
13:20 – 13:50	**Michał Gawełczyk**	*Controlling quantum dot charge and spin states with sound*
	Lunch & networking	
Session III	**Many body quantum systems**	**Chair:** Dariusz Chruściński
15:20 – 15:50	**Giovanna Morigi**	*Time complexity of a monitored quantum search with resetting*
15:50 – 16:20	**Volodymyr Tkachuk**	*Encoding the Decision Partition Problem in Central-Spin Hamiltonians and Solving It on Quantum Processors*
16:20 – 16:50	**Tristan Kraft**	*Bounded-Error Quantum Simulation via Hamiltonian and Lindbladian Learning*
16:50 – 17:20	**Pedro Nicacio Falcao**	*Nonstabilizerness dynamics in many-body localized systems*
19:00	Banquet (“Nad Potokiem” restaurant, 4 Morska Str., 80-341 Gdańsk)	

Thursday, May 14

09:00	Registration & networking	
Session IV	**Quantum Computing: Complexity and Tensor Networks**	**Chair:** Karol Życzkowski
09:30 – 10:00	**Ignacio Cirac**	*Efficient Preparation and Manipulation of Tensor Network Quantum States*
10:00 – 10:30	**Barbara Kraus**	*Phases of matrix-product states with symmetries and measurements*
10:30 – 11:00	**Michał Oszmaniec**	*Towards verifiable and useful quantum advantage in photonics*
11:00 – 11:30	**Łukasz Pawela**	*Closing the scaling gap: towards fair quantum-classical runtime comparisons*
	Coffee break & networking	
Session V	**Machine Learning and Correlations**	**Chair:** Mariusz Gajda
12:15 – 12:45	**Sergii Strelchuk**	*From Classical to Quantum Learning Theory: Learnability, Boosting and Quantum Advantage*
12:45 – 13:15	**Karol Bartkiewicz**	*Spin chirality across quantum state copies detects hidden entanglement*
13:15 – 13:45	**Marek Krośnicki**	*Electronic structure of ^{229}Thorium-Doped CaF_2 crystals. A step towards to Nuclear Clocks*
	Conference photo	
	Lunch & networking	
Session VI	**Quantum Coding**	**Chair:** Zbigniew Puchala
15:20 – 15:50	**Andre Chailloux**	*Quantum algorithms for decoding problems inspired by Regev's reduction*
15:50 – 16:20	**Khrystyna Gnatenko**	*Properties of Multiqubit Quantum States Representing n-Partite Graphs and Their Quantification Using Quantum Computing*
16:20 – 16:50	**Marcin Jarzyna**	*Coherent beam combination in the photon starved regime*
	Break	
17:10 – 18:30	Closed meeting of the KCIK Scientific Council	

Friday, May 15

09:00	Registration & networking	
Session VII	**Physical Platforms and Nonclassical states**	**Chair:** Adam Miranowicz
09:30 – 10:00	**Mohamed Bourennane**	*Topological quantum photonics*
10:00 – 10:30	**Marcin Markiewicz**	*When interference is not enough: a definitive Bell test for path-identity experiments*
10:30 – 11:00	**Zbigniew Ficek**	*Nonreciprocity in bosonic coupling without breaking time-reversal symmetry*
	Coffee break & networking	

Session VIII	**Quantum Resources and Detection**	**Chair:** Paweł Machnikowski
11:40 – 12:10	**Paweł Caban**	*Violation of Bell inequalities in 2×3 dimensional systems*
12:10 – 12:40	**Gniewomir Sarbicki**	*Third-Order Local Randomized Measurements for Finite-size Entanglement Certification*
12:40 – 13:10	**Piotr Kopszak**	*Entanglement recycling in two-step port-based teleportation*
	Lunch & networking	
Session IX	**PUBLIC SESSION**	**Chair:** Marcin Marciniak
	Venue: Faculty of Mathematics, Physics and Informatics, University of Gdańsk, 57 Wita Stwosza Str, **Gdańsk**	
15:00 – 17:00	**Poster Session**	
17:00 – 17:45	**Philippe Grangier**	*Quantum Mechanics: from Fundamental Principles to Technological Revolutions*
17:45 – 18:00	**Questions from the audience**	
18:00 – 18:15	**Final Speech**	

List of posters

1.	Dhruv	**Baheti**	*Dyanamics Cross-Resource Recycling on Networks*
2.	Gerard	**Anglès Munné**	*Holographic quantum codes with trapped ions*
3.	Artur	**Barasiński**	*Efficient Characterization of Quantum Correlations in Three-Beam Gaussian Fields via Photon-Number-Resolving Detection*
4.	Luis Cort	**Barrada**	*Classical–Quantum Hybrid Algorithms for Constrained Search in Imaginary Time*
5.	Jiafu	**Cheng**	*Optimal Choice of Guessed Channels in Quantum Noise Deconvolution with Partially Known Noise*
6.	Przemysław	**Czapla**	*Towards Rigorous Entanglement Detection of Para-Positronium Annihilation Photons*
7.	Mikołaj	**Czechlewski**	*On polynomial distillation of quantum entanglement and private key*
8.	Bogdan S.	**Damski**	*Product Weyl–Heisenberg Covariant Mutually Unbiased Bases and Extremal Non-Stabilizerness*
9.	Otavio Augusto	**Dantas Molitor**	*Quantum Computation with Decoherence-Free Subsystems within the Mixed Schur-Weyl Duality*
10.	Jorge	**Escandón-Monardes**	*Multiparameter estimation with a photonic quantum switch*
11.	Alfonso	**Fernandez**	*Towards Characterizing the Reachable Set for Qubit Evolution Under Constrained Lindblad Dynamics*
12.	Markus	**Grassl**	*An Update on the SIC-POVM Problem*
13.	Mykhailo	**Hontarenko**	*Towards Characterizing the Reachable Set for Qubit Evolution Under Constrained Lindblad Dynamics*
14.	Michał	**Horodecki**	*Modular Machine for On-Chip Autonomous Energy Transport in cQED*
15.	Felix	**Huber**	*A Lovász theta lower bound on Quantum Max Cut*
16.	Ryszard	**Kukulski**	*High-rate QKD*

17.	Mateusz	**Kuniej**	*Higher-harmonic acoustic control of a quantum emitter*
18.	Wiesław	**Leoński**	*Violation of the inequalities for the correlations in space and time for various states* *Poster 1: The Legget-Garg inequality violation for two-mode Kerr-type stat* *Poster 2: The Bell-CHSH inequality violations 'identification and quantification for W-Class States*
19.	Paulina	**Lewandowska**	*Shared entanglement for three-party causal order guessing game*
20.	Antonio	**Mandarino**	*Statistics of topological defects across a phase transition in a digital superconducting quantum processor*
21.	Patryk	**Michalski**	*Certifying Majorana Fermions with Bipartite and Network Bell Inequalities*
22.	Vikash	**Mittal**	*Discrete time quantum walk of locally interacting walkers*
23.	Muhammad	**Mohsin**	*Violation of CGLMP inequality in two-qutrit System*
24.	Moein	**Naseri**	*Noise Cancellation in Quantum Battery Charging*
25.	Ritopriyo	**Pal**	*Persistent local content of GME qubit states under finite von Neumann measurements*
26.	Aby	**Philip**	*Robustness of quantum data hiding against entangled catalysts and memory*
27.	Hanussek	**Philipp**	*Quantum-inspired dynamical models on quantum and classical annealers*
28.	Lucas	**Pollyceno**	*Security of DIQKD from multipartite information causality*
29.	Diego	**Ponterio**	*Product Weyl-Heisenberg covariant mutually unbiased bases and extremal non-stabilizerness*
30.	Sumit	**Rout**	*Quantum Work Extraction beyond Classical Limits*
31.	Juan Pablo	**Rubio Perez**	*Efficient classical training of Quantum Circuit Born Machines beyond binary outputs*
32.	Marcin	**Rudziński**	*Entangling power and Schmidt-resolved fidelity diagnostics for two-qubit quantum channels*
33.	Matthias	**Salzger**	*Higher-order quantum processes respecting closed labs in a spacetime have quantum controlled causal order*
34.	Luís Felipe	**Santos**	*Waiting time statistics for a double quantum dot coupled to an optical cavity*
35.	Shubhayan	**Sarkar**	*Entanglement is not sufficient for most practical entanglement-based QKD protocols*
36.	Marek	**Sawerwain**	*Quantum features in handwritten images of digits and letters*
37.	John	**Selby**	*Generalised Process Theories*
38.	Amrapali	**Sen**	*Superluminal Transformations and Indeterminism*
39.	Michał	**Senderski**	*Modeling Nanodiamond Clusters for NV Center-Based Quantum Technologies*
40.	Leonard	**Sikorski**	*Update on the Bound Key Conjecture*
41.	Chirag	**Srivastava**	*Quantum waste management: Utilizing residual states in quantum information processing*
42.	Jędrzej	**Stempin**	*Locally interacting Discrete-Time Quantum Walk of Multiple Particles*
43.	Alexander	**Streltsov**	*Second Law of Entanglement Manipulation with Entanglement Battery*
44.	Michał	**Studziński**	*Oscillator partition functions in walled Brauer algebras*
45.	Gianluigi	**Tartaglione**	*Uncertainty equality for SU(N) observables enabling the experimentally friendly detection of k-inseparability via purity measurements*

46.	Masood	**Valipour**	*Optimization of two-photon absorption: Indistinguishable photon pairs*
47.	Marek	**Winczewski**	*Energy Cost of a Quantum Operation: From Axioms to a Hamiltonian Framework*
48.	Jakub	**Wójcik**	*On Non-Existence of Stabilizer Absolutely Maximally Entangled States in Even Local Dimensions*
49.	Jan	**Wójcik**	*Mean hitting time perspective on quantum advantage in quantum walk model*
50.	Adamantia	**Zampeli**	*(Relativistic) quantum causal instruments*
51.	Beata	**Zjawin**	*How typical is contextuality?*

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