



XV Symposium KCIK-ICTQT on
QUANTUM INFORMATION
16-18 May 2024, Sopot, Poland

PROGRAMME

Venue: Centrum Dydaktyczno-Konferencyjne (Conference Centre) 81-864 Sopot, Piaskowa 9 Street

Thursday, May 16

08:30 – 09:00	Registration	
09:00 – 09:10	Opening ceremony Piotr Stepnowski, Rector of the University of Gdańsk	
Session I	Chair: Paweł Horodecki	
09:10 – 09:35	Charles Bennett	<i>How Science, and Scientists individually, can stabilize democracies against misinformation-driven discord and disintegration</i>
09:35 – 10:00	Lorenzo Maccone	<i>Mutual Information Bounded by Fisher Information</i>
10:00 – 10:25	Felix Leditzky	<i>Enhancing classical communication networks with quantum resources</i>
	<i>Coffee break – 40 min</i>	
Session II	Chair: Adam Miranowicz	
11:05 – 11:30	Christiane P. Koch	<i>Minimizing resources for quantum devices with control theory</i>
11:30 – 11:55	Paweł Caban	<i>Entanglement and Bell violation in H to ZZ decay with anomalous coupling</i>
12:55 – 12:20	Marcin Płodzień	<i>Generation and storage of many-body quantum correlations in analog and digital quantum simulators</i>
	<i>Lunch – 100 min</i>	

Session III	Chair: Tomasz Sowiński	
14:00 – 14:25	Volodymyr Tkachuk	<i>Simulation of spin systems with quantum computers</i>
14:25 – 14:50	Tomasz Śmierzchalski	<i>AI-Powered Error Correction for Quantum Annealers</i>
14:50 – 15:15	Piotr Kolenderski	<i>Quantum technologies based on single photons</i>
15:15 – 15.20	Final remarks	
<i>Coffee break – 40 min</i>		

Special Evening Session	Chair: Adam Sawicki	
16:00 – 16:15	Distinguished PhD Thesis 2023	
16:15 – 16:40	Silver KCIK Award 2023	
16:40 –	Charles Bennett	<i>Evening lecture on the early history of quantum information</i>
19:00 -	Dinner speeches	Conference dinner (Restaurant "Nad potokiem", Morska 4 Street , Gdańsk-Jelitkowo)

Friday, May 17

Session V	Chair: Marek Żukowski	
09:20 – 09:45	Lev Vaidman	<i>An update on counterfactual communication</i>
09:45 – 10:10	Marco Genovese	<i>New perspectives in quantum imaging: quantum-enhanced quantitative phase imaging</i>
10:10 – 10:35	Rafał Demkowicz-Dobrzański	<i>Quantum metrology using quantum combs and tensor network formalism</i>
10:35 – 11:00	Artur Barasiński	<i>Quantification of Quantum Correlations in Gaussian States Using Photon-Number Measurements</i>
<i>Coffee break – 40 min</i>		

Session VI	Chair: Jakub Rembieliński	
11:40 – 12:05	Jukka Pekola	<i>Trajectory-based detection in stochastic and quantum thermodynamics</i>
12:05 – 12:30	Hermann Kampermann	<i>Tight finite secret key rates for the six state protocol</i>
12:30 – 12:55	Paweł Kurzyński	<i>Exposing Hypersensitivity in Quantum Chaotic Dynamics</i>
12:55 – 13:20	Alexandre Orthey	<i>Progress on device-independent and almost device-independent schemes of certification of quantum states and measurements</i>
Conference photo		
<i>Lunch – 100 min (including the photo)</i>		

Session VII	Chair: Andrzej Grudka	
15:00 – 15:25	Khrystyna Gnatenko	<i>Studies of the properties of weighted and directed graphs on a quantum computer</i>
15:25 – 15:50	Aleksander Lasek	<i>Non-Abelian symmetry can increase entanglement entropy</i>
15:50 – 16:15	Pradeep Kiran Sarvepalli	<i>Quantum communication complexity of secret sharing: An emerging direction</i>

16:15 – 16:40	Piotr Mironowicz	<i>Entanglement Assisted Collaboration</i>
16:40 – 16.50	Final remarks	
17:00 – 19:00	Poster session	

Saturday, May 18

Session VIII	Chair: Karol Życzkowski	
09:20 – 9:45	Oriol Romero-Isart	<i>Levitated Nanoparticles in Macroscopic Quantum Superpositions: Pushing the Boundaries of Quantum Mechanics</i>
09:45 – 10:10	Paweł Machnikowski	<i>Controlling photons with acoustic fields using a solid-state quantum emitter</i>
10:10 – 10:35	Vahid Karimipour	<i>The noisy Werner-Holevo channel and its properties</i>
10:35 – 11:00	Marek Sawerwain	<i>On the use of Fredholm determinants to analysis the entropy of quantum infinite-dimensional systems</i>
<i>Coffee break – 40 min</i>		
Session IX	Chair: Zbigniew Puchała	
11:40 – 12:05	Akshata Shenoy	<i>Quantum machine learning powered quantitative finance</i>
12:05 – 12:30	Piotr Szańkowski	<i>Phenomenological Quantum Mechanics: deducing the formalism from experimental observations</i>
12:30 – 12:55	Jakub Czartowski	<i>Iso-entangled Measurements: Uncharted Territory in Quantum Entanglement</i>
12:55 – 13:00	Final remarks	
<i>Lunch – 90 min</i>		
14:30 – 16:00	Meeting of the KCIK Scientific Council	

Organizers

