



UNIWERSYTET GDAŃSKI



KRAJOWE CENTRUM INFORMATYKI KWANTOWEJ W GDAŃSKU  
National Quantum Information Centre in Gdańsk  
[www.kcik.ug.edu.pl](http://www.kcik.ug.edu.pl)

SYMPOSIUM KCIK  
*Quantum Resources*  
MAY 24-26, 2018

PROGRAMME

**Thursday, May 24**

08:50 – 09:30	Registration	
09:30 – 09:40	<b>Wiesław Laskowski, Vice-Dean for Research and Development, Faculty of Mathematics, Physics and Informatics, University of Gdańsk</b>	Opening ceremony
	Chair: Marek Czachor	
09:40 – 10:10	Iwo Białynicki-Birula	<b>Trapping of bodies by gravitational waves endowed with angular momentum</b>
10:10 – 10:40	Anna Sanpera	<b>Quantum thermometry: the art of estimating very cold temperatures</b>
10:40 – 11:10	Gregory A. Howland	<b>Practical approaches for experimentally characterizing large quantum systems</b>
11:10 – 11:40	<b>Coffee break</b>	
	Chair: Marek Żukowski	
11:40 – 12:10	Kazimierz Rzążewski	<b>Cold dipolar bosons: from many to a few</b>
12:10 – 12:40	Geza Toth	<b>Entanglement between two spatially separated atomic modes</b>
12:40 – 13:10	Leszek Sirko	<b>On missing levels in correlated spectra and some unusual properties of microwave networks and quantum graphs</b>
13:10 – 14:30	<b>Lunch break</b>	

	<b>Chair: Andreas Winter</b>	
14:30 – 15:00	Massimiliano Smania	<b>Avoiding apparent signaling in Bell tests for quantitative applications</b>
15:00 – 15:30	Jan Sperling	<b>From optics to quantum information</b>
15:30 – 16:00	Marcin Wieśniak	<b>The entire history of a photon</b>
16:00 – 16:20	<b>Coffee break</b>	
	<b>Chair: Jakub Rembieliński</b>	
16:20 – 16:50	Erik Aurell	<b>A path integral theory of heat flow through a system of qubits</b>
16:50 – 17:20	Carlo Sparaciari	<b>General framework for multi-resource theories and the first law</b>

## Friday, May 25

	<b>Chair: Erik Aurell</b>	
09:30 – 10:00	Andreas Winter	<b>Interferometric visibility and coherence</b>
10:00 – 10:30	Konrad Banaszek	<b>From quantum information to deep-space optical communication</b>
10:30 – 11:00	Jens Eisert	<b>Towards verifiable quantum advantages</b>
11:00 – 11:20	<b>Coffee break</b>	
	<b>Chair: Antoni Wójcik</b>	
11:20 – 11:50	Thao Le	<b>Strong Quantum Darwinism</b>
11:50 – 12:20	Stanisław Szarek	<b>PPT separability test via Sinkhorn-Gurvits normal form</b>
12:20 – 12:50	Michał Parniak	<b>Multidimensional quantum optics of spin waves</b>
12:50 – 13:20	Alexander Streltsov	<b>Entanglement and coherence in distributed scenarios</b>
13:20 – 14:30	<b>Lunch break</b>	

	Chair: Jens Eisert	
14:30 – 15:00	Dong Yang	<b>Distributed private randomness distillation</b>
15:00 – 15:30	Jonathan Oppenheim	<b>Entanglement fluctuation theorems</b>
15:30 – 16:00	Remigiusz Augusiak	<b>Bell inequalities for maximally entangled states and self-testing</b>
16:00 – 16:30	Łukasz Rudnicki	<b>Mutual unbiasedness in coarse-grained continuous variables</b>
16:30 – 16:50	<b>Coffee break</b>	
	Chair: Stanisław Szarek	
16:50 – 17:20	Guillaume Aubrun	<b>General probabilistic theories and tensor norms</b>
17:20 – 17:35	Jakub Czartowski	<b>Five isoentangled mutually unbiased bases and mixed states designs</b>
17:35 – 17:50	Konrad Szymański	<b>Joint expectation values, uncertainty relations and phase transitions</b>

## Saturday, May 26

09:00 – 09:30	<b>Coffee break</b>	
	Chair: Marek Kuś	
09:30 – 10:00	Krzysztof Kowalski	<b>Coherent states in the relativistic quantum mechanics</b>
10:00 – 10:30	Borivoje Dakic	<b>Single-copy entanglement detection</b>
10:30 – 11:00	Justyna Łodyga	<b>Closed timelike curves and the second law of thermodynamics</b>
11:00 – 11:30	Michał Eckstein	<b>Information processing in spacetime</b>
11:30 – 12:00	<b>Coffee break</b>	
	Chair: Andrzej Jamiołkowski	
12:00 – 12:30	Zbigniew Puchała	<b>Strategies for optimal single-shot discrimination of quantum measurements</b>
12:30 – 13:00	Marek Mozrzyk / Michał Studziński	<b>Port-based teleportation in arbitrary dimension with optimality studies</b>
13:00 – 13:15	Wojciech Bruzda	<b>Excess of a matrix and Bell inequalities</b>
13:15 – 14:30	<b>Lunch break</b>	