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**National Quantum Information Centre in Gdańsk (KCIK) &**

**International Centre for Theory of Quantum Technologies (ICTQT)**

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**13th Symposium KCIK- ICTQT on Quantum Information, MAY 26-28, 2022,**

**Sopot, ul. Armii Krajowej 119, Faculty of Economics UG (Building C, Hall D)**

**PROGRAM**

**Thursday, May 26**

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| **08:30 – 09:00**  | **Registration**  |
| **09:00 – 09:10**  | **Opening ceremony** Wiesław Laskowski, Vice-Rector for Research, University of GdańskMarek Żukowski, Organising Committee, Director of ICTQT, University of GdańskKarol Życzkowski, Chair of the Symposium, Director of KCIK University of Gdańsk, Jagiellonian University, CTP Polish Academy of Sciences, Warsaw |
| **Session I** | Chair: Adam Miranowicz |
| 09:10 – 09:35 | Konrad Banaszek | ***Secure optical communication under restricted eavesdropping scenarios*** |
| 09:40 – 10:05 | Jan Sperling | ***Many colors of entanglement*** |
| 10:10 – 10:35 | Alejandro Jenkins  | ***Quantum thermodynamics of coronal heating*** |
| 10:40 – 11:10 | **Coffee break** |
| **Session II** | Chair: Jakub Rembieliński |
| 11:10 – 11:35 | Beatrix C. Hiesmayr | ***About bound entanglement*** |
| 11:40 – 12:05 | Armin Tavakoli | ***Informational restrictions in quantum correlations*** |
| 12:10 – 12:35 | Marek Mozrzymas/Piotr Kopszak | ***Square-root measurement and the degradation of the resource state in the deterministic port-based teleportation scheme*** |
| 12:40 – 14:00 | **Lunch**  |

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| **Session III** | Chair: Karol Życzkowski |
| 14:00 – 14:25 | Michail Skoteiniotis | ***Certifying topological states of matter*** |
| 14:30 – 14:55 | Michał Oszmaniec | ***Saturation and recurrence of quantum complexity in random quantum circuits*** |
| 15:00 – 15:25 | Volodymyr Tkachuk (online) | ***Spin system energy levels detection on a quantum computer*** |
| 15:30 – 16:00 | **Coffee break** |
| **Session IV** | Chair: Katarzyna Roszak |
| 16:00 **–** 16:25 | Paweł Caban | ***Nonlinear extension of the quantum dynamical semigroup*** |
| 16:30 **–** 16:55 | Janet Anders (online) | ***Quantum Brownian Motion for Magnets*** |
| 17:00 - 17:25 | Lorenza Viola (online) | ***Restoring superclassical precision scaling in quantum frequency estimation under spatiotemporally correlated quantum noise*** |
| **18:00 – 20:30** | **Dinner (Dinner speech: Artur Ekert)** |

**Friday, May 27**

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| **Session V** | Chair: Beatrix C. Hiesmayr |
| 09:00 – 09:25 | Berthold-Georg Englert | **Sequentially constrained Monte Carlo sampler for quantum states** |
| 09:30 – 9:55 | Yeong-Cherng Liang | ***Naturally restricted subsets of nonsignaling correlations: how different are they?*** |
| 10:00 – 10:25 | Rafał Demkowicz-Dobrzański | *Fundamental Limits in Mutiparameter**Quantum Metrology* |
| 10:30 – 10:55 | Felix Huber | ***Dimension-free entanglement detection in multipartite Werner states*** |
| 11:00 – 11:30 | **Coffee break** |
| **Session VI** | Chair: Łukasz Rudnicki |
| 11:30 – 11:55 | Adam Miranowicz | ***Non-Hermitian quantum mechanics: No-go theorems and quantum exceptional points*** |
| 12:00 – 12:25 | Katarzyna Roszak | ***A measure of qubit environment entanglement for pure dephasing evolutions*** |
| 12:30 – 13:15 | **Golden KCIK Award**S.A. Rather (online)/Adam Burchardt | ***Thirty-six entangled officers of Euler: Quantum solution to a classically impossible problem*** |
| 13:20 – 14:30 | **Lunch**  |

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| **Session VII** | Chair: Marek Żukowski |
| 14:30 – 14:55 | Mohamed Bourennane | ***Stronger correlations than dense coding with elementary quantum resources***  |
| 15:00 – 15:25 | Tomasz Placek | ***Chance and choice: On experimenters' free choice and deterministic hidden-variable models*** |
| 15:30 **–** 15:55 | Mark Hillery (online) | ***Quantum walks and path finding*** |
| 16:00 – 16:30 | **Coffee break** |
| **Session VIII** | Chair: Yeong-Cherng Liang |
| 16:30 – 16:55 | Ana Belén Sainz | ***Steering: a modern perspective on this fundamental puzzle*** |
| 17:00 **–** 17:25 | Dardo Goyeneche (online) | ***The classical value of Bell inequalities: an old problem in mathematics*** |
| 17:30 **–** 17:55 | Lukas Céleri (online) | ***Gauge theory approach to quantum thermodynamics*** |

**Saturday, May 28**

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| **Session IX** | Chair: Berthold-Georg Englert  |
| 09:15 – 9:40 | Marek Czachor | ***Cosmic-time Quantum Mechanics*** |
| 9:45 – 10:10 | Kavan Modi (online) | ***Linking many-body physics to many-time physics: Characterising micro and macro features of non-Markovian quantum processes*** |
| 10:15 – 10:40 | Michele Dall’Arno (online) | ***Guesswork of a quantum ensemble*** |
| 10:45 – 11:15 | **Coffee break** |
| **Session X** | Chair: Krzysztof Kowalski |
| 11:15 – 11:40 | Marek Żukowski | ***On absurdity of some interpretations of Wigner's Friend gedanken-experiment*** |
| 11:45 – 12:10 | Massimo Palma (online) | ***Non-locality breaks the relations between measures of quantum objectivity*** |
| 12:15 – 12:40 | Dariusz Chruściński | ***Universal Constraint for Relaxation Rates for Quantum Dynamical Semigroup*** |
| 12:40 – 14:00 | **Lunch** |  |
| 14:00 – 15:00 | **KCIK board meeting** |