

# QUANTUM SPEEDUP

February 12-13, 2026, Gdańsk

Venue: University of Gdańsk, Faculty of Mathematics, Physics, and Informatics, Wita Stwosza street, 57, Gdańsk, Poland  
Auditorium: D005

## Conference Programme 12 February 2026

Thursday, February 12, 2026

09:30 Registration & Welcome Coffee

10:45 **Opening**

Thursday SpeedTalk Sessions

10:50 – 11:20 **SpeedTalks I**

**Amrapali Sen** (ICTQT, UG)

**Matthias Salzger** (ICTQT, UG)

**Fernando Almaguer Angeles** (ICTQT, UG)

**Agnieszka Schlichtholz** (WMFil, UG)

**Leonard Sikorski** (WMFil, UG)

**Abhyoudai Sajeevkumar Shaleena** (ICTQT, UG)

**Rashi Adhikari** (ICTQT, UG)

**Sumit Rout** (ICTQT, UG)

**Jędrzej Stempin** (WMFil, UG)

Break & Discussion time

12:00 – 12:30 **SpeedTalks II**

**Maria Popławska** (QOT, UW)

**Michał Banacki** (ICTQT, UG)

**Felix Huber** (WMFil, UG)

**Jorge Escandón-Monardes** (ICTQT, UG)

**Gerard Anglès Munné** (WMFil, UG)

**Robert Okuła** (GUT)

**Paweł Cieśliński** (ICTQT, UG)

**Rishav Sagar** (ICTQT, UG)

**Andre Hernandes Alves Malavazi** (ICTQT, UG)

**Voting for Talk of the Day**

Lunch Break (not provided by the organizers)

15:00 – 17:00 **Thursday Poster Session**

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## Conference Programme 13 February 2026

Friday, February 13, 2026

10:00 Registration & Morning Coffee

10:30 **Announcements**

Friday SpeedTalk Sessions

10:35 – 11:05

**SpeedTalks III**

**Marcin Jarzyna** (QOT, UW)

**Akshata Shenoy** (ICTQT, UG)

**Vera Uzunova** (QOT, UW)

**Tomasz Linowski** (ICTQT, UG)

**Alexandre Orthey** (MIM, UW)

**Konrad Schlichtholz** (ICTQT, UG)

**Antonio Mandarino** (ICTQT, UG)

**Piotr Mironowicz** (ICTQT, UG / GUT)

**Gerardo Suarez Vargas** (ICTQT UG)

Break & Discussion time

11:45 – 12:15

**SpeedTalks IV**

**Marcin Marciniak** (WMFil, UG)

**Beata Zjawin** (ICTQT, UG)

**Ana Belen Sainz** (ICTQT, UG)

**John H. Selby** (ICTQT, UG)

**Arturo Konderak** (CFT, PAN)

**Karthik Hosapete Seshadri** (ICTQT, UG)

**Firat Diker** (ICTQT, UG / SU)

**Giovanni Scala** (PB / INFN)

**Vinicius Rossi** (ICTQT, UG)

**Voting for Talk of the Day**

Lunch Break (not provided by the organizers)

14:30 – 16:30

**Friday Poster Session**

16:30

Closing remarks

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## List of speed talks / poster sessions – 12 February

Thursday Sessions	
<b>Rashi Adhikari</b> (ICTQT, UG)	Optimal Universal Higher-Order Quantum Networks for Multi-Copy Unitary Complex Conjugation
<b>Fernando Almaguer Angeles</b> (ICTQT, UG)	Hacking quantum computer with row hammer attack
<b>Gerard Anglès Munné</b> (WMFil, UG)	Holographic quantum codes with trapped ions
<b>Michał Banacki</b> (ICTQT, UG)	Unitary induced channels and Tsirelson's problem
<b>Paweł Cieśliński</b> (ICTQT, UG)	The Incredible Richness of Bell Nonlocality
<b>Jorge Escandón-Monardes</b> (ICTQT, UG)	Multiparameter estimation with a photonic quantum switch
<b>Andre Hernandes Alves Malavazi</b> (ICTQT, UG)	cQED-Based Quantum Power Plant
<b>Felix Huber</b> (WMFil, UG)	A Lovász theta lower bound on quantum max cut
<b>Robert Okuła</b> (GUT)	Mapping Quantum Discord for different Bell violations
<b>Maria Popławska</b> (QOT, UW)	Information capacity of multi-mode quantum Gaussian channels
<b>Sumit Rout</b> (ICTQT, UG)	Facets of Non-locality and Advantage in Entanglement-Assisted Classical Communication Tasks
<b>Rishav Sagar</b> (ICTQT, UG)	Ergotropy Protection via Two-Time Weak-Measurement (TWM) Protocol
<b>Abhyoudai Sajeevkumar Shaleena</b> (ICTQT, UG)	Understanding Bell inequality violations in 2-2-d and 2-d-2systems
<b>Matthias Salzger</b> (ICTQT, UG)	On the physical realisability of indefinite causal order process in classical spacetime
<b>Agnieszka Schlichtholz</b> (WMFil, UG)	Förster Resonance Energy Transfer in cylindrical nanostructures
<b>Amrapali Sen</b> (ICTQT, UG)	Superluminal Transformations and Indeterminism
<b>Leonard Sikorski</b> (WMFil, UG)	Quantum waste management: Utilizing residual states in quantum information processing
<b>Jędrzej Stempin</b> (WMFil, UG)	Quantum Capacity of a Graph

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## List of speed talks / poster sessions – 13 February

Friday Sessions	
<b>Firat Diker</b> (ICTQT, UG / SU)	Deterministic generation of a four-qubit W state using one- and two-qubit gates
<b>Karthik Hosapete Seshadri</b> (ICTQT, UG)	Quantum coherence leveraged agnostic phase estimation
<b>Marcin Jarzyna</b> (QOT, UW) <b>Karol Łukanowski</b> (QOT, UW)	Optical Communication Receiver Based on Single Photon Coherent Beam Combination
<b>Arturo Konderak</b> (CFT, PAN)	Full nonlocality of partially entangled states
<b>Tomasz Linowski</b> (ICTQT, UG)	Quantum-inspired exoplanet detection in the presence of experimental imperfections
<b>Antonio Mandarino</b> (ICTQT, UG)	Statistics of topological defects across a phase transition in a digital superconducting quantum processor
<b>Marcin Marciniak</b> (WMFiI, UG)	Equiangular systems of vectors
<b>Piotr Mironowicz</b> (ICTQT, UG/ GUT)	Long-range device-independent quantum key distribution
<b>Alexandre Orthey</b> (MIM, UW)	Optimality of universal conclusive entanglement purification protocols
<b>Vinicius Rossi</b> (ICTQT, UG)	How typical is contextuality?
<b>Ana Belen Sainz</b> (ICTQT, UG)	Linear Program Witness for Network Nonlocality in Arbitrary Networks
<b>Giovanni Scala</b> (PB / INFN)	Measurable Third-Order Detection from an Affine Reduction Moment Matrix
<b>Konrad Schlichtholz</b> (ICTQT, UG)	Enhancing SPADE-based source discrimination through frequency measurements
<b>John H. Selby</b> (ICTQT, UG)	Generalised Process Theories
<b>Akshata Shenoy</b> (ICTQT, UG)	Quantum-Inspired Approaches for Bloch Surface Wave–Based Sensing
<b>Gerardo Suarez Vargas</b> (ICTQT UG)	Non-Markovian equations and approximate environments
<b>Vera Uzunova</b> (QOT, UW)	Photon Efficiency of high-dimensional Quantum Key Distribution
<b>Beata Zjawin</b> (ICTQT, UG)	The resource theory of causal influence and knowledge of causal influence

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## Acronyms

**UG** – University of Gdańsk

**ICTQT** – International Centre for Theory of Quantum Technologies

**WMFiI** - Department of Mathematics, Physics and Informatics

**UW** – University of Warsaw

**QOT** – Centre for Quantum Optical Technologies, Centre of New Technologies

**MIM** - Faculty of Mathematics, Informatics and Mechanics

**CFT PAN** – Center for Theoretical Physics, Polish Academy of Sciences

**GUT** – Gdańsk University of Technology

**PB** - Politecnico di Bari, Italy

**INFN** - Istituto Nazionale di Fisica Nucleare - Sezione di Bari, Italy

**SU** - Sabanci University, Turkey

## Committees

### Steering Committee

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**Konrad Banaszek** (QOT, UW)

### Organising Committee

**Ewa Kaszewska** (ICTQT, UG)

**Marcin Jarzyna** (QOT, UW)

**Marta Krzyżykowska** (ICTQT, UG)

### Local Organising Committee

**Rashi Adhikari** (ICTQT, UG)

**Fernando Almaguer Angeles** (ICTQT, UG)

**Shahana Aziz** (ICTQT, UG)

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**Vinicius Pretti Rossi** (ICTQT, UG)

**Chithra Raj** (ICTQT, UG)

**Aravinth Ravichandran** (ICTQT, UG)

**Sumit Rout** (ICTQT, UG)

**Abhyoudai Sajeevkumar Shaleena** (ICTQT, UG)

**Matthias Salzger** (ICTQT, UG)

**Amrapali Sen** (ICTQT, UG)

## Organisers and Partners



This event is part of the promotion and dissemination of research results from projects no. FENG.02.01-IP.05-0006/23 (ICTQT UG) and no. FENG.02.01-IP.05-0017/23 (QOT UW) implemented within the IRAP FENG programme of the Foundation for Polish Science and co-financed by the European Union under Priority 2 of the European Funds for a Smart Economy 2021–2027 (FENG).



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