

# Symposium Quantum Correlations Beyond Entanglement (SYQE)

jointly organized by  
the Quantum Optics and Photonics Division (Q) and  
the Theoretical and Mathematical Physics Division (MP)

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Quantum correlations in composite systems can entail non-classical behaviour, without necessarily involving entanglement. Recently, the analysis of this phenomenon has found a lot of interest, both theoretically and experimentally. It concerns fundamental properties of quantum states, and questions about the role of quantumness as resource for quantum information processing, such as quantum algorithms, quantum communication, and precision measurements.

## Overview of Invited Talks and Sessions

(Lecture rooms: Audimax and Kinosaal)

### Invited Talks

SYQE 1.1	Tue	14:00–14:30	Audimax	<b>The role of quantum discord in quantum information theory</b> — •ALEXANDER STRELTSOV
SYQE 1.2	Tue	14:30–15:00	Audimax	<b>Experimental entanglement distribution by separable states</b> — •ROMAN SCHNABEL, C.E. VOLLMER, D. SCHULZE, T. EBERLE, V. HÄND- CHEN, J. FIURASEK
SYQE 1.3	Tue	15:00–15:30	Audimax	<b>Quantum computing with black-box quantum subroutines</b> — JAYNE THOMPSON, MILE GU, •KAVAN MODI, VLATKO VEDRAL
SYQE 1.4	Tue	15:30–16:00	Audimax	<b>Quantum metrology embraced for the worst</b> — •GERARDO ADESSO
SYQE 2.1	Tue	16:30–17:00	Kinosaal	<b>The arrow of time and correlations in quantum physics</b> — •VLATKO VEDRAL
SYQE 2.2	Tue	17:00–17:30	Kinosaal	<b>Quantum correlations on indefinite causal structures</b> — •CASLAV BRUKNER
SYQE 2.3	Tue	17:30–18:00	Kinosaal	<b>Zero-error classical channel capacity and simulation cost assisted by quantum non-signalling correlations</b> — •ANDREAS WINTER
SYQE 2.4	Tue	18:00–18:30	Kinosaal	<b>The quantum marginal problem</b> — •MATTHIAS CHRISTANDL

### Sessions

SYQE 1.1–1.4	Tue	14:00–16:00	Audimax	<b>Quantum Correlations Beyond Entanglement I</b>
SYQE 2.1–2.4	Tue	16:30–18:30	Kinosaal	<b>Quantum Correlations Beyond Entanglement II</b>