

# Quantum Incompatibility 2017

Maria Laach, 28/08/17-01/09/17



## Invited speakers:

- **Tom Bullock** (Turku)  
*How well can one approximate incompatible qubit observables?*
- **Claudio Carmeli** (Genoa)  
*Quantum incompatibility in collective measurements*
- **Erkka Haapasalo** (Kyoto)  
*Quantification schemes for incompatibility*
- **Jukka Kiukas** (Aberwystwyth)  
*Channel-state duality between incompatibility and steering*
- **H. Chau Nguyen** (Dresden)  
*Quantum steering with positive operator valued measures*
- **Daniel Reitzner** (Bratislava)  
*Incompatibility of unbiased qubit observables and Pauli channels*
- **Joe Renes** (Zurich)  
*Operational uncertainty relations and their uses*
- **Marco Tulio Quintino** (Tokyo)  
*Certifying genuine  $n$ -wise measurement incompatibility or Measurement Compatibility, EPR-Steering, and Bell nonlocality*

- **Alessandro Toigo** (Milan)  
*Entropic uncertainty relations – the measurement case*
- **Reinhard Werner** (Hannover)  
*Why preparation uncertainty is smaller than measurement uncertainty*
- **Michael Wolf** (Munich)  
*Incompatibility: a tale in two parts*
- **Sixia Yu** (Singapore)  
*Towards Exact Uncertainty Relations*
- **Mário Ziman** (Bratislava)  
*Incompatibility and nonlocality for quantum process theories*

#### Participants:

- **Ali Asadian** (Siegen)  
*Quasiprobability approach in joint measurability*
- **Ana C.S. Costa** (Siegen)  
*Entropic uncertainty relations and steering*
- **David Gross** (Cologne)
- **Tristan Kraft** (Glasgow)
- **Antonio di Lorenzo** (Uberlandia)  
*Sequential measurements of two variables: quantum state determination, improving measurement precision, and relation to (a form of) Heisenberg uncertainty principle*
- **Kimmo Luoma** (Dresden)
- **Daniel Miller** (Düsseldorf)
- **Martin Plávala** (Bratislava)  
*Conditions on the compatibility of channels in General Probabilistic Theory and their connection to steering and Bell non-locality*
- **Oliver Reardon-Smith** (York)  
*Measurement Uncertainty for Qubit Triple Observables*
- **Rene Schwonnek** (Hannover)  
*Measurement uncertainty for finite observables*
- **Timo Simnacher** (Siegen)
- **Roope Uola** (Siegen)  
*Joint measurability and steering*
- **Giuseppe Vitagliano** (Vienna)  
*Spin squeezing and entanglement detection from uncertainty relations*
- **Huangjun Zhu** (Cologne)  
*Einstein-Podolsky-Rosen correlations and Bell correlations in the simplest scenario.*

#### Organizers:

- **Paul Busch** (York)
- **Otfried Gühne** (Siegen)
- **Teiko Heinosaari** (Turku)
- **Roope Uola** (Siegen)

	Tuesday	Wednesday	Thursday
9:00	Werner	Wolf	Nguyen
9:30			
10:00	coffee break	coffee break	coffee break
10:30	Toigo	Ziman	Kiukas
11:00			
11:30	Schwonnek	Plavala	Uola
12:00	lunch	lunch	lunch
12:30			
13:00			
13:30	Yu	Reitzner	Quintino
14:00			
14:30	Renes	Haapasalo	Zhu
15:00			Costa
15:30	coffee break	coffee break	coffee break
16:00			
16:30	Bullock	excursion to the lake and the Vul- kanbrauerei	Carmeli
17:00			
17:30	Reardon-Smith		di Lorenzo
18:00	Vitagliano		Asadian
18:30	dinner		dinner

(long talks: 45 min+15 min discussion, short talks: 20 min+10 min discussion)

**Location:**

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<http://www.maria-laach.de/>  
[https://en.wikipedia.org/wiki/Maria\\_Laach\\_Abbey](https://en.wikipedia.org/wiki/Maria_Laach_Abbey)

**Date:**

28. 8. 2017 (Monday) – 1. 9. 2017 (Friday)

**Website:**

[https://www.physik.uni-siegen.de/tqo/conferences/quantum\\_incompatibility.html](https://www.physik.uni-siegen.de/tqo/conferences/quantum_incompatibility.html)

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