

Conference Program

Day 1 Wednesday, September 13

- 10:00 Arrival and registration (with coffee)
- 11:00 Welcome note
- 11:15 **Keynote talk 1: Lena Funcke**
Quantum Algorithms for Particle Physics
- 12:00 **Cluster talk 1: Silvia Pappalardi**
Designs via Free Probability
- 12:30 Lunch
- 14:00 *for prospective ML4Q2 (associated) members:*
Planning session on ML4Q2
- 15:10 **Keynote talk 2: Ursula Wurstbauer**
Collective excitations, degenerate phases and hybridization in van der Waals stacks: stacking, twisting, & gating
- 16:00 Coffee break
- 16:30 **Keynote talk 3: Andreas Winter**
Quantum communication - so much more than just QKD
- 17:20 Information session on early-career opportunities
- ML4Q internal:*
Parallel discussions on cross-sectional tasks for ML4Q2
(research data management, science communication,
internationalization and knowledge transfer)
- 18:15 Dinner
- 20:00 Poster Session I (odd numbers)

Conference Program

Day 2 Thursday, September 14

- 09:15 *for associated members:*
Associated members assembly
- for members:*
Discussion on ML4Q Teaching and Seminar Activities
- 10:30 Coffee break
- 11:00 **Keynote talk 4: Philippe Grangier**
Experimental tests of Bell's inequalities at Institut d'Optique (1980-82): past achievements and future directions
- 11:50 **Cluster talk 2: Mario Berta**
Quantum algorithms for the early fault-tolerance regime
- 12:30 Lunch
- 14:00 Hike and free discussion time
- 16:15 Coffee break
- 17:00 Poster session II (even numbers)
- 17:30 *ML4Q internal:*
Parallel discussions on cross-sectional tasks for ML4Q2 (early-career researchers and research-oriented teaching, equity and diversity)
- 18:30 *ML4Q internal:*
Discussions summary
- 19:30 Dinner

Conference Program

Day 3 Friday, September 15

09:00 *for members:* Members assembly

9:30 *Parallel students' discussion on ML4Q activities*

10:30 Coffee break

11:00 **Special guest:**

Martina Erleemann

Freie Universität Berlin, Department of Physics

Gender & Diversity in the Cultures of Physics

11:40 **Keynote talk 5: Frank Pollmann**

Realization and Characterization of Topological Phases on Quantum Processors

12:45 Lunch

14:15 **Cluster talk 3: Annika Kurzmam**

Two-dimensional materials for quantum networks

14:40 **Cluster talk 4: Daqing Wang**

Exploring quantum technologies with single controlled molecules

15:05 **Keynote talk 6: Barbara Kraus**

Towards physically relevant multipartite entanglement

15:55 Poster prize & closing remarks

16:20 Departure