

Workshop on “Entangled Matter Out-of-equilibrium”**of the Thematic Programme “Entanglement in Many-body Quantum Matter: Dynamics,
Dissipation, Equilibration”****May 19 – 23, 2025****organized by****Mari Carmen Banuls (MPI of Quantum Optics, Garching), Hannes Pichler (IQOQI, Innsbruck),
Norbert Schuch (U of Vienna), Maksym Serbyn (ISTA, Klosterneuburg)****• Monday, May 19th, 2025****09:00 – Registration***and coffee***11:00 – 11:45 Curt von Keyserlingk (KCL, London)***Finite-temperature quantum topological order in three dimensions***11:45 – 12:30 Lorenzo Piroli (U Bologna)***Long-range nonstabilizerness and phases of matter***12:30 – 14:30 Lunch break****14:30 – 15:15 Natalia Chepiga (TU Delft)***TBA***15:15 – 15:45 Coffee break****15:45 – 16:30 Andreas Läuchli (Paul Scherrer Institut, Villigen)***TBA***• Tuesday, May 20th, 2025****09:30 – 10:15 Angela Capel (U of Cambridge)***TBA***10:15 – 11:00 Coffee break****11:00 – 12:10 Federica Maria Surace (CalTech)***Metastability in quantum many-body systems***12:10 – 14:30 Lunch break****14:30 – 15:15 Julian Leonard (ISTA, Klosterneuburg)***A photon-coupled atomic tweezer array***15:15 – 15:45 Coffee break****15:45 – 16:30 Ana Maria Rey (U of Colorado, Boulder)***New frontiers in quantum simulation and sensing via cavity mediated interactions***16:30 – Poster session**

- **Wednesday, May 21st, 2025**

09:30 – 10:15 **Fabian Essler (U Oxford)**

TBA

10:15 – 11:00 **Coffee break**

11:00 – 12:10 **David Luitz (U Bonn)**

Post-measurement Quantum Monte Carlo

12:10 – 14:30 **Lunch break**

14:30 – 15:15 **Giulia Semeghini (Harvard U, Cambridge)**

A mixed-species atom array for quantum computing and simulation

15:15 – 15:45 **Coffee break**

15:45 – 16:30 **Monika Aidelsburger (LMU Munich)**

Quantum Gas Microscopy of quantum many-body systems out-of-equilibrium

19:00 – **Conference Dinner**

Registration required. See your profile page for details and registration.

- **Thursday, May 22nd, 2025**

09:30 – 10:15 **Philipp Hauke (U of Trento)**

TBA

10:15 – 11:00 **Coffee break**

11:00 – 12:10 **Jerôme Dubail (U Strasbourg)**

TBA

12:10 – 14:30 **Lunch break**

14:30 – 15:15 **Wen Wei Ho (NUS, Singapore)**

Geometric quantum drives: Hyperbolically driven quantum systems and beyond

15:15 – 15:45 **Coffee break**

15:45 – 16:30 **Juan Carrasquilla (ETH Zurich)**

Neural network simulation of a spin glass dynamics transition

- **Friday, May 23rd, 2025**

09:30 – 10:15 **Frank Pollmann (TU Munich)**

Probing Non-Equilibrium Topological Order on a Quantum Processor

10:15 – 11:00 **Coffee break**

11:00 – 11:45 **Roderich Moessner (MPI Dresden)**

Many-body cages: disorder-free glassiness from flat bands in Fock space, and many-body Rabi oscillations

11:45 – 12:30 **Tibor Rakovszky (BME, Budapest)**

Bottlenecks in quantum channels and defining quantum spin glass order

12:30 – **Lunch break**

All talks take place at ESI Boltzmann Lecture Hall!