



EMMI Workshop: Exotic Quantum Matter: Measurement and Control (EQM-MC)



30.Sep - 02.oct 2026

Cod. Z67-26

Modalité:

En personne

Édition

2026

Type d'activité

Workshop

Date

30.Sep - 02.oct 2026

Location

Miramar Palace

Langues

Anglais

Reconnaissance officielle par l'État

30 heures

Comité d'organisation



Description

This three-day EMMI workshop accompanies the four-week program on "Exotic Quantum Matter" organized at DIPC as the inaugural event of the Sessions in Physics: Advancing Research and Knowledge program. It focuses on the exotic properties of quantum matter such as topological order, strong correlations, fractional excitations, long-range entanglement and, in particular, how to probe and control them using newly developed measurement and manipulation capabilities, including the quantum-gas microscope, STM-ESR, the quantum twisting microscope, or reconfigurable lattices. These tools have been developed for very different experimental systems (ultracold atoms in optical lattices, solid-state nanostructures, atoms or molecules on surfaces) and a particular interest of the workshop is highlight these new capabilities and how they allow to control quantum matter and how to characterize by measuring characteristics such as non-local order parameters, entanglement witnesses, entropies, or spatial and temporal correlation functions.

ORGANIZING COMMITTEE:

- Francesca Ferlaino [Universität Innsbruck, Institut für Experimentalphysik,Technikerstrasse, Austria]
- Aran Garcia Lekue [DIPC - Donostia International Physics Center]
- Géza Giedke Lekue [DIPC - Donostia International Physics Center]
- Tobias Grass [DIPC - Donostia International Physics Center]
- Mohammad Hafezi [University of Maryland, USA]

Objectifs

The aim of the workshop is to foster exchange and explore the potential of state-of-the-art methods to create, probe, and manipulate quantum correlations beyond mean-field approaches.

Collaborateurs spécifiques au cours



Directed by



Aran Garcia-Lekue

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Lieu

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Gipuzkoa