



Quantum Computing, Complexity and Control (QCCC2026)



18.May - 22.May 2026

Cod. Z70-26

Mod.:

Face-to-face

Edition

2026

Activity type

Workshop

Date

18.May - 22.May 2026

Location

Donostia International Physics Center

Languages

English

Academic Validity

50 hours

Web

<https://qccc26.github.io/index.html>

Organising Committee



Description

This workshop brings together researchers from industry and academia to explore the frontiers of quantum computing, with a focus on recent advances in quantum control and the complexity of quantum dynamics in physical systems. The event aims to foster cross-disciplinary dialogue and collaboration among experts working on Krylov subspace methods in quantum dynamics—including operator growth and Krylov complexity—as well as quantum control strategies based on shortcuts to adiabaticity, such as counter-diabatic driving and adiabatic gauge potentials. In addition, the workshop will highlight the development of quantum algorithms for quantum computing assisted by counter-diabatic driving.

Topics include:

- Quantum complexity
- Krylov subspace methods
- Quantum dynamics and chaos
- Quantum Computing algorithms
- Quantum control shortcuts to Adiabaticity
- Counter-diabatic driving
- Adiabatic Gauge Potential

Organizing Committee:

Budhadyta Bhattacharjee (University of Luxembourg)

Adolfo del Campo (University of Luxembourg & DIPC)

Xi Chen (ICMM-CSIC)

Geza Giedke (DIPC)

Objectives

This workshop is planned to provide a stimulating platform for the exchange of ideas, building connections and forming collaborations among researchers in academia and industry working at the intersection of quantum dynamics, quantum control, quantum computing and quantum algorithms

By bringing together leading experts on Krylov subspace methods and operator complexity, shortcuts to adiabaticity and counter-diabatic driving, and algorithmic applications of these techniques in quantum computing, this event aims to foster engaging discussions and spark fruitful collaborations.

The goal of this workshop is to generate new synergies that potentially lead to new and significant advances in the the control and computational power of near-term and future quantum technologies.

Course specific contributors



ZIENTZIA, UNIBERTSITATE ETA
BERRIKUNTZA SAILA
DEPARTAMENTO DE CIENCIA,
UNIVERSIDADES E INNOVACIÓN

Directed by



Adolfo del Campo

University of Luxembourg

World-leading expertise on Foundations of Nonequilibrium Quantum Matter with applications to Quantum Science and Technology. Pioneering works on Shortcuts To Adiabaticity, Quantum Information Geometry, Quantum Speed Limits and Universal Bounds on Quantum Dynamics, Universality and Control of Classical and Quantum Phase Transitions, Speeding up Adiabatic Quantum Computation.

Registration fees

REGISTRATION

UNTIL 10-05-2026

Fee Waiver

0 EUR

Regular Attendant

275,00 EUR

Place

Donostia International Physics Center

Paseo Manuel Lardizabal, 4, 20018 Donostia/San Sebastián

Gipuzkoa