



Quantum Computing, Complexity and Control (QCCC2026)



18.mai - 22.mai 2026

Cod. Z70-26

Modalité:
En personne

Édition
2026

Type d'activité
Workshop

Date
18.mai - 22.mai 2026

Location
Donostia International Physics Center

Langues
Anglais

Reconnaissance officielle par l'État
50 heures

Comité d'organisation



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)

Objectifs

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.

Collaborateurs spécifiques au cours



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.

Professeurs



YUE BAN



Lincoln Carr Carr

Colorado School of Mines



Luis Pedro Garcia-Pintos



Alejandro Gomez Cadavid

Kipu Quantum & University of the Basque Country (EHU)



Andras Grabarits Grabarits

Department Of Physics And Materials Science, University Of Luxembourg, L-1511 Luxembourg



Alioscia Hamma Hamma



Takuya Hatomura

NTT, Inc.



Kazuki Ikeda

UMass Boston



Andrew Jordan

Chapman University



Xiaopeng Li



Pratik Nandy

Vrije Universiteit Brussel



Anatoli Polkovnikov



Marek Rams

Jagiellonian University in Krakow



Lea Santos

University of Connecticut



Mikel Sanz

University of the Basque Country (UPV/EHU)



Paolo Zanardi

Tarifs inscription

REGISTRATION

JUSQU'AU 11-05-2026

Fee Waiver

0 EUR

Regular Attendant

275,00 EUR

Lieu

Gipuzkoa