



# Nanotechnology Meets Quantum Information (NanoQI'24)



**Uzt. 22 - Uzt. 25 2024**

**Kod. Z17-24**

**Mod.:**

Aurrez aurrekoa

**Edizioa**

2024

**Jarduera mota**

Workshop

**Data**

Uzt. 22 - Uzt. 25 2024

**Kokalekua**

Miramar Jauregia

**Hizkuntzak**

Ingelesa

**Balio akademikoa**

40 ordu

**Webgunea**

<http://nanoqi.dipc.org>

**Antolakuntza Batzordea**

Fundación  
BBVA



## Azalpena

Advances in the understanding and control of the quantum properties of matter and in nanofabrication are laying the groundwork for revolutionary new technologies and information processing capabilities. Following the successful schools in 2016, 2017, 2019 and 2022, the summer school NanoQI'24 provides an introduction to the basics and recent advances in major areas of quantum information theory and solid-state-based quantum technologies. Both the physics of different implementations of quantum information technologies and the applicable theoretical methods are covered.

ORGANIZING COMMITTEE:

Geza Giedke (DIPC, Ikerbasque)

Alejandro González-Tudela (IFF CSIC)

Ataç Imamoglu (ETH Zurich)

## Helburuak

The school is aimed at PhD students and young postdocs interested in quantum information processing and quantum technologies and offers lectures by leading researchers in the field (both from experiment and theory) that offer an overview of the main concepts and methods and explain promising current research directions. In addition it offers a forum for all participants to present and discuss their own research with their colleagues and senior researchers.

## Ikastaroaren laguntzaile espezifikoak



## Zuzendaritza



**Geza Giedke**

DIPC

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## Irakasleak



**Jason Alicea**

Caltech

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**Daniel Barredo González**

CSIC

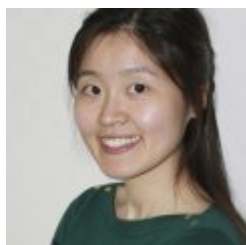
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**Harry Buhrman**

Quantinuum & Univ of Amsterdam

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**Deung-Jang (DJ) Choi ---**

Centro de Física de Materiales (CSIC-UPV/EHU)

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### **Francisco Guinea López**

IMDEA Nanoscience - DIPC

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### **Klemens Hammerer**

Leibniz Universität Hannover

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### **Atac Imamoglu**

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### **Hannes Pichler**

Universitat Innsbruck & IQOQI

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The research group led by Hannes Pichler is interested in theoretical quantum optics, in the context of quantum many-body physics and quantum information processing science. We strive to push the frontier of quantum technology by developing novel applications and quantum computing protocols for near-term quantum devices, focussing on quantum optical systems, such as Rydberg atom arrays, waveguide QED setups, and ultracold atoms. To achieve this goal, our research spans a wide spectrum, from microscopic modeling of the physics of specific quantum devices, to understanding their emergent quantum many-body phenomena. It builds on a variety of analytical and numerical techniques from quantum optics, quantum information, and condensed matter theory.



**Seigo Tarucha -**

RIKEN

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**Silvia Viola Kusminskiy**

RWTH Aachen University

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# Matrikula prezioak

REGISTRATION FEES	2024-07-14 ARTE
Fee Waiver	0 EUR
Regular Attendant	400,00 EUR

# **Kokalekua**

## **Miramar Jauregia**

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Gipuzkoa