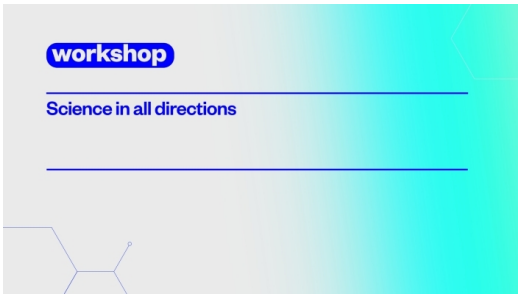
Quantum Designer Physics (QDP2022)



Uzt. 18 - Uzt. 21 2022

Kod. Z18-22

Mod.:
Aurrez aurrekoa

Edizioa
2022

Jarduera mota
Workshop

Data
Uzt. 18 - Uzt. 21 2022

Kokalekua
Miramar Jauregia

Hizkuntzak
Ingelesa

Balio akademikoa
40 ordu

Webgunea
http://qdp2022.dipc.org

Antolakuntza Batzordea

Azalpena

The workshop will highlight recent advances in material systems designed for studying the most intriguing physical phenomena at the nanoscale. These phenomena are related to spin, topology, and coherence, which make it possible for the materials to display quantum functionalities. While Condensed Matter Physics is rich in material systems in which almost any physics can be readily found and studied, with recent developments of quantum materials, it appears possible to purposefully design material systems with a given physical phenomenon in mind. Thus, a 'toy model' which could be conceived to exhibit an interesting behavior can be implemented in quantum materials for basic science or applications.

This workshop brings together the leading experts working on quantum materials and aims at creating a stimulating atmosphere for discussing new physics on the marvelous sites of San Sebastian. We will discuss recent progress in creating ordinary and topological quantum systems in different dimensions, as well as some of the most exotic quantum materials based on graphene and other low dimensional materials. We will update on the progress in spin-based quantum computing with a look into the prominent future of quantum technologies. The quest for Majorana bound states in hybrid superconducting systems and topological quantum computing are also on our agenda. We hope the workshop will foster collaborations and inspire its attendants to tackle new problems with great ideas which make a difference for fundamental physics, lead to applications, and advance futuristic technologies.

ORGANIZING COMMITTEE:

Daniel Loss (University of Basel)

Francisco Guinea (IMDEA Nanoscience, DIPC, Ikerbasque)

Andres Arnau (CFM-UPV/EHU, DIPC)

Vitaly Golovach (CFM-UPV/EHU, DIPC, Ikerbasque)

Helburuak

To bring together leading experts working on the frontiers of the design of advanced materials with quantum functionalities.

To present and discuss the recent developments in the field and determine directions of future research.

To facilitate the discussion and foster collaborations between theoretical and experimental physicists, including local scientists from Donostia.

To create the conditions for young and brilliant scientists to present their work and make themselves visible in this rapidly developing field.

Ikastaroaren laguntzaile espezifikoak

Zuzendaritza

Vitaly Golovach

Ikerbasque Research Associate, Materialen Fisika Zentroa CFM and Donostia International Physics Center, Ikerbasque Research Fellow

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REGISTRATION FEES	2022-07-10 ARTE
Regular Attendant	300,00 EUR

Kokalekua

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Gipuzkoa