



# Quantum Phenomena in 2D Matter (QP2DM)



**17.Jul - 21.Jul 2023**

**Cod. Z14-23**

**Mod.:**

Face-to-face

**Edition**

2023

**Activity type**

Workshop

**Date**

17.Jul - 21.Jul 2023

**Location**

Miramar Palace

**Languages**

English

**Academic Validity**

50 hours

**Web**

<https://qp2dm.dipc.org>

**Organising Committee**



## Description

Modern theoretical, experimental, and applied physics of two-dimensional (2D) systems explore and employ the great richness of their quantum properties. These properties are probed by various experimental techniques, such as charge, spin, exciton, and heat transport, optical, microwave, and scanning-probe spectroscopies, photoresistance, etc. Over the recent years, the available variety of 2D systems has grown dramatically and include various semiconductor and oxide heterostructures, atomically thin layers (or bi-layers) of graphene, transition metal dichalcogenides, and their heterostructures. Some of the most celebrated phenomena realized in these 2D systems are quantum Hall effects, Wigner crystals, stripes and bubble phases, and excitonic Bose condensates. More exotic phenomena are expected to emerge as the quality of the 2D systems and experimental tools are improved, which is an ongoing process.

### ORGANIZING COMMITTEE:

- Michael Zudov (University of Minnesota, USA)
- Evgeny Sherman (University of the Basque Country UPV/EHU, Ikerbasque)
- Vitaly Golovach (University of the Basque Country UPV/EHU, Ikerbasque)

## Objectives

The aim of this workshop is to bring together leading experts and the researchers at the beginning of their careers in the field of quantum physics of 2D matter for presentation and discussion of their recent results and ongoing developments. Exchange of ideas and expectations of the future progress in the field will help its development in next several years.

## Course specific contributors



**EHU QC**

EHU Quantum Center

HEZKUNTZA SAILA

DEPARTAMENTO DE EDUCACIÓN

## Directed by



### **Vitaly Golovach ---**

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## Teachers



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**Ankita Anirban**

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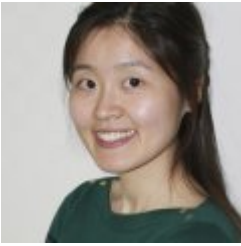
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## **Jainendra Jain**

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## **Fabian Jaroslav**

Univeristy of Regensburg

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Jaroslav Fabian (PhD 1997, SUNY Stony Brook) is a professor of theoretical physics at the University of Regensburg where he heads the Spintronics Group since 2004. Prior to that Jaroslav Fabian was on the faculty at the Karl-Franzens University in Graz, and a research associate in University of Maryland at College Park, and Max-Planck Institute for Complex Systems in Dresden. Research activities of Jaroslav Fabian span a wide spectrum of theoretical and computational solid state physics, but are particularly focused on the physics of 2D materials and on the field of spintronics. He is a member of Graphene Flagship, and several collaborative research initiatives. Recently, he has been excited about the art of creating novel electronic and magnetic properties by proximity effects in stacks of 2D materials.



## **Jelena Klinovaja**

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**Michael Zudov Zudov**

University of Minnesota

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# Registration fees

REGISTRATION FEES

UNTIL 09-07-2023

Fee Waiver

0 EUR

Regular fee

400,00 EUR

## **Place**

### **Miramar Palace**

Pº de Miraconcha nº 48. Donostia / San Sebastián

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