



# Topological Matter School 2024 (TMS24)



**19.Ago - 23.Ago 2024**

**Cód. Z18-24**

**Mod.:**  
Presencial

**Edición**  
2024

**Tipo de actividad**  
Workshop

**Fecha**  
19.Ago - 23.Ago 2024

**Ubicación**  
Palacio Miramar

**Idiomas**  
Inglés

**Validez académica**  
50 horas

**Web**  
<https://tms-dipc.org/>

## **DIRECCIÓN**

**Maia García Vergniory**, Donostia International Physics Center

## **Comité Organizador**



Fundación  
BBVA



# Descripción

Flat band materials offer a platform for enhancing correlation effects, rendering them an area of significant current interest. They present exceptional opportunities for exploring topology in correlated settings and correlation physics enriched by topology. Recent experiments on correlated kagome metals and moiré systems have unveiled evidence of peculiar behaviors, including strange-metal characteristics, charge density waves, nematic orders, and fractional Chern insulators within flat-band materials.

The following topics will be covered:

- Introduction to band theory and symmetry indicators
- Topological Flat bands and quantum geometry
- Heavy fermion systems
- Morié systems
- Kagome metals and charge density waves
- Strange metals

## ORGANIZING COMMITTEE:

Maia G. Vergniory (DIPC, Max Planck)

Reyes Calvo (Universidad de Alicante)

Santiago BlancoCanosa (DIPC, Ikerbasque)

Adolfo Grushin (Institut NEEL - CNRS)

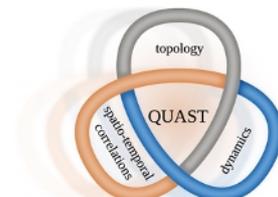
Alexander Altland (University of Cologne)

Julen Ibañez Azpiroz (CFM, Ikerbasque)

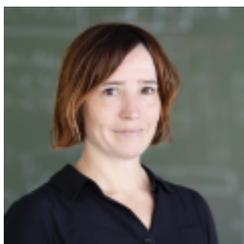
## Objetivos

Throughout this school, our objective is to delve into the study of flat bands and these systems, as well as the intriguing physical phenomena they manifest, under the guidance of world-leading experts

## Colaboradores específicos del curso



**Dirigido por:**



**Maia García Vergniory**

Donostia International Physics Center

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## **Profesorado**



**Alexander Altland**

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**Leni Bascones**

ICMM-CSIC

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**Erez Berg**

Weizmann Insitute

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**Andrei Bernevig**

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**Yves Hon Kwan**

Princeton University

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**Allan MacDonald**

University of Texas at Austin

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**Vidya Madhavan Madhavan**

UIUC

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**Nicolas Regnault**

Ecole Normale Supérieure-CNRS, Research director

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**Carmen Rubio Verdú**

ICFO

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**Päivi Törmä**

Aalto University

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**Stephen Wilson**

UC Santa Barbara

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**Ming Yi**

Rice University

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**Zhida Song**

Peking University

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# Precios matrícula

REGISTRATION FEES

HASTA 23-07-2024

Fee Waiver

0 EUR

Regular Attendant

400,00 EUR

# **Lugar**

## **Palacio Miramar**

Pº de Miraconcha nº 48. Donostia / San Sebastián

Gipuzkoa