

# Topological Matter School 2018 (TMS18)

**23.Aug - 31.Aug 2018**

**Cod. Z08-18**

**Mod.:**

Face-to-face

**Edition**

2018

**Activity type**

Workshop

**Date**

23.Aug - 31.Aug 2018

**Location**

Miramar Palace

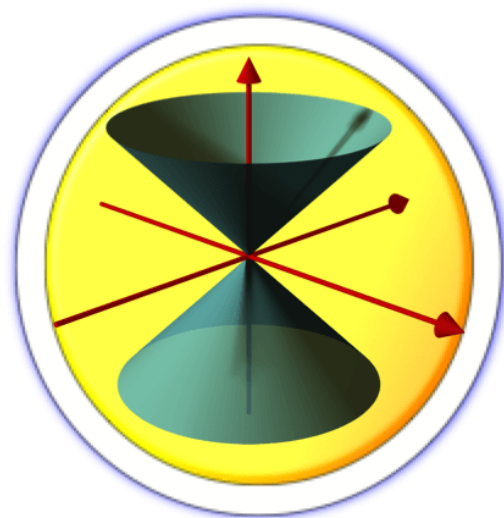
**Languages**

English

**Academic Validity**

90 hours

**Organising Committee**



Fundación  
BBVA



## Description

The school will cover the basics of group theory, classification of topological matter and introduce in detail different classes of topological materials. A special session about interaction effects complemented by a hands-on session is included. Moreover, 4 experimentalists will introduce the main experimental techniques and topological characterization to the participants.

### Topics to be covered:

- Introduction to the Berry phase and Chern number.
- Topological classification.
- Topological Quantum Chemistry.
- Interactions.
- Experimental techniques such as growth, transport measurements and ARPES.

Prior to the school there will be an optional course to give the opportunity to students to deepen their knowledge about group theory applied to topology. The particular goals of this course will be:

- Introduction to group theory including double groups
- Induction/Subduction and Band Representations
- Application in the Bilbao Crystallographic Server

### Organizing committee :

Maia García Vergniory, Ikerbasque Research Fellow at DIPC, Donostia-San Sebastian (chair)

Dario Bercioux, Ikerbasque Research Fellow at DIPC, Donostia-San Sebastian (chair)

M. Reyes Calvo, Ikerbasque Research Fellow at CIC Nanogune, Donostia-San Sebastián

Jérôme Cayssol, LOMA, Bordeaux

Adolfo G. Grushin, Institut Neel CNRS, Grenoble

### Objectives

The aim of this one-week school is a **meeting targeting young researchers, as master and graduate students**, for introducing the participants to the recently developed field of topological states of matter as well as the latest advances. The main goal is to cover basic and advanced aspects of the field, including a set of lectures explaining practically how to perform a first principle approach to the problem.

### Course specific contributors



## Directed by



**Maia García Vergniory**

Donostia International Physics Center

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**Dario Bercioux**

Ikerbasque Research Fellow at Donostia International Physics Center

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## **Place**

### **Miramar Palace**

Pº de Miraconcha nº 48. Donostia / San Sebastián

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