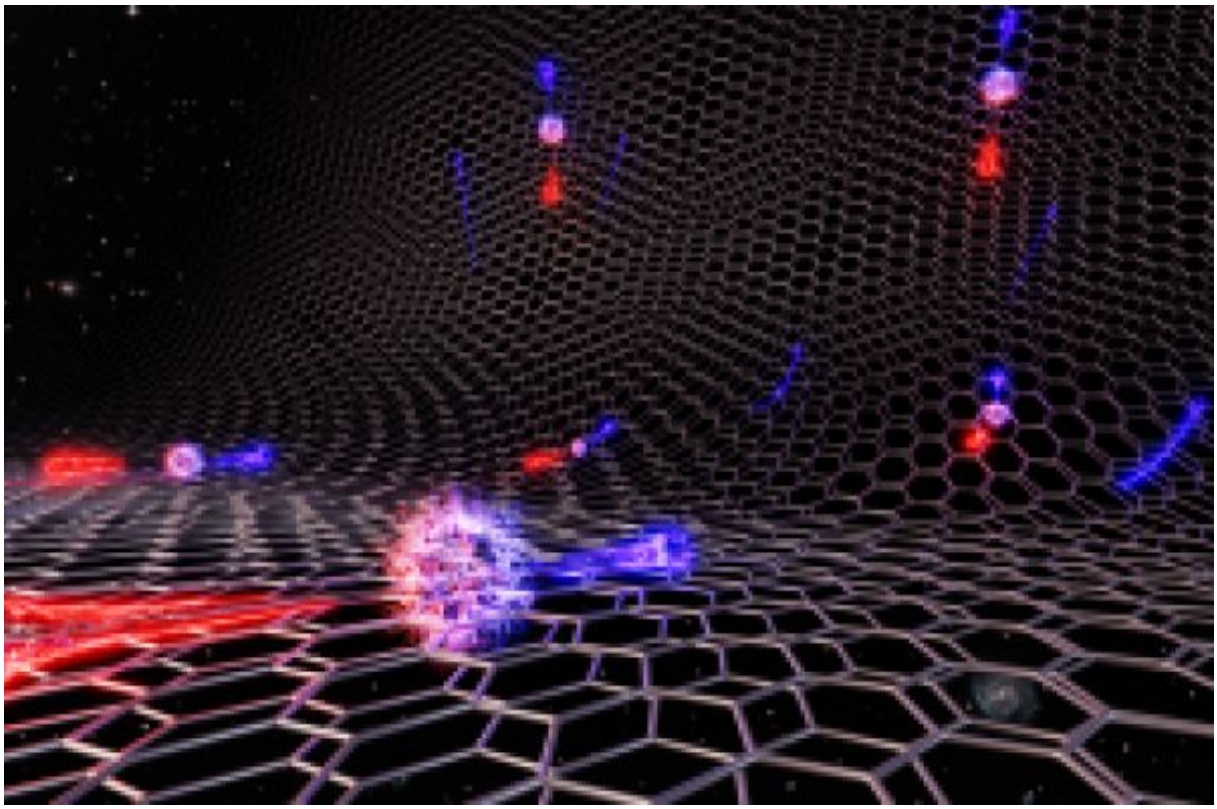
ICFO



ICFO INTERNATIONAL SCHOOL ON THE FRONTIERS OF LIGHT: New horizons in Quantum Materials

June 27, 2022 to June 30, 2022
ICFO Auditorium & Online (Zoom)

Quantum materials have macroscopic properties that are governed by interacting particles, or by entanglement, or giving rise to collective excitations known as quasiparticles. This school aims to direct our vision into a new horizon of science and technology based on quantum materials, from advanced superconducting materials, to van der Waals materials, moire quantum matter, collective phenomena, strong light-matter interactions and more. The school will introduce advanced theoretical and experimental tools used to study quantum materials, and provide a glimpse of the wealth of potential applications, ranging from high-energy experimental and theoretical physics, to materials science and energy storage.

This **4-day international school** will cover topics including: 2D Materials, van der Waals hetero-structures, twistronics, Near-field microscopy, STM, cavity QED materials engineering,

topology, and quantum batteries.
The event will include lectures & seminars, discussion sessions, and student talks and posters where participants will have the opportunity to interact and present their own research.
The school is open to registration from interested students and researchers worldwide.
ICFO will offer up to 5 **SPIE@ICFO Chair Travel Fellowships** for selected students to attend the school. ?

Two **SPIE@ICFO Chair Research Internships** to conduct a project with an ICFO research group are also available on a competitive basis to outstanding students selected to attend the school.?

Lectures and seminars will be broadcast **online** and are open to registration from interested students and researchers worldwide.

Program:

[ninja_tables id="17987"]

About:

International Schools on the Frontiers of Light aim at giving talented young researchers and students worldwide a first introduction to a thematic research area and a taste of an international research environment. These schools incorporate a dynamic and social learning environment beyond participating in lectures, including group discussions, direct interactions with the lecturers, student talks and poster presentations.

ICFO does not tolerate any type of conduct or behavior considered harassment or bullying and has clear defined policies against harassment.

Scientific Organisers:

ICREA Professor Dr Frank Koppens (ICFO), Prof Dr Robert Sewell (ICFO) and Prof Dr Pablo Jarillo-Herrero (MIT).?

**This activity is co-financed by the European Union Regional Development Fund within t e framework of the ERDF Operational Program of Catalonia 2014-2020 with the support of t e Department de Recerca i Universitat, with a grant of 50% of the total eligible cost (Graph AT 001-P-001702)