ICFO



ICFO-UNAM-UNIANDES INTERNATIONAL SCHOOL ON THE FRONTIERS OF LIGHT: Quantum Challenges

November 08, 2021 to November 11, 2021
15:15 to 18:15
Online

8-10 November 2021: SMR & Online (Zoom) / 11 November 2021: Auditorium & Online (Zoom)
Barcelona, Mexico & Bogota

Researchers world-wide are working to understand and harness the power of quantum phenomena in order to usher in revolutionary new quantum technologies and applications.

This **4-day online school** aims to provide an introduction to exciting new developments

opportunities and open challenges across all fields of quantum science and technology covering the main pillars of quantum computing, quantum communications, quantu simulation and quantum sensing.

The event will include lectures & seminars, discussion sessions, and student talks and poster session, where participants will have the opportunity to interact and present their own research.

Online plenary sessions are open to all interested. Lectures and seminars will be broadcast online and are open to registration from interested students and researchers worldwide.

Lecturers:

Alvaro Cuevas, ICFO
Antonio Acin, ICFO
Asaf Paris-Mandoki, UNAM-LANMAC
Carlos Abellan, QuSide
Darrick Chang, ICFO
Eduardo Gomez, USLP-LANMAC
Elizabeth Agudelo, TUW (Technische Univerrsitat Wien)
Jorge Amin Seman, UNAM-LANMAC
Leticia Tarruell, ICFO
Morgan Mitchell, ICFO
Mayerlin Nunez, Uniandes
Philipp Hauke, Universita di Trento
Rocio Jauregui, UNAM-LANMAC
Santiago F. Caballero-Benitez, UNAM-LSCSC-LANMAC

About:
This school is the second ICFO-UNAM International School on the Frontiers of light.

These schools 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.

The organizers do not tolerate any type of conduct or behaviour considered harassment or bullying and have a clear defined policy against harassment.

Participating Institutions:
ICFO - the Institute of Photonic Sciences, is a young research institution that aims to advance the very limits of the science and technology of light, tackling important challenges faced by society at large in all areas of life, including health, energy, information, safety, security and caring for the environment. ICFO is a member of BIST, the Barcelona Institute of Science and Technology.

The National Autonomous University of Mexico (UNAM) is one of the two largest universities in Latin America and it is often ranked as the best university in Iberoamerica. However its biggest merit might be making education with high standards available to students originated from all socio-economic backgrounds within the country. UNAM is also home t various research centers with an international scope. Three of them - the Centre for Appli d Physics and Advanced Technology (CFATA), the Institute of Physics (IFUNAM), and the Institute of Nuclear Sciences (ICN) - are taking part in the organisation of this school.

The Department of Physics of the University of the Andes (UniAndes) stands out for its emphasis on high-quality research, undergraduate, master's and doctoral studies. The research lines offered by the department include High Energy Physics, Astronomy, Biophysics, Theoretical Physics, Condensed Matter and Quantum Optics. Specifically, the experimental quantum optics group at UniAndes focuses on studying the generation characterization and manipulation, at the quantum level, of various light sources in order t understand them and use them for practical applications. At this moment, the grou concentrates its efforts on using our abilities to generate quantum light to study topic related with open quantum systems, measurement theory and quantum spectroscop technics.