IV School on Light and Cold Atoms

October 20 – 31, 2025

ICTP-SAIFR, São Paulo, Brazil

Venue: ICTP-SAIFR/IFT-UNESP

Progress made during the past four decades in techniques for producing and controlling cold matter gave rise to the experimental manipulation of quantum gases, exotic states of matter, and the implementation of quantum simulators for condensed matter Hamiltonians. In addition, progress in the production and manipulation of quantum states of light and the suppression of classical noise allowed for the emergence and control of special coherence properties and quantum statistics, for both matter and light. These developments brought the fields of quantum optics and ultracold matter closer to applications, for example, in quantum sensing and quantum information processing. This common field of research represents today a privileged platform for fundamental discoveries of non-classical properties of light and matter, and an incubator of new quantum technologies.

This school aims at training PhD students, post-docs and outstanding master students in the physics of optics and cold atoms, introducing them to the basics, and familiarizing them with applications in modern technologies.

You can find information on the previous Schools on Light and Cold Atoms here:

School on Light and Cold Atoms 2023

School on Interaction of Light with Cold Atoms 2019

School on Interaction of Light with Cold Atoms 2017

This school will precede the School on Emergent Phenomena in Many-Body Systems.

Organizers:

- **Carla Hermann Avigliano** (U. de Chile, Chile)
- **Mathilde Hugbart** (Université Côte d'Azur, France)
- **Patrícia Christina Marques Castilho** (IFSC-USP, Brazil)
- **Raul Celistrino Teixeira** (UFSCAR, Brazil)
- **Romain Pierre Marcel Bachelard** (UFSCAR, Brazil)