



**ICTP
SAIFR**

International Centre
for Theoretical Physics
South American Institute
for Fundamental Research

IV SCHOOL ON LIGHT AND COLD ATOMS

October 20 – 31, 2025
at IFT-UNESP, São Paulo, Brazil

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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.

This school will precede the School on Emergent Phenomena in Many-Body Systems from November 3 – 14.

There is no registration fee and limited funds are available for travel and local expenses. It is highly recommended that participants in this event prepare poster presentations.

Application deadline:

July 20, 2025

Online application and more information:

ictp-saifr.org/slca2025



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