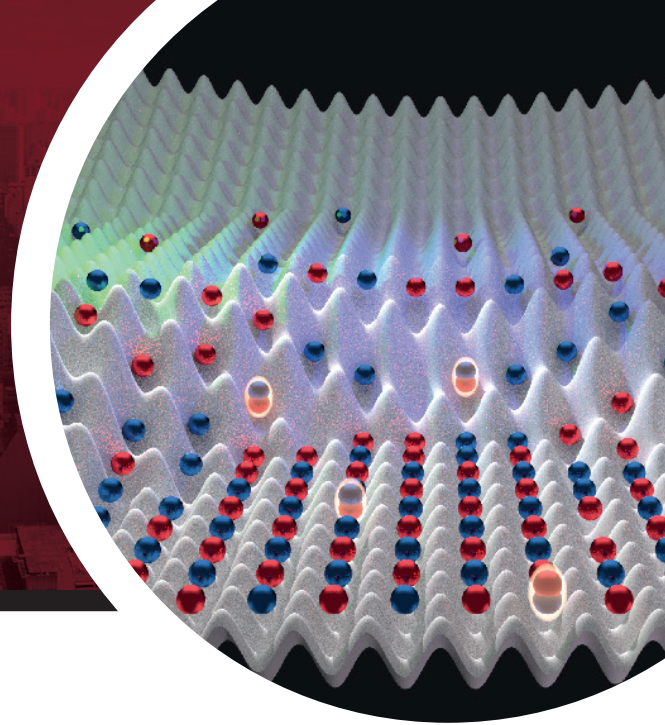




**ICTP  
SAIFR**

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

## LECTURERS

**CARLA HERMANN-AVIGLIANO**  
University of Chile & MIRO, Chile

**DANIEL FELINTO**  
UFPE, Brazil

**HÉLÈNE PERRIN**  
Université Sorbonne Paris Nord, France

**IRINA NOVIKOVA**  
College of William and Mary, USA

**LUCAS MADEIRA**  
ECT, Italy

**MICHEL BRUNE**  
ENS + Collège de France, France

**PHILIPPE W. COURTEILLE**  
IFSC-USP, Brazil

**STEPHEN WALBORN**  
Universidad de Concepción & MIRO, Chile

**THEREZA PAIVA**  
UFRJ, Brazil

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.

**Registration deadline:**

**July 20, 2025**

**Online registration and more information:**

**[ictp-saifr.org/slca2025](http://ictp-saifr.org/slca2025)**



## ORGANIZERS

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

## ICTP-SAIFR STEERING COMMITTEE

Atish Dabholkar (chair, ICTP director)  
Maysa Furlan (UNESP rector)  
Márcio de Castro Silva Filho (FAPESP scientific director)  
Hugo Aguilaniu (Serrapilheira president-director)  
Helena Nader (Brazilian Academy of Sciences president)  
Juan Maldacena (South American representative)

## ICTP-SAIFR SCIENTIFIC COUNCIL

Carlos Brito Cruz (chair, Elsevier)  
Rosario Fazio (ICTP)  
Ricardo Matheus (IFT-UNESP)  
William Bialek (Princeton Univ.)  
Eduardo Fradkin (Univ. of Illinois)  
Gabriela Gonzalez (Louisiana State Univ.)  
André de Gouvêa (Northwestern Univ.)  
Michael Green (Cambridge Univ.)  
Karen Hallberg (Balseiro Inst.)  
Luis Lehner (Perimeter Inst.)

## ICTP-SAIFR STAFF

Nathan Berkovits (Director)  
Rogerio Rosenfeld (Vice-Director)  
Pedro Vieira (Perimeter-SAIFR Coordinator)  
Larissa Takeda (Activities Coordinator)  
Humberto Neto (Executive Secretary)  
Luiz Eduardo Moreira (Computer Systems Manager)  
Lilia Faria (Financial Manager)  
Daniel Almeida (Visitors Coordinator)  
Marrey Peres, Jr. (Operations Manager)  
Thiago Codinhoto (Technical Assistant)  
Felipe Saldanha (Communications Coordinator)