

# Conference and Advanced School on Low-Dimensional Quantum Systems



**13 - 24 March 2023**  
**An ICTP Meeting**  
**Santiago, Chile**

Further information:

<http://indico.ictp.it/event/10062/>  
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Low-dimensional quantum systems continue to be an exciting area of research. The frontiers have been continuously pushed forward by fabricating novel materials and developing experimental techniques that provide a gateway for exploring new physics. Examples of such new endeavors include hydrodynamic phenomena in interacting electron systems in ultra-pure materials; driven quantum systems, where strong light-matter interactions can lead to novel states of matter; generation and control of entangled states in low-dimensional devices; emergent correlated phases in novel low-dimensional materials and structures (e.g., twisted graphene).

The main goal of this event will be to nurture collaborations and exchange of knowledge among researchers, advanced students and postdocs of different continents and subfields.

The activities will highlight recent progress in this area in topics including, but not limited to:

- Electronic hydrodynamics
- Driven/dissipative systems and light-matter interaction
- Low-dimensional devices and disorder
- Topological systems
- Emergent phases in novel materials

The event will combine a set of lectures and talks during the two weeks and will be a meeting point for researchers worldwide.

## Directors:

L. ARRACHEA, UNSAM, Argentina  
L. FOA TORRES, Universidad de Chile, Chile  
I. GORNYI, KIT Karlsruhe, Germany  
I. GRIGORIEVA, The University of Manchester, UK  
A. NUNEZ, Universidad de Chile, Chile  
P. ORELLANA DINAMARCA, Universidad Técnica Federico Santa María, Chile  
A. PRINCIPI, The University of Manchester, UK  
M. KISELEV, ICTP, Italy

## ICTP Scientific Contact:

M. KISELEV, ICTP, Italy

## Lecturers:

G. FALKOVICH, Weizmann Institute of Science, Israel - "An introduction to hydrodynamics for condensed matter physicists"  
A. MIRLIN, KIT, Germany - "Disordered systems"  
B. NAROZHNY, KIT, Germany - "Graphene hydrodynamics"  
M. POLINI, Università di Pisa, Italy - "Cavity quantum electrodynamics of atomically thin crystals"  
J. SCHMALIAN, KIT, Germany - "Topologically Enabled Superconductivity"

## Speakers:

C. BALSEIRO, Centro Atómico Bariloche and CONICET, Argentina  
A. CHAVES, Universidade Federal do Ceará, Fortaleza, Brazil  
C. CORMICK, Universidad Nacional de Córdoba, Argentina  
D. DULIC, Universidad de Chile, Chile  
Y. GEFEN, Weizmann Institute of Science, Israel  
A. FAINSTEIN, Centro Atómico Bariloche and CONICET, Argentina  
R. FAZIO, ICTP, Italy  
M. KISELEV, ICTP, Italy  
J. KLINOVAJA, University of Basel, Switzerland  
A. LEVCHENKO, University of Wisconsin-Madison, USA  
A. LUCAS, University of Colorado, USA  
J. MAZE, Pontificia Universidad Católica de Chile, Chile  
P. MELLADO, Universidad Adolfo Ibáñez, Chile  
F. von OPPEN, Freie Universität Berlin, Germany  
H. M. PASTAWSKI, Universidad Nacional de Córdoba, Argentina  
A. PRINCIPI, The University of Manchester, UK  
T. RAPPOPORT, UFRJ, Brazil  
S. ROCHE, ICN2 and ICREA, Spain  
M. RÖSNER, Radboud University, Netherlands  
D. SHEEHY, Louisiana State University, USA  
A. STERN, The Weizmann Institute of Science, Israel  
V. VILDOSOLA, GYA-CNEA, Argentina  
Z. ZANOLLI, Utrecht University, Netherlands

## How to apply:

Online application:  
<http://indico.ictp.it/event/10062/>

Female scientists are encouraged to apply.

## Grants:

A limited number of grants are available to support the attendance of selected participants, with priority given to participants from developing countries.

There is no registration fee.

## Deadlines:

**15 December 2022**

For applicants requesting financial and/or visa support

**22 January 2023**

For all other applicants



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