

Summer School on New Trends in Modern Quantum Science: from Novel Functional Materials to Quantum Technologies



22 - 30 September 2023
Bukhara, Uzbekistan

Further information:
<http://indico.ictp.it/event/10211/>
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The focus of this Summer School is on advanced ideas, novel results, current problems, and future prospects in the area of modern quantum science, with a special focus on quantum materials and their applications in quantum technology. This constitutes a new and advanced research area of physics and engineering, aiming at exploiting phenomena of quantum mechanics such as entanglement, quantum superpositions, tunneling, and quantum interference for practical applications: in quantum computing, quantum sensing, quantum cryptography, high precision quantum metrology, and quantum imaging. The lectures will be presented by leading experts on different issues of modern condensed matter physics, quantum science and technology.

Topics:

- Graphene: Two-dimensional materials and their heterostructures
- Topological insulators
- Quantum Hall effects
- Novel superconducting materials
- Quantum computation and information
- Majorana fermions and topological quantum computation
- Quantum metrology and sensing
- Quantum imaging
- Physics Informed Machine learning for material design and simulation
- Non-Hermitian and PT-symmetric physics in quantum materials
- Non-Equilibrium Quantum Matter
- Quantum networks

Applicants are encouraged to submit an abstract for a poster presentation and/or contributed talk.

How to apply:

Online application:
<http://indico.ictp.it/event/10211/>

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.

Directors:

C.W.J. BEENAKKER, University of Leiden Instituut-Lorentz, Netherlands
Y. GEFEN, The Weizmann Institute of Science, Israel
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Scientific Contact:

M. KISELEV, ICTP, Italy

Speakers:

A. AHARONY, Tel-Aviv University, Israel
S. BANERJEE, Indian Institute of Science, Bangalore, India
Y. BLANTER, TU Delft, The Netherlands
X. BONET MONROIG, Leiden University, The Netherlands
A. BUCHLEITNER, University of Freiburg, Germany
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F. VON OPPEN, Frei University of Berlin, Germany

Deadlines:

For applicants requesting financial and/or visa support:

15 July 2023

For all other applicants:

1 August 2023



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