

Superconductivity: from Microscopic Mechanisms to Topology to Macroscopic Properties



18 - 22 May 2020
Trieste, Italy

Further information:
<http://indico.ictp.it/event/9090/>
E-mail: smr3445@ictp.it

Modern superconducting materials of interest tend to exhibit a complex interplay of many-body ordering tendencies. This requires an understanding of the ensuing multicomponent field theories, their microscopic origins and macroscopic responses.

Description:

This program will bring together experimentalists, experts working on macroscopic properties and experts working on the underlying microscopic physics that leads to these complex states. The goal will be to achieve an in depth understanding of important physical properties including magnetic response, transport and thermoelectric properties, nature of topological excitations, and fluctuation-induced phases. This will be achieved through an emphasis on the following material systems: twisted bilayer graphene; iron-based superconductors; unconventional superconductivity in Sr_2RuO_4 ; UTe_2 and related ferromagnetic superconductors; Bi_2Se_3 based nematic superconductors; $j=3/2$ superconductors; and novel 2D superconductors

Topics:

- Topological superconducting phases
- Broken time-reversal superconductors
- Superconductivity with competing orders
- Topological Majorana edge states
- Novel superconducting gap structures
- Superconductivity from correlated electrons

How to apply:

Online application:
<http://indico.ictp.it/event/9090/>

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:

E. BABAEV, KTH
D. AGTERBERG, University of Wisconsin
O. VAFEK, Florida State University/NHMFL

Local Organizer:

M. DALMONTE, ICTP

Speakers:

A. BERNEVIG, Princeton University
A. BLACK-SCHAFFER, Uppsala University
G. BLUMBERG, Rutgers University
J.-P. BRISON, CEA
N. BUTCH, University of Maryland
J. CARLSTROM, Stockholm University
A. CAVALLERI, MPSD
A. CHUBUKOV, University of Minnesota
D. EFETOV, ICFO
Y. FENG, Chinese Academy of Sciences
V. GRINENKO, IFW-Dresden
E. HASSINGER, MPI Dresden
C. HICKS, MPI Dresden
J. KANG, Soochow University
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H.-H. KLAUSS, TU Dresden
R. LORTZ, HKUST
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J. PAGLIONE, UMD
A. PASUPATHY, Columbia University
S. RAGHU, Stanford University
A. RAMIRES, ICTP-SAIFR
A. SAMOILENKA, KTH
M. SIGRIST, ETH Zurich
M. SILAEV, University of Jyväskylä
C. TIMM, TU Dresden
C. VARMA, University of California
Y. YANASE, Kyoto University
S. YIP, Academia Sinica Taipei

Deadline:

1 March 2020



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