Frontiers of Nanomechanics

13 - 17 July 2020
Trieste, Italy

Further information:
http://indico.ictp.it/event/9105/
smr3460@ictp.it

The advanced school on 'Frontiers of Nanomechanics' will introduce the fundamental concepts of nano- and optomechanical systems and describe the key ideas behind future potential technologies.

Directors:

Y. M. Blanter, Delft University of Technology, Netherlands
F. Marquardt, Max Planck Institute for the Science of Light, Germany
E. M. Weig, University of Konstanz, Germany

Description:

The School will consist of eight lecture series (two times one hour) delivered by international experts. These lecture series reflect the fields which currently attract the highest scientific interest and/or application potential and cover landmark implementations of nanomechanical systems. They also represent a good balance between experimental and theory perspectives, fundamental recurrent topics and modern topics which only developed in the last couple of years, as well as between classical and quantum mechanical aspects of nanomechanics. The lecture series will be complemented by practical, hands-on mini-project sessions supervised by the lecturers. The results of the mini-projects will be presented at the end of the School.

Topics:

- Introduction to nanomechanics
- Nanomechanical resonators coupled to spins
- Nonlinear dynamics of nanomechanical systems
- Topological mechanics
- Basics of quantum cavity optomechanics
- Optomechanical crystals and quantum cavity optomechanics experiments
- Quantized phonons and superconducting qubits
- Non-Hermitean scenarios in nanomechanical systems

Local Organizer:

M. N. Kiselev, ICTP

Lecturers:

A. C. Bleszynski Jayich, University of California Santa Barbara, USA
Y. Chu, ETH Zurich, Switzerland
A. N. Cleland, University of Chicago, USA
A. A. Clerk, University of Chicago, USA
M. I. Dykman, Michigan State University, USA
J. G. E. Harris, Yale University, USA
S. D. Huber, ETH Zurich, Switzerland
A. H. Safavi-Naeini, Stanford University, USA

How to apply:

Online application:
http://indico.ictp.it/event/9105/

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.

Deadline:

30 April 2020

ESOF2020
EUROSCIENCE OPEN FORUM
TRIESTE

The Abdus Salam
International Centre
for Theoretical Physics
www.ictp.it
Trieste, Italy