

Conference on Quantum Measurement: Fundamentals, Twists, and Applications



29 April - 4 May 2019
Trieste, Italy

Further information:
<http://indico.ictp.it/event/8655/>
smr3285@ictp.it

This conference will address recent theoretical and experimental developments in quantum measurement, underscoring common themes from the perspectives of foundations of quantum mechanics, quantum information processing, quantum optics, condensed matter physics and metrology.

Description:

Rooted in the early history of quantum mechanics, the field of quantum measurement has evolved from a purely mathematical formulation to an active research topic, embedded in a broad spectrum of subfields, ranging from quantum optics to condensed matter physics. It involves a variety of techniques, including quantum limited, fast, non-invasive measurements. As a versatile tool in an advanced quantum toolbox, quantum measurements could be empowered for the design of novel protocols, including active and passive error correction codes, quantum feedback control, precision measurements, quantum state discrimination, quantum metrology, quantum simulations, and more.

In this context of diversified research, this meeting will bring together expert theorists and experimentalists, employing different facets of quantum measurement, with the goal of identifying common themes, and cross-fertilizing with new ideas.

A poster session will also be organized during the conference.

Topics:

- Foundations of quantum mechanics
- Quantum measurement in information processing
- Quantum measurements in nanodevices
- Quantum measurement and thermodynamics
- Quantum metrology and precision measurements

Directors:

A. ROMITO, Lancaster University, U.K.
Y. GEFEN, Weizmann Institute of Science, Israel
F. SCIARRINO, Univ. di Roma La Sapienza, Italy

Local Organizer:

A. SCARDICCHIO, ICTP

Speakers:

A. ACIN, ICFO, Spain
Y. AHARONOV, Tel Aviv University, Israel
A. AUFFEVE, Institut Neel, France
M. BARBIERI, Università Roma Tre, Italy
W. BELZIG, Konstanz University, Germany
P. BERTET, SPEC / CEA Saclay, France
Y. BLANTER, Delft University, the Netherlands
R. CHAVES, Institute of Physics Natal, Brasil
M. DEVORET, Yale University, USA
R. EGGER, University of Dusseldorf, Germany
J. EISERT, Freie Universität Berlin, Germany
K. ENSSLIN, ETH, Switzerland
D. ESTEVE, CEA-Saclay, France
M. GENOVESE, INRIM, Italy
I. GORNI, KIT, Germany
B. HUARD, LPA CNRS, France
A. JORDAN, University of Rochester, USA
E. KARIMI, Ottawa University, Canada
A. KOROTKOV, University of California, Riverside, USA
E. LAIRD, Lancaster University, UK
I. LERNER, University of Birmingham, UK
E. LUTZ, Stuttgart University, Germany
F. MARQUARDT, MPI Erlangen, Germany
M. MITCHELL, ICFO, Spain
K. MURCH, Washington University in St. Louis, USA
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M. SEGEV*, Technion, Israel
I. SIDDIQI, UC Berkley, USA
K. SNIZHKO, Weizmann Institute of Science, Israel
A. STEINBERG, University of Toronto, Canada
L. VAIDMAN, Tel Aviv University, Israel
V. VEDRAL, University of Oxford, UK
R. VIJAY, Tata Institute of Fundamental Research, India
H. WISEMAN, Griffith University, Australia
O. ZILBERBERG, ETH, Switzerland
*to be confirmed

How to apply:

Online application:
<http://indico.ictp.it/event/8655/>

Female students and 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:

10 February 2019



Physics



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The Abdus Salam
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