

Workshop on Understanding Quantum Phenomena with Path Integrals: From Chemical Systems to Quantum Fluids and Solids

3 - 7 July 2017
Trieste, Italy



Further information:

Activity URL: <http://indico.ictp.it/event/7975/>

E-mail: smr3131@ictp.it

The aim of this interdisciplinary Workshop is to gather together physicists and chemists who employ path-integral simulations on different systems, ranging from chemical and biochemical compounds, to quantum fluids/solids, to ultracold gases.

Description:

The goal is to create the platform for exchanging knowledge on path-integral technology and on other approaches to the combined quantum simulation of electrons and nuclei.

This Workshop will present the most recent methodological developments and applications to the intriguing quantum phenomena, including, e.g., isotope effects in aqueous systems, quantum fluctuations in enzyme catalysis, superfluid/supersolid transitions, and correlation effects in electronic systems.

The programme will include 25 to 30 oral presentations given by invited speakers, a poster session and a flash talk session with short oral contributions.

Participants who want to take part in these sessions should submit an abstract through the online application form.

Topics:

- Path-integral theory: statics and dynamics;
- Path-integral in chemical systems;
- Path-integrals in biology;
- Quantum effects: connecting with experiments;
- Path-integrals: quantum fluids and solids;
- Path-integrals in cold atoms;
- Quantum Bose and Fermi statistics: superfluidity, localization, exchange;
- Efficient sampling algorithms;
- Higher-order discretisation methods.

Directors:

D. CEPERLEY, Illinois, U.S.A.

M. CERIOTTI, EPFL, Switzerland

T. MARKLAND, Stanford, U.S.A.

Local Organizers:

A. HASSANALI, ICTP, Italy

S. PILATI, ICTP, Italy

Workshop Speakers:

N. ANANTH, Cornell

M. BONINSEGNI, University of Alberta

J. BORONAT, UPC, Barcelona

S. CHIN*, Texas A&M

F. CINTI, NITheP, Stellenbosch

B. CLARK, UIUC

J. DUBOIS, LLNL

D. GALLI, University of Milan

M. HOLZMANN, LPMCM, Grenoble

Y. KWON, Konkuk University, Seoul

I. KYLANPAA, TUT, Tampere

N. MAKRI, UIUC

O. MARSALEK, Stanford

G. MARTYNA, IBM T. J. Watson RC

D. MARX, Ruhr-Universität Bochum

B. MILITZER, UC Berkeley

M. MORALES, LLNL

M. NAVA, ETH Zurich

C. PIERLEONI, University of L'Aquila

N. PROKOF'EV, UMass, Amherst

U. RAY, Princeton

G. REITER, University of Houston

J. RICHARDSON, ETH Zurich

M. ROSSI FHI, Berlin

M. TUCKERMAN, New York University

* TO BE CONFIRMED

How to apply:

Online application:
<http://indico.ictp.it/event/7975/>

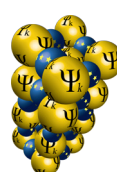
Female scientists are encouraged to apply.

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:

20 March 2017



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for Theoretical Physics**

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