7th MaNEP Winter School

8–13 January 2017 in Saas-Fee

Quantum materials at the nanoscale

MaNEP SWITZERLAND NETWORK
Winter School 2017
Saas-Fee SAASTAL

The school combines introductory courses with more specialized lectures in the field of correlated quantum matter.

The school aims at a broad introduction to topics of current interest in condensed-matter physics. This year, a special focus is put on nanoscale phenomena in quantum materials, especially on local probes investigating such materials at the nanoscale. Three long lectures will provide an introduction to various classes of materials, to the fundamental aspects of spectroscopy of correlated electron materials, and to microscopy as well as local probes of topography and spectroscopy. Five shorter lectures will cover: recent advances in nanomagnetism and dichalcogenides, as well as introductions to electro-active functional materials, photovoltaics, and to resistive switching in random-access memories.

The school targets an audience at the doctoral and post-doctoral levels. A background in general condensed-matter physics should be sufficient. All lectures are given in English.

Program

Basic courses

Theory of spectroscopy of correlated materials
Jeroen van den Brink
IFW Dresden

Microscopy and nano-probing techniques
Patrycja Paruch
University of Geneva
Pietro Gambardella
ETH Zürich

Classes of materials
Neven Barišić
Vienna University of Technology

Specialized lectures

Functional oxides and their properties
Gustau Catalan
ICN2 Barcelona

Photovoltaics and optoelectronics
Mohammad Khaja Nazeeruddin
EPF Lausanne

Dichalcogenides
Andras Kis
EPF Lausanne

Nanomagnetism
Frithjof Nolting
Paul Scherrer Institute (PSI)

Resistive RAMs
Marcelo Rozenberg
LPS Orsay

Program committee

Thorsten Schmitt (chair), Philipp Aebi, László Forró, Antoine Georges, Patrycja Paruch, Matthias Troyer

Organization

Christophe Berthod, Pascal Cugni, Gregory Manfrini, Natacha Triscone

For registrations and further information, please browse the MaNEP Network site http://www.manep.ch/saasfee17. Deadline for registrations is October 31, 2016.