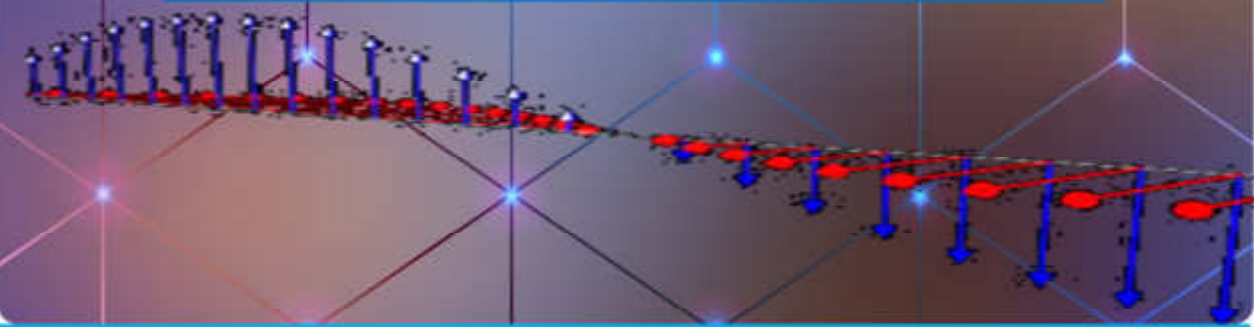


The Italian Mineralogical National Group (GNM)
of the Italian Society of Mineralogy and Petrology (SIMP),
is pleased to announce the School:



**PHYSICAL PROPERTIES OF MINERALS:
How and why to dive into their knowledge**

Bressanone (BZ), 12-15 February 2018,
Casa della Gioventù Universitaria

Aims and Scope

The National Mineralogical Group (GNM) of the Italian Society of Mineralogy and Petrology (SIMP), is pleased to announce the Mineralogical School: *“Physical properties of minerals: how and why to dive into their knowledge”*.

The school is open to students of master degree programs, PhD students and young researchers from universities and research institutions, classified in the subject area of Earth Sciences, Material Sciences, Natural and Environmental Sciences, Chemistry and Physics. The School will be focused on the physical properties of solid/crystalline materials - optical, thermodynamic, electrical, magnetic and mechanical - highlighting the relationships among those properties and the crystal structures, the size vs surface as well as the microstructure in them.

Types of materials - minerals, semiconductors, metals, glasses, orientationally disordered crystals, defective solids, and more - will be introduced and their main physical properties will be described. These themes will be approached by a theoretical and analytical point of view and some applications/implications to geological and material science themes will be followed.

The school is based on a number of lessons, which will be complemented by exercises, worked examples and learning self-assessment. Students will be continuously monitored by a selected and restricted panel of teachers, who are expected to attend the school all the time, and to provide an up-to-date and complete framework of knowledge and investigation methods on the selected topics.

Main topics

- 1) Physical properties of minerals: past, present and future
- 2) High pressure and high temperature elastic properties *of* minerals
- 3) Petrophysical properties (porosity, permeability, microstructure) of rocks
- 4) Microstructures / microtomography of rock and industrial minerals
- 5) Micro- mesoporosity of inorganic materials: ion exchange properties
- 6) Magnetic properties of minerals
- 7) Thermal conductivities of materials
- 8) Propagation of electromagnetic waves in solid crystalline: from microwave to X-rays
- 9) Electron Diffraction Tomography: a cutting-edge technique to exploring the solid world

Summary of the context and justification for the event

The panel of the teachers of the mineralogical School includes many internationally renowned experts on the various themes. One of the goals of the School is to attract students from many

Organising and Scientific Committee

Paola Comodi (Department of Physics and Geology, University of Perugia)

Annalisa Martucci (Department of Physics and Earth Sciences, University of Ferrara)

Marco Pasero (Department of Earth Sciences, University of Pisa)

Mauro Prencipe (Department of Earth Sciences, University of Torino)

Gabriella Salviulo (Department of Geosciences, University of Padova)

Teachers

The speakers who agreed to participate are (as of now):

Matteo Ardit (University of Ferrara)

Omar Bartoli (University of Padova)

Fernando Camara (University of Torino)

Paola Comodi (University of Perugia)

Francesco Di Benedetto (University of Firenze)

Gabriele Giuli (University of Camerino)

Maria Luce Frezzotti (University of Milano-Bicocca)

Annalisa Martucci (University of Ferrara)

Enrico Mugnaioli (Center for Nanotechnology Innovation – IIT, Pisa)

Marco Pasero (University of Pisa)

Gabriella Salviulo (University of Padova)

Luca Valentini (University of Padova)