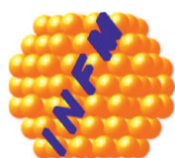


INTERNATIONAL WORKSHOP OF MATERIALS PHYSICS

PROGRAM and ABSTRACT BOOK



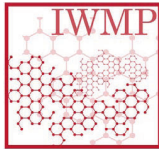
**4th edition of
International Workshop of Materials Physics**

28th -29th of May 2019

Invited Lectures



FUNDAȚIA "CULTURĂ ȘI FIZICĂ LA MĂGURELE"



**4th edition of the
INTERNATIONAL WORKSHOP OF MATERIALS PHYSICS**

28th-29th May 2019

The National Institute of Materials Physics (NIMP) announces the organization of the 4th edition of the International Workshop of Materials Physics (IWMP). The topic for 2019 edition is dedicated to energy, with special focus on topics such as: photovoltaics (novel photo-effects, halide perovskites, new architectures for solar cells, etc.), energy harvesting (piezo, pyro, thermoelectric), fusion, energy storage, energy transport, and other similar topics. Aspects related to modeling, fabrication, characterization will be presented and discussed.

Similar to the first three editions, the 4th edition of IWMP is organized on invitation only. The aim is to attract well known researchers in the field, the final purpose being to establish new collaborations concretized in common publications, projects and exchange of personnel.

Young researchers willing to present their latest results on topics related to the main topic of the workshop are invited to submit a 2 page abstract (A4, Times New Roman 11, single spacing, 2 cm margins, including figures and references) to the organizers (pintilie@infim.ro). The best abstracts will be selected for oral presentations during the workshop.

The workshop will take place at NIMP premises located in Magurele, Romania.

The topics for the next two editions:

2020-Materials and structures for bio-applications

2021-Recent developments in the field of ferroelectrics and multiferroics

Selected approaches for designing oxide thermoelectrics

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Thermoelectric (TE) effect provides an elegant solution for conversion of the waste heat into electrical energy, based on the intrinsically simple technology employing no moving parts and possessing self-sufficiency to enable mobile or remote applications. In some energy-conversion scenarios the cost and thermal stability requirements may dominate over efficiency issues, making abundant, high-temperature-stable and low-toxic oxides an interesting alternative TE material. The talk will focus on opportunities for high-temperature thermoelectric energy harvesting and feature some promising strategies to design performing oxide-based thermoelectrics. Particular attention will be given to the approaches where inherent redox flexibility of oxides is invoked for tailoring the functional TE properties, and some nanocomposite concepts.