THE PROGRAM

of the 10th edition of the International Workshop of Materials Physics

14 May, 2025

INVITED ORAL PRESENTATIONS

08:15	**Registration – *Oteteleşanu Hall***
08:45	**Official opening – Lucian PINTILIE, Scientific Director of NIMP**
Session 1: Chairman – Lucian Pintilie	
9:00	**Jorge INIGUEZ** Luxembourg Institute of Science and Technology **Hafnia ferroelectrics: a singular challenge for theory and simulation**
9:40	**Sergiu CLIMA** IMEC, Leuwen, BELGIUM **First-principles screening for OTS/SOM chalcogenide materials**
10:20	**Santanu SAHA** University of Limoges and Institut de Recherche sur les Céramiques (IRCER), Limoges, FRANCE **Adapting Physico-Chemical Affinities in First Principles Design of New Materials**
11:00	**Coffee break**
11:15	**Adolfo O. FUMEGA** Academy of Finland, Aalto University, FINLAND **Computational modeling of emergent phases in moiré materials**
11:55	**Andrei BERNEVIG** Princeton University, USA **Moiré Systems as Quantum Simulators of Strongly Correlated Hamiltonians**
12:35	**Lunch**
Session 2: Chairman – Marius Husanu	
14:00	**Bilal TANATAR** Department of Physics, Bilkent University, Ankara, TURKEY **Studies of localization within Aubry-Andre Model**
14:40	**Krzysztof WOHLFELD** Institute of Theoretical Physics of the Faculty of Physics of the University of Warsaw, POLAND **Altermagnetism from a strong-coupling perspective**
15:20	**Jan MINAR** New Technologies Research Center (NTC), University of West Bohemia, Pilsen, CZECHIA **Quantum Materials and Magnetic Phenomena Studied by Spin-Resolved ARPES: Theoretical per-spectives**
16:00	**Coffee break**
16:15	**Andrei MANOLESCU** Reykjavik University, ICELAND **Magnetic-flux periodicity in core/shell semiconductor/superconductor nanowires**
16:55	**Cătălin PASCU MOCA** University of Oradea, ROMANIA **Kondo Compensation and Quantum Criticality in Superconducting and Fractionalized Systems**
17:35	**Poster Sessions**
19.30	**Dinner**

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Session 3: Chairman – Alin Velea	
9:00	**Stephan ROCHE** ICREA Institució Catalana de Recerca i Estudis Avancats, Barcelona, SPAIN **Linear scaling quantum simulation methodologies**
9:40	**Marius STAN** University of Chicago, USA **Artificial Intelligence for Material Design**
10:20	**Alin M. ELENA** Scientific Computing Department, Science and Technology Facilities Council, Daresbury Laboratory, Daresbury, UK **Machine Learned Interatomic Potentials for modelling porous materials**
11:00	**Coffee break**
11:15	**Felix MOCANU** Department of Materials, University of Oxford, Oxford, UK **Computational design of high energy density cathode materials for Li-ion batteries**
11:55	**Larisa VON RIEWEL** Heraeus Noblelight, Global Innovation, Bayern, GERMANY **Microscopic investigation of the slurry drying process and binder migration in Li-ion battery anodes using computational chemistry**
12:35	**Lunch**
Session 4: Chairman – Cristian Teodorescu	
14:00	**Claudiu GENES** Max Planck Institute, Erlangen, GERMANY **Quantum optics with atoms and molecules: analytical approaches**
14:40	**Vidar GUDMUNDSSON** Science Institute, University of Iceland, ICELAND **Arrays of quantum dots or rings in a FIR-photon cavity**
15:20	**Coffee break**
15:35	**Krzystof WIECZERZAK** Department of Materials Science, Faculty of Mechanical Engineering and Aeronautics, Rzeszow University of Technology, Rzeszow, POLAND ONLINE PRESENTATION **Exploring CuAgZr metallic glasses for biomedical use: A study using combinatorial synthesis, high-throughput experiments, and machine learning**
16:15	**G. A. NEMNES** Physics Faculty, Bucharest University **Hybrid perovskite materials: from perovskite solar cells to memristive elements**
17:30	**Poster Sessions**
19:30	**Dinner**