

**Session Program**

**Jul 8 - 12, 2025**

**BPU 12 Congress**

***Condensed Matter, Materials and Applied Physics***

Politechnica Univ  
Splaiul Independenței 313, București 060042

## Wed, July 9

11:30 AM

### Condensed Matter, Materials and Applied Physics

Session | Location: Politechnica Univ, Splaiul Independenței 313, București 060042

11:30 AM - 12:00 PM

#### Seebeck effect in the charge density wave state of organic conductor $\alpha$ -(BEDT-TTF)<sub>2</sub>KHg(SCN)<sub>4</sub>

Speaker

Danica Krstovska

12:00 - 12:15 PM

#### Carbon-Silicon- Titanium - Aluminum nanostructures doped with nitrogen: synthesis and characterization

Speaker

Victor Ciupina

12:15 - 12:30 PM

#### Nanoscale thermal management with newly proposed 2D MOSFETs

Speaker

Zahra Shomali

12:30 - 12:45 PM

#### Molecular modelling of charge transfers in hybrid organic-inorganic photovoltaic devices

Speaker

Mihai GIRTU

12:45 - 1:00 PM

#### Nonreciprocal transport in Josephson junctions made of d-wave superconductors through ferromagnetic layer in the presence of interfacial Rashba spin-orbit coupling

Speaker

Stevan Djurdjević

1:00 PM

## Thu, July 10

11:00 AM

### Condensed Matter, Materials and Applied Physics

Session | Location: Politechnica Univ, Splaiul Independenței 313, București 060042

11:00 – 11:30 AM

#### Towards the Shockley-Queisser limit for single-junction crystalline silicon based solar cells

Speaker

Prof. Şener Oktik

11:30 AM – 12:00 PM

#### Quantum dynamics of phonon-limited charge and energy transport: Numerically exact and approximate approaches\*

Speaker

Dr Veljko Jankovic

12:00 – 12:20 PM

#### Theoretical Insight into Strongly Suppressed Thermal Conduction in Fully Dense Crystalline Solids

Speaker

Yue Chen

12:20 – 12:40 PM

#### Nonlinear excitation interaction with extended inhomogeneities in anisotropic ferromagnets

Speaker

Hassan Chamati

12:40 – 1:00 PM

#### Temporal Airy Pulses for Precision Processing of High-Bandgap Dielectric Materials

Speaker

Cristian Sarpe

1:00 PM

3:00 PM

### Condensed Matter, Materials and Applied Physics

Session | Location: Politechnica Univ, Splaiul Independenței 313, București 060042

3:00 – 3:25 PM

#### Towards a better understanding of emergent materials

Speaker

Gertrud Zwicknagl

3:25 – 3:50 PM

#### Resonant and non-resonant transfers of Frenkel excitons in Helical DNA-like regular structures

Speaker

Ivan Lalov

3:50 – 4:15 PM

#### Some particularities of heat and oxygen transport in a 200mm Czochralski growth of silicon crystals

Speaker

Daniel Vizman

4:15 – 4:35 PM

#### Molecular Dynamics Studies of Small Molecule Adsorption on Iron Oxide

**Speaker**  
Dr Nikoleta Ivanova

4:35 - 4:55 PM

**An assessment of metal contamination in the Ishmi River sediments using XRF spectrometry**

**Speaker**  
Ramadan Firanj

5:00 PM

## Fri, July 11

9:00 AM

### Condensed Matter, Materials and Applied Physics: Condensed Matter, Materials and Applied Physics

Session | Location: Politechnica Univ, Splaiul Independenței 313, București 060042

9:00 – 9:20 AM

#### An Overview of Groundwater Chemical Facies and Quality for Sustainable Water Resource Management in Albania

Speaker

Dr Iris Bakiri

9:20 – 9:40 AM

#### Low-Temperature Transport and Magnetoresistance in Bismuth Chalcogenide Topological Insulators

Speaker

Ayush R. Mokashi

9:40 – 9:50 AM

#### Exciton Dynamics in I<sub>2</sub>-Intercalated MoSe<sub>2</sub> crystals: Temperature-Dependent Luminescence and Kinetic Model

Speakers

Dr Nikita Siminel, Prof. Leonid Kulyuk

10:30 AM