Nanomaterials and Nanoarchitectures II.

Composite Materials & Their Applications

Event Program

Day 1 (29 June - Saturday)

am

09.00 – 09.30 Opening ceremony
09.30 – 10.00 1.1 Introduction (Bardosova)
10.00 – 11.00 1.2 Basics of Supramolecular Chemistry, Nanotechnology & Nanoarchitectonics (Ariga)
11.00 – 12.00 1.3 The Future of Materials Science with Artificial Intelligence (Oliveira)
12.00 – 12.45 1.4 Chalcogenide Glasses and Metal-doped Chalcogenides (Wagner)

13.00 – 14.30 Lunch

pm

14.30 – 15.30 1.5 Functional Materials and their Applications (Ariga)
15.30 - 16.30 1.6 Colloidal Photonic Crystals and their Applications (Fudouzi)
16.30 - 17.30 1.7 Photonic Band Gap Materials (John)

18.00 -19.00 Dinner

Evening: Poster session 1 (19.30 – 21.00)

Day 2 (30 June - Sunday)

am

09.00 – 09.45 2.1 Self-assembled Multicompartment Liquid-crystalline Nanostructures and their Applications (Angelova)
09.45 – 10.30 2.2 The use of Halloysite Nanotubes for the Preparation of Functional Materials (Pukanszky)
10.30 – 11.30 2.3 Clay Nanotubes for Hybrid Materials (Lvov)
11.30 – 12.30 2.4 Organic Films used for Biosensing (Oliveira)

12.30 – 14.00 Lunch

pm

14.00 – 14.45 2.5 Chemical Transformation of Colloidal Nanostructures (Yin)
14.45 - 15.30 2.6 Recent Developments in the Chitosan Nanofibers Wound Dressings (Marin)
15.30 - 16.15 2.7 Surface Characteristics of Layered Silicates, Surface Modifications and Competitive Interactions in their Composites (Pukanszky)
16.15 - 17.15 2.8 Atomic Layer Deposition. Principles and Applications (Frohlich)

18.00 -19.00 Dinner

Evening: Round table discussion 1 (19.30 – 21.00)

Day 3 (1 July - Monday)

am

09.00 – 10.00 3.1 Polymeric LbL Nano/Microcapsules for Controlled Drug Delivery (Lvov)
10.00 – 10.45 3.2 Developing Novel Functionalized Nanomaterials for Controlled Drug Delivery (Amler)
10.45 – 11.30 3.3 Mesoporous particles for Biomolecular Encapsulation and Drug Delivery (Angelova)
11.30 – 12.15 3.4 The Search for New Antibiotics with Cell Membrane Models (Oliveira)

12.15 – 14.00 Lunch

pm

14.00 – 14.45 3.5 Thin Films for Energy Applications (Frohlich)
14.45 - 15.30 3.6 Nanostructures for Enabling Ultra-low Limits of Detection (Higson)
15.30 - 16.30 3.7 Chitosan Hydrogelation with Monoaldehydes: an Easy Pathway towards Targeted Biomaterials (Marin)
16.30 - 17.30 3.8 Functionalized Hydrogels for Laparoscopic Application (Amler)

18.30 Conference Dinner

Day 4 (2 July - Tuesday)

am

09.00 – 09.45 4.1 Rises and Falls of the LB technique. 130 Years of Research in a Nutshell (Bardosova)
09.45 – 10.30 4.2 Amorphous and Crystalline Chalcogenide Thin Films Deposition (Wagner)
10.30 – 11.15 4.3 Micro-trough to Nano Self-assembly Architectures for Sensor Design (Higson)
11.15 – 12.00 4.4 Photonic Crystals for highly efficient Solar Cells (John)
12.00 - 12.30 4.5 Structural Colour via Biomimetic Approaches (Fudouzi)

12.30 – 14.00 Lunch

pm

14.00 – 14.45 4.6 Chitosan-based Nanofibres: Preparation, Characterisations and Applications (Marin)
14.45 - 15.45 4.7 Functionalized Polymer Nanofibers for a Quick and Ultrasensitive Detection from Human Fluids (Amler)
15.45 – 16.45 4.8 PLA/crystalline Nanocellulose Composites: Preparation, Structure & Properties (Pukanszky)
16.45 - 17.30 4.9 Functional Molecular liquids (Nakanishi)

18.00 -19.00 Dinner

Evening: Poster session 2 (19.30 – 21.00)

Day 5 (3 July - Wednesday)

am

09.00 – 09.45 5.1 Functional Organic/Inorganic Composites with Nanoarchitectural design (Lvov)
09.45 – 10.30 5.2 Graphene and Other Nanomaterials for Determination of Organic Pollutants and Heavy Metals (Higson)
10.30 – 11.15 5.3 Inhibition Sensors and Sensor Arrays for Detection of Environmental Pollutants (Nabok)
11.15 – 12.15 5.4 Chitosan Biomaterials for Drug Delivery and Biomedical Applications (Marin)

12.30 – 14.00 Lunch

pm

14.00 – 14.45 5.5 Use of Nanomaterials and Nanoarchitectures in Promoting Wound Healing (Higson)
14.45 - 15.45 5.6 Optical Detection of Mycotoxins (Nabok)
15.45 - 16.45 5.7 'Smart' Wound Dressing Concept (Bardosova)

18.00 -19.00 Dinner

Round table discussion 2 (19.30 – 21.00)

Day 6 (4 July - Thursday)

am

09.00 – 10.00 6.1 Self-assembled Fullerene Materials (Nakanishi)
10.00 – 11.00 6.2 Smart Optical Materials by Nanoscale Assembly (Yin)
11.00 – 12.00 6.3 Detection of Small Molecules Using Aptamers as Synthetic Molecular Receptors (Nabok)
12.15 – 13.15 Lunch

pm

An excursion to 4 Institutes of Slovak Academy of Sciences in Bratislava (Institute of Informatics, Institute of Electrical Engineering, Centre for Advanced Materials Application and Centre of Experimental Medicine) that are engaged in research related to subjects covered during the ASI will be organised. Leaflets providing detailed information about the institutes and advanced equipment available will be distributed to the participants along with lectures' notes upon their arrival to the ASI venue – Smolenice Castle. The excursion will be customised based on participants' requests to meet particular people or see equipment available.
Scientists from each institute will also make presentation about their research in composite materials.

Day 7 (5 July - Friday)

am

09.00 – 12.00 6 post-doc presentations

12.30 – 13.30 Lunch

pm

13.30 – 14.00 Conclusion