

2nd International Conference on Nanotechnologies & Bionanoscience

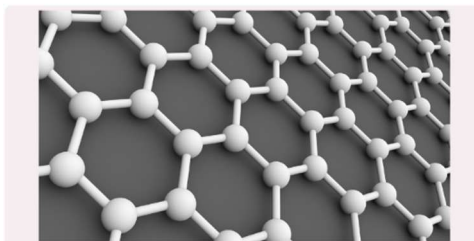
NanoBio 2023

September 11-15 2023
Heraklion Crete Greece

— WORKSHOPS

WS6: 2D materials and Devices

This workshop will focus on the latest developments in the synthesis, properties, characterization, and applications of 2D materials beyond graphene, with a particular emphasis on 2D compounds and layered materials



This workshop focused on the latest developments in the synthesis, properties, characterization, and applications of 2D materials beyond graphene, with a particular emphasis on 2D compounds and layered materials and their heterostructures.

The conference covered recent advancements in novel devices enabled by layered materials, including large-scale synthesis, doping, and integration & transferring of monolayers on different substrates, as well as the emergence of 2D polymers and perovskites. Topics of discussion included fundamental physical properties, processing of 2D materials, 2D materials for neuromorphic computing and quantum technologies, recent advances in sensors, detectors, actuators and energy storage, and more. The symposium brought together a diverse group of researchers to share their knowledge and explore new discoveries in the field.

- *Techniques for large-scale production, doping and functionalization of 2D materials and van der Waals heterostructures.*
- *Exploration of fundamental physical properties in van der Waals heterostructures.*
- *Processing and manipulation of elemental and other 2D materials beyond graphene, such as oxides, nitrides, perovskites, and MXenes.*
- *Utilization of 2D materials in neuromorphic computing and quantum technologies.*
- *Latest developments in sensors, detectors, actuators, and energy storage utilizing 2D materials.*
- *Applications of 2D materials in novel electronics, optics, and photonic devices.*
- *New discoveries in 2D materials and heterostructures through first principles modeling.*
- *Characterization of 2D materials at atomic scale, including structural, electrical, and optical properties.*
- *Examination of emerging 2D perovskites, polymers, MOFs, COFs, and hybrid organic-inorganic 2D heterostructures.*
- *Progress in 2D magnetism, ferroelectrics, and phase change materials and related heterostructures of them.*
- *Production of 2D materials through wet chemistry for flexible devices.*
- *Analysis of mechanical properties and defects in 2D materials beyond graphene.*