Carbon-based nano-materials are increasingly present in many aspects of current science and technology. These materials present a wide variety of properties with unique applications in different fields of biomedicine, catalysis, or energy such as: drug delivery systems, catalytic reactions, air and wastewater treatment, clean and renewable energies, green chemistry, hydrogen production and storage, energy storage, CO₂ capture and transformation, polymers and new materials...

This Workshop aims to provide the student with a general view of the development of carbon nano-materials, covering both fundamental and applied aspects in the preparation of these materials from different precursors, their characterization through a broad spectrum of experimental techniques and its behavior in different fields of application.

In this line, a block of ten lectures has been programmed that will be taught by several of the leading international experts in the field, and in which the latest advances on the production of different carbon-based nano-materials, such as nanotubes and nanofibers, carbon nanospheres, carbon / metal or carbon / non-metal nano-composites and graphenes will be presented. In parallel, other conferences will address the technological applications of these nano-materials in the environmental, energy, biomedical sector as well as in the development of new materials.
Lectures

Prof. François Béguin, Poznan University of Technology, Poland.
Properties of nanocarbons in electrochemical capacitors implementing various electrolytes.

Prof. Elżbieta Frąckowiak, Institute of Chemistry and Technical Electrochemistry at the Faculty of Chemical Technology, Poznan University of Technology, Poland.
Advanced materials for electrochemical capacitors.

Prof. Francisco Jose Maldonado Hódar, Departamento de Química Inorgánica. Universidad de Granada. Spain.
Optimizing the performance of carbon gels and composites in environmental processes by fitting their physicochemical properties

Dr. Wolfgang Maser, ICB-CSIC, Zaragoza, Spain
A travel through the fascinating world of graphene oxide: Challenges and Opportunities.

Prof. Maurizio Prato, Dipartimento Scienze Chimiche e Farmaceutiche, University of Trieste. Italy.
Novel carbon-based materials and interfaces: synthesis, properties and applications.

Prof. Ester Vázquez Fernandez-Pacheco, Departamento de Química Inorgánica, Orgánica y Bioquímica, Universidad de Castilla-La Mancha, Spain.
Graphene for Bioapplications: Preparation, cytotoxicity and integration in 3D scaffolds.

Dr. María Victoria Martínez Huerta, Instituto de Catálisis y Petroleoquímica. CSIC. Madrid
Carbon based nanostructure electrocatalysts for low temperature fuel cells.

Dr. Zoraida Gonzalez Arias, INCAR-CSIC, Oviedo, Spain
Tuning the characteristics of graphene materials towards final applications: from energy storage to composite materials.

Registration


Course fee: 300 €. This includes the following concepts: Accommodation, Registration; Reception dinner (Friday 6th, evening); Breakfasts & Lunches (Saturday, Sunday, Monday and Tuesday); Sightseeing Tours (Saturday evening and Sunday); and buses from and to Madrid.

Palacio de Jabalquinto
Sede Antonio Machado - UNIA