

14th International Conference on

Nanomaterials and Nanotechnology

March 30-31, 2017 | Madrid, Spain

Graphene and fullerene based nanostructures grown by chemical vapor deposition and related technologies

Enric Bertran-Serra, A Musheghyan-Avetisyan, F Pantoja Suarez, I Alshaikh, J Marti-Gonzalez, S Chaitoglou, R Amade, J L Andujar and E Pascual
Universitat de Barcelona, Spain

The phenomenology related to the growth of fullerene and graphene based nanostructures leads to a varied morphology, which depends critically on growth conditions. How to control this morphology through technology is a task requiring an exploration of new ways and modification of widely extended technologies like the classical chemical vapor deposition. In this presentation, we take a walk through a series of results achieved in our research group, with the intention of ordering in some way the many graphene and fullerene forms found and the CVD based technologies used. The resulting morphology is extremely varied and critically dependent on the growing conditions like precursor nature, gas mixture, temperature, pressure, plasma, gas flow rate. Also, resulting morphology depends on substrate nature and its structure, and surface morphology. We have explored different conditions and substrates like copper and stainless-steel foils, Cu/c-Si, Ru/c-Si, SiO₂/c-Si, quartz, Cu/quartz, in order to find the carbon nanostructures characteristics more suitable for applications like electrodes, and planar sensors and devices.

Biography

Enric Bertran-Serra is a Professor of Applied Physics of Barcelona University and a Member of the IN2UB (Institute of Nanoscience and Nanotechnology of Barcelona University). He is the Director and a responsible Scientist of FEMAN research group on Physics and Engineering of Amorphous Materials and Nanostructures. At present, he is enrolled as a Coordinator of the project SUPERCAPS of the MICINN of Spain, to produce supercapacitors based on graphene. He has published more than 200 papers in reputed journals and is the author of more than 15 patents.

ebertran@ub.edu

Notes: