

EDITORIAL

Big Science for the Small World

In these strange days of confinement and health emergency, the quality of Argentine Science stands as a strong, comforting light even for those who had never been seduced by scientific research before. And it is like a paradox that the invisible, the small, the nanometric, attracts our attention even more than the big world, showing that, oftentimes, what is essential is (certainly!) invisible to eyes.

Nanomaterials are a unique example of how matter can be redefined when we adopt a different point of view. The nano-scale has given researchers the opportunity of re-discovering matter and to think and dream about applications as broad and diverse that they can be found even in our daily lives. An excellent example of this is brought to us today by María Molina and her group, from Río Cuarto, when she describes photothermal nano-materials with potential applications and impact on medical therapies. But this is not the only area in which nanostructured materials, or “nanomaterials,” shine. As Ileana Zucchi from Mar del Plata tells us, the nanoscopic structures formed by a block copolymer can dramatically alter the structure of traditional materials, leading to big changes in many of their properties. The high impact of synthesis control is demonstrated by David Comedi and his team, from Tucumán, who show us how to produce zinc oxide nanostructures with fascinating properties and optical applications. But, how can we study these new properties and the differences of these materials versus their classic relatives without any tools? Félix Requejo from the SUNSET group at La Plata explains an aspect of this “how” when he describes the synchrotron X-ray based techniques applied to the study of nanomaterials.

The diversity of these examples and the very long list of others that, unfortunately, have not been included in this issue due to space limitations, show us the degree of maturity of nanomaterial research lines in Argentina. It is my wish that all this work can continue in the next years and that it translates soon as a positive impact on quality of life for people, the environment and this wonderful country around us.

Cristina E. Hoppe
Editor

Bio



Cristina E. Hoppe

Cristina E. Hoppe was born in Buenos Aires, Argentina, in 1975. She graduated in Chemistry (2000) at the University of Mar del Plata (UNMdP, Argentina), where she also received her Ph.D. in Materials Science (2004) working

on polymer dispersed liquid crystals (PDLC) under the supervision of Prof. Roberto J. J. Williams (Institute of Materials Science and Technology, INTEMA, UNMdP/ CONICET). In 2004, she was awarded a Postdoctoral Antorchas fellowship and she moved to the University of Santiago de Compostela (Nanotechnology and Magnetism group), Spain, where she worked with Prof. Arturo López Quintela in the synthesis and characterization of

metal and oxide nanoparticles. After one year, she was awarded a Marie Curie European Postdoctoral Fellowship (International Incoming Fellowship, 6th framework Programme) to work in the arrangement of nanoparticles in polymer multiphase systems. She returned to Argentina in December 2007, and she is currently working at INTEMA (Nanostructured Polymers Group) as staff researcher (independent researcher, CONICET). She has been in charge of several research projects in the field of polymer materials and nanomaterials. She has participated as the national representative for the country in international cooperation official missions to USA, Portugal, Italy, Mexico and South Africa in the framework of I+D cooperation agreements in Nanoscience and Nanotechnology. Her main research interests are in relation with the design and application of functional polymers and nanocomposites.