

Editorial

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Due to their novel and enhanced properties compared to bulk materials, nanoparticles exhibit extremely promising applications in a wide range of disciplines including molecular engineering, medicine, pharmaceutical drug manufacture, biotechnology, biology, chemistry, polymer science, physics, optical components, energy and environmental sciences. For more than 20 years nanotechnology has been more than just a concept and is thought to hold the key to many real-world problems, in the most part due to their bottom-up construction and manipulation of the very tiny. Many nanoparticles/nanomaterials can now be produced easily and at low cost, and their assembly has led to the start of their mass commercialization, for example, for drug delivery purposes, for packaging, for clothing, and for communication and electronic devices.

For many years now nanomaterials have been designed to perform not just one task, but have been introduced as part of complex nanodevices for multitasking, such as those used in targeted delivery devices, highly specific sensors and actuators. It is more than likely that the next generation of nanomaterials will combine several nanosystems communicating with each other and functioning much like cells.

It is an exciting time for the field of nanomaterials and nanotechnology. The challenges are immense, and so too are the opportunities and potential impact. To meet future needs, interdisciplinary approaches are needed and the combined expertise of chemists, chemical engineers, physicists and biologist is needed.

Since its first issue, the *Nanomaterials and Nanotechnology* journal has promoted high-quality research in advanced nanoparticles and nanomaterials synthesis and characterization, nanofabrication processes and applications. In this section of *Nanomaterials and Nanotechnology* we highlight the chemical, physical and biological phenomena associated with particles with diameters below 100 nm. We are kicking off the New Year with new editors and a new content line-up. On behalf of the Nanoparticles section, I would first like to thank all the authors for the quality of their work, the reviewers for the comments, the associate editors and the editorial board members for their valuable service, and last, but not least, all the readers for their support.

I would like to invite the whole scientific community to join the fast-growing readership of the *Nanomaterials and Nanotechnology* open access journal and consider it as a place for future research publication. My warmest wishes for the coming Christmas and the New Year!

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