
Preface

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Biographical notes: Katerina Kalemaki completed her PhD in School of Health Sciences, University of Ioannina in 2016. She is working in School of Health Sciences, University of Ioannina. She is interested in studying the early postnatal development of cortical networks in the prefrontal cortex.

The growing interest in the biomedical applications of nanotechnology from academic and industrial researchers worldwide, driven by the outstanding benefits that their translation, can offer the enhancement of sensitivity, efficacy and safety of existing diagnostic, treatment and combination strategies, which over recent years have led to the development of truly disruptive technological solutions which hold a potential to revolutionise healthcare. Empowered by the broadening knowledge of the genome, proteome, transcriptome, metabolome, biomedical informatics and other related fields. Nanotechnology is currently in a position to pave the way to patient-specific personalised medicine, seamlessly connecting the route of innovative nanomaterials, from bench to bedside. Some of them have already deservedly occupied their niches for future biomedical applications as drug-delivering ‘nanobullets’, supersensitive imaging probes, multifunctional theranostic systems, powerful antimicrobial agents, biosensors, ‘smart’ biocompatible nanomaterials and implants, as well as tissue engineering scaffolds for regenerative medicine.

In this special issue we expect contributions from a broad community of scientists working on diverse applications of nanotechnology in biology and medicine, and interdisciplinary teams focusing on nanotechnology-enabled breakthrough solutions for biomedical research, diagnostics and advanced therapeutic approaches. As the safety of novel nanomaterials intended for the use in humans remains a matter of prime concern, we also anticipate the manuscripts dealing with these aspects of nanotechnology and nanomedicine in this special issue.

We are grateful to the authors who submitted papers to this special issue. We would also like to thank the reviewers for their hard work and their valuable feedback to the authors. Finally, we would like to express our sincere gratitude to Dr. Lionel Vayssieres, the Editor-in-Chief, for providing the opportunity and assistance to edit this special issue in the *International Journal of Nanotechnology*.