
Editorial

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Biographical notes: Androula G. Nassiopoulou is the Director of the Institute of Microelectronics (IMEL) at the National Center for Scientific Research (NCSR) Demokritos. She is also the founder and currently the President of the Board of the National Scientific Society ‘Micro & Nano’, devoted to Micro and Nanotechnologies, Nanoelectronics and MEMS in Greece. She heads the “Nanostructures for Nanoelectronics, Photonics and Sensors” research group at IMEL and her current research interests include Si nanocrystals and nanowires, porous Si and porous alumina on Si, their fundamental properties and their applications in nanoelectronics, photonics and sensors. She has been or is currently a member of several EU panels, including the Scientific Community Council for Nanoelectronics (ENIAC platform) and the Expert Advisory Group of NMP-FP6. She is the author or co-author of over 250 publications in international journals, reviews, books and conference proceedings and belongs to the editorial boards of several international scientific journals. She chaired or co-chaired more than ten National and International Conferences and Symposia and edited or co-edited 12 Conference Proceedings volumes.

Costas Fotakis is the Director of the Institute of Electronic Structure and Laser (IESL) at the Foundation for Research and Technology-Hellas (FORTH) and Professor of Physics at the University of Crete. He is also Director of the European Ultraviolet Laser Facility operating at FORTH, which is currently part of the EU project ‘LASERLAB’, linking 17 major European laser infrastructures. His research interests include laser spectroscopy, molecular photophysics, laser interactions with materials and related applications for material processing and analysis. He has been chair or co-chair of several major international scientific conferences and member of several EU panels including the European Strategy Forum for Research Infrastructures (ESFRI). He has over 220 publications primarily in the field of photonics and their applications and belongs to the editorial boards of several international scientific journals. He is the 2004 recipient of the “Leadership Award / New Focus Prize” of the Optical Society of America (OSA) “for decade-long leadership of, and personal research contribution to, the field of laser applications to art conservation and

leadership in establishing and guiding the scientific excellence of the laser science programs at IESL/FORTH". He is also Life Member and Fellow of OSA and has been Springer Professor at the University of California Berkeley for 2005-2006.

Dear reader of this issue,

We introduce to you a collection of original papers representative of the research performed in Greece in the field of Nanotechnology. Research in this field is carried out in several Greek laboratories and covers the areas of Nanomaterials and Nanofabrication technologies, Nanoelectronics, Sensors, Photonics, Phononics, as well as inter-disciplinary combinations of all the above. Major Micro- and Nanofabrication facilities exist in two different sites, at the Institute of Microelectronics (IMEL) at NCSR Demokritos in Athens which is devoted to Si technology for Electronics, Sensors and MEMs/NEMs and at the Institute of Electronic Structure and Lasers (IESL) in FORTH in Crete, which includes the Microelectronics Group specialising in compound semiconductors growth and devices. IMEL is one of the founding members of the European Institute of Nanoelectronics 'SINANO' (established in 2008) and member of the European Nanoelectronics platform 'ENIAC-AENEAS'. Moreover, laser facilities for micro- and nanofabrication and synthesis exist in Greece at IESL-FORTH. Thin films and nanostructures are developed in both of the above research Institutes and in different Materials and Chemistry Research Institutes (Institute of Materials Science and Institute of Chemical Sciences at NCSR Demokritos, Institute of Theoretical and Physical, Chemistry at NRC) as well as in different University laboratories in Athens, Thessaloniki, Patras, Ioannina, Xanthi and Heraklion. Several laboratories are devoted to the characterisation of complex materials, structures and devices and to the theoretical background related to the above disciplines. The field of Photonics enhanced with the aspect of nano-structuring and materials is also a favourable area where several laboratories are actively involved.

A Scientific Society named 'Micro & Nano' has been established since 2004 with the initiative of the Director of IMEL. The society today numbers several members – Institutions and 120 independent scientists and its overall objectives are to promote the field of Micro- and Nanotechnology in Greece (materials, technologies, electronic devices, circuits and systems) and to act as a catalyst for the development of the above fields in the country.

Concerning industrial activities in Nanotechnology, they are oriented towards the fields of Microelectronics, sensors, chemical products, and bio-technologies. Microelectronics companies are in general fabless and in their majority are represented by the Hellenic Semiconductor Industry Association (HSIA), established in 2005. Today the Association numbers its members above 30.

Recently, a similar structure of a national platform on Photonics, which is attached to the Photonics21 European platform, promoting the Nano-aspect research and innovation has initiated its activities, representing more than 25 individual research organisations, universities and companies.

International Conferences on Micro & Nano sciences and Technologies have been also established in Greece in the last few years. The Micro&Nano Conference series is held every three years at NCSR Demokritos in Athens-Greece, the last one having been held in the year 2007. A second series of established Conferences is N&N (Nanosciences & Nanotechnologies), held every year at the University of Thessaloniki. In addition, several International Conferences are hosted occasionally in Greece (MNE 2008, IC4N 2008 etc.).

It is noted that the papers included in this volume represent only part of the research carried out in Greece in the field of Nanotechnology. The full spectrum of this area could not be covered due to space limitations.

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