
Editorial

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Biographical notes: Chien Mau Dang received his MSc and PhD in Materials Science from the National Polytechnic Institute in Grenoble (Grenoble INP), France in 1991 and 1994. In 1996 and 2007, he received his Master in Management from the University Pierre Mendès France and the Diploma of Habilitation for Research Direction (DHDR) in Materials and Process Engineering from the Grenoble INP. From 1996 to 2004 he was Head of Department of Materials Science Fundamentals, Vice-Dean of Faculty of Material Technology, HCM City University of Technology. Since 2005, he has been Associate Professor. In 2004, he created the Laboratory for Nanotechnology (LNT) which was upgraded to the Institute for Nanotechnology (INT) – VNUHCM in 2016. He has been Director since then. He is a member of several national level research bodies and councils. He has authored or co-authored more than 60 publications in peer-reviewed journals and six patents.

Eric Fribourg-Blanc received an MS in Electrical Engineering from Ecole Centrale de Lille, France in (1997), as well as MS and PhD in Electronics from University of Valenciennes, France (1997 and 2003). From 2003, he is a Researcher at CEA-LETI, Grenoble, France. His research interests include: microtechnology and microfabrication on silicon and polymers. He spent two years at the Laboratory for Nanotechnology in Vietnam (2009–2010) where he provided expertise and built up RFID and inkjet research activities. He has authored or co-authored more than 20 publications in peer reviewed journals and conferences and holds two patents.

1 Introduction

Dear reader of this issue,

It is our great pleasure to bring you here a set of 19 selected key papers from the *5th International Workshop on Nanotechnology and Applications (IWNA)* held from 11 to 14th November, 2015 in Vung Tau, Vietnam. This conference is co-organised by the Institute for Nanotechnology, Vietnam National University – Ho Chi Minh City, Vietnam and MINATEC, France, every two years in order to bring together all researchers in the field of nanotechnology from Vietnam and abroad.

The selected papers reflect the most prominent research done in Vietnam and through collaborations with international partners in the wide spectrum of nanotechnology.

The papers cover advances in micro and nanotechnology. They range from nanoparticles and nanowires to microfluidics, thin films and micromachining.

Three papers cover fundamental issues in microfluidics, aiming at simplifying and reducing the cost of those important devices for healthcare applications. Nanoparticles for antibacterial and photocatalytic activity are the topics of three papers as these areas continue to attract intense research activity. Two papers are specifically targeting the issue of safely delivering anticancer drugs to the tumours.

The optical emission of one-dimensional nanostructures is demonstrated for a mixture of ZnS/ZnO with a high flexibility in wavelength range. Two other papers explore the use of nanowires for electrochemical sensing of biological species. With the same goal of improving biologically relevant sensing, a paper demonstrates a way to synthesise gold nanoparticles with a wide range of diameters. Carbon nanotubes are also used in sensing ammonia which is here demonstrated on an RFID sensor at metre distance and ppm level.

Solar cells are also in focus and two papers use nanostructures to enhance the ability to enhance efficiency. Two papers address microdevices in a new way, one demonstrating an innovative hollow microneedle and the other enhancing the tuning fork microgyroscope. Finally, progress is described on PZT thin film and deep etching for microfluidics.

This selection reflects the quality of research mostly performed in Vietnam but also this year in several countries from Asia in micro and nanotechnology. This highlights the internationalisation of the IWNA conference. In the IWNA spirit of application of nanotechnology to real life, the results presented carry potential for applications related to health, environment, energy and people's safety.

We would like to express our gratitude to the Editorial Board of the *International Journal of Nanotechnology* and especially to Dr. Lionel Vayssieres, the Editor-in-Chief of the IJNT, for his kind invitation to publish these contributions.

The guest editors would finally like to extend their thanks to all authors who contributed to this special issue.