
Preface

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Biographical notes: Hidehiro Kamiya is a Professor and Vice Dean, Graduate School of Bio-Applications and Systems Engineering, BASE, Tokyo University of Agriculture and Technology, Japan. He is/was member of Scientific Committee and editorial board of Powder Technology, Chair of editorial board for the *Journal of Powder Technology Society*, *Journal of Chemical Engineering Society*, *Journal of Energy Society Japan*, *Journal of Ceramic Society Japan*, Chairman of division of Industrial and chemical machine, Japanese Society of Mechanical Engineers, Coordinator of subcommittee of Fine Powder Nano-technology in Association of Powder and Particle Industry and Engineering in Japan. He received three international awards and published more than 170 papers, 30 books, 80 review papers and 15 patents.

Thomas Graule studied Inorganic, Analytical and Organic Chemistry, following he completed his PhD degree at Max Planck Institute of Materials Research, Stuttgart. After working as a Postdoc Scientist at Fraunhofer Gesellschaft, as an Assistant Professor in advanced shaping techniques at ETH Zürich and in ceramics industry as the Head of R+D in a Swiss SME he joined Empa in 1999 as Head of the Laboratory for High Performance Ceramics. He is an appointed Professor for Nanoparticle Synthesis and Nanocomposite Technology at the University of Freiberg, Germany, Visiting Professor at the University of Science and Technology, AGH, in Krakow, Lecturer at ETH Zürich and at several Universities of Applied Sciences.

Olivera B. Milosevic is a Principal Research Fellow at the Institute of Technical Sciences of the Serbian Academy of Sciences and Arts and a Teacher at post-graduate studies at Belgrade University. She is awardee of the JSTA and JSPS Fellowships, when she joined Japan Fine Ceramic Center, Nagoya and Osaka University, Japan, respectively. She participated as a Visiting Professor at the University Carlos III, Madrid, Spain, since 2001 and is awardee of a one year Sabbatical grant and a holder of a 'Catedra de Excelencia' through the programme 'UNIVERSIDAD CARLOS III DE MADRID-BANCO DE SANTANDER' for 2010/2011. She is an Editor and a reviewer for several peer reviewed journals in the area of material science and she has participated in a number of conference organisation, including ICCCI, Japan, ModTech, Romania, EUROMAT 2013, Spain, ACAIII, Serbia, AMPT, 2014, Spain, etc.

Esko I. Kauppinen is the Tenured Professor of Physics at Aalto University School of Science, Department of Applied Physics. He has published more than 333 reviewed scientific journal papers, e.g., in Nature Nanotechnology, having Hirsch-index 38 and over 5,519 citations. He has given 78 keynote and invited conference talks and 182 talks at world leading companies and universities. He is considered one of the world leading authors in the area of single walled carbon nanotube synthesis, characterisation and thin film applications. He is the founding member of the companies Canatu Oy (<http://www.canatu.com>) and Teicos Pharma Oy (<http://www.teicospharma.com>).

Dumitru Nedelcu is a Professor and PhD supervisor at the 'Gheorghe Asachi' Technical University of Iasi, Romania. He is the Manager of Fine Mechanics and Nanotechnology Laboratory certified according to the ISO 2008 Quality Management System. He is the President of the Professional Association in Modern Manufacturing Technology (ModTech) and Modern Technologies in Industrial Engineering International Conference and Editor-in-Chief of *Int. J. of Modern Manufacturing Technologies*. He is a member on six international professional associations. He was the Visiting Professor at Tokyo University of Agriculture and Technology, Institute of Engineering, Tokyo, Japan. He was a keynote speaker/invite lecture at nine international conferences on Europe and

Asia and received 15 international awards. He was the Editor/Guest Editor at SCI journals, SCI Proceedings and international journals indexed in different database. He published 120 articles in different journals and proceedings including the SCI journals with impact factor and 15 books. He serves on various journals and conferences review committees.

The main organiser of the ModTech2013 International Conference, Modern Technologies in Industrial Engineering, was the Professional Association in Modern Manufacturing Technologies, ModTech Iasi, Romania. The co-organisers were the Silesian University of Technology, Faculty of Mechanical Engineering from Gliwice, Poland and the Constanta Maritime University from Constanta, Romania. The conference was held at the Mara Hotel, Sinaia, Romania between June 27–29, 2013. The main objectives of ModTech International Conference were to bring together representatives of technology manufacturers, of various state institutions, universities, industry and professional associations, to debate and exchange experiences on important conference topics. Another main objective of the ModTech International Conference was to provide a good networking opportunity for all these groups.

In the field of manufacturing processes, technologies and materials, in addition to the enhancement of known methods and the clarification of unknown phenomena, the necessity of new viewpoints on modern technologies and materials development becomes increasingly significant for worldwide issues such as resources for new industrial applications, smart manufacturing and energy efficiency in manufacturing. In such situations, many researchers actively discuss modern manufacturing and novel/bio materials, processing technologies, and devices to achieve innovations in a wide variety of industrial applications.

The scientific sessions of the conference included addresses from invited speakers from 14 countries and oral presentations from authors from 18 countries. Concerning the representatives of the Romanian universities, business entities/research institutes, the authors came from 17 prestigious universities and from ten business entities or research institutes. The foreign authors represented 34 universities worldwide and 13 research institutes – in all, authors from 26 countries worldwide. The conference topics focused on the following research areas: engineering of manufacturing processes, advances in composites and technologies, characterisation, modelling and simulation of mechanical processes, robotics and computer integrated manufacturing, technology etransfer, micro and nano technologies and maritime engineering and navigation.

This special issue of *IJMPT* contains high-quality extended papers which were selected based on completion of the reviewers' comments. The articles included in this special issue cover a large spectrum on current research activities of engineering, technologies and materials. We hope that the readers will find the articles interesting, and thus pursue a more thorough investigation of the presented problems.

We are extremely grateful to the contributors as well as the reviewers for their whole cooperation and help.

We are also thankful to the Editor-in-Chief, Dr. M.A. Dorgham for having agreed to bring out a special issue of *IJMPT* containing selected papers presented during ModTech2013 International Conference.