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## Preface

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**Biographical notes:** Yang Ping is currently a Professor in Jiangsu University in China, also is currently an editorial Member of *International Journal of Materials and Product Technology*, Associate Editor-in-Chief of *International Journal of Materials and Structural Integrity*, a Director of China Precision Machine Society and a senior member of Chinese Institute of Electronics. He received his PhD in Mechanical Engineering from Huazhong University of Science and Technology (HUST) in 2001. He engaged in sciences research in Concordia University. His research interests focus on the theoretical aspect and CAD of mechanical system for the purposes of design and control.

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Research papers are invited for the *IJMPT* forthcoming special issue on *Advanced Theory and Technologies for Design, Manufacturing and Materials*. The purpose of this special issue is to publish recent research outputs on product engineering employing advanced design theory, manufacturing technologies and Materials. By advanced concept, we mean non-conventional techniques. In last few decades, both academic literature and practice have put growing emphasis on the importance of advanced design, manufacturing as a key factor in establishing durable competitive advantages in product engineering. The objective of the special issue is to provide a means for the publication and interchange of information, on an international basis, on all aspects of *Advanced Theory and Technologies for Design, Manufacturing and Materials*.

This special issue includes the contents about new hybrid optimisation approach for multi-objective design optimisation in automotive industry, ant colony optimisation algorithm for partner selection in a virtual enterprise, finite element simulation for three dimensional thermal analysis of multi-chip module, development of an automotive bucket seat frame using parametric modelling approach, atomic simulation for adhesion problem on surfaces of micro gears, automated conceptual design of mechanisms using enumeration and functional reasoning, a tentative approach of a novel multi-medium coupling dynamic vibration absorber, damage characteristics of fabric reinforced hybrid composite, investigation on the thermal conductivity of AlN thin films by using molecular dynamics simulation, influence of volume fraction on the notched tensile strength of steel reinforced polyester hybrid composites, effects of Ni-doping process on microstructure and mechanical properties of Alumina/Ni composites, characterisations of interfacial heat transfer by atomic modelling and investigation on the origin of white light emission band in ZnO bulk materials etc.

The aim of this special edition of *International Journal of Materials and Product Technology* is to describe the actual state of art in the product engineering, as well as the recently developed new progressive design, manufacturing technologies and materials.

I am very grateful to all authors and reviewers and to Dr. M.A. Dorgham, the Editor-in-Chief to his support of this Special Issue.