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## Editorial

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**Biographical notes:** Wing Bun Lee is the Cheng Yick-chi Chair Professor of Manufacturing Engineering of The Hong Kong Polytechnic University and Head of the Hong Kong State Key Laboratory of Ultra-Precision Machining Technology. He established the Ultra-Precision Machining Centre in 1996 and the Advanced Optics Manufacturing Centre in 2003 which is the first of its kind in Hong Kong and mainland China to be engaged in the promotion and application of ultra-precision machining technology for the precision mould and advanced optics industries. He served as the President of the Asian Society for Precision Engineering and Nanotechnology (ASPEN) for the period 2009 to 2011. His research interests include advanced materials processing, ultra-precision machining, manufacturing strategy and knowledge management. He has published two books as well as more than 300 papers in international journals.

Benny Chi Fai Cheung is a Professor and an Associate Head of the State Key Laboratory of Ultra-Precision Machining Technology at The Hong Kong Polytechnic University. His research interests include ultra-precision machining, precision metrology and precision manufacturing. He has authored and co-authored over 200 research papers in various refereed journals and international conferences. He has received many international awards such as the 2008 ASAIHL-Scopus Young Scientist Awards First Runner Up Prize in the category of Engineering and Technology and Joseph Whitworth Prize 2010 by the Manufacturing Industrial Division of The Institution of Mechanical Engineers (IMechE), the UK in 2011. He has been invited to deliver keynote speeches and talks, and served as programme chairman, committee member and session chair at various international conferences.

Sandy Suet To obtained her MPhil in Material Science from Brunel University in the UK in 1993 and PhD in Ultra-precision Machining Technology from The Hong Kong Polytechnic University in 2000. She is an Associate Professor of the Department of Industrial and Systems Engineering of The Hong Kong Polytechnic University and Associate Head of State Key Laboratory of Ultra-precision Machining Technology and Advanced Optics Manufacturing Centre. She is an active researcher who focuses on industry-related and applied research in ultra-precision machining, advanced optics manufacturing, precision injection moulding and material science. She has published more than 150 international journal papers and international conference papers in various fields of precision engineering, advanced optics manufacturing and material science.

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Precision engineering and nanotechnology are multi-disciplinary research areas and form the backbone and support of today's innovative technology industries. Nowadays, technological capability in precision engineering and nanotechnology demonstrates the national frontier of scientific research of a country. Many advanced technology products used in various industries (e.g., from aerospace, biomedical and optoelectronics semiconductors to precision machinery, etc.) depend heavily on one or more components manufactured to tolerances or dimensions at the micrometre or even nanometre range. Moreover, micro functional structures with dimensions of less than 100 nm are also made possible by the advances in precision engineering and nanotechnology in the design, fabrication and measurement of microfunctional structures used in many optoelectronic, mechatronic and biomedical components so as to enhance the functional performance of products.

This special issue not only contains a collection of papers presented at the 4th International Conference of Asian Society for Precision Engineering and Nanotechnology (ASPEN2011) in Hong Kong in 2011 but also papers contributed by prospective authors in the relevant research areas in precision engineering and nanotechnology. We hope that the selected papers provide readers a broad overview of the recent advances in the field of precision engineering and nanotechnology and their applications in precision manufacture.

Here, we would like to express our deepest appreciation to the generous contribution from all the authors. Special thanks are due to the *International Journal of Nanomanufacturing* for producing the volume, and the Editors-in-Chief, Professor Fengzhou Fang and Professor Jack Luo for arranging this special issue and entrusting us to be guest editors. I hope readers will find the articles useful and informative.