

Preface

The present volume contains selected papers from the 5th International Conference of Asian Society for Precision Engineering and Nanotechnology (ASPEN2013) at National Taiwan University, Taipei, Taiwan. The conference was organized as a union of academic and industrial societies in Asia to promote network and collaboration among researchers, scientists and industrialists. From more than 350 submissions, 282 full papers were selected to present at the conference in oral or poster sessions. Among these papers, 124 selected papers were exclusively recommended to the KEM for this publication. The publication would definitely bring extensive knowledge and advance in the precision engineering and nanotechnologies.

The conference is currently steered by the Board Committee of ASPEN, which is a united society of regional societies including Japan Society for Precision Engineering (JSPE), Korean Society for Precision Engineering (KSPE), Precision Engineering Committee of Chinese Society of Mechanical Engineering in Taiwan (CSME) and Chinese Mechanical Engineering Society in China (CMSE), and the related groups from Hong Kong and Singapore. It has been organized as a union of academic and industrial societies in Asia to promote network and collaboration among researchers, scientists and industrialists. The ASPEN started in Shenzhen, China in 2005. The second conference was held in Gwangju, Korea in 2007, the third in Kitakyushu, Japan in 2009, and the fourth in Hong Kong in 2011.

This volume presents a selection from papers submitted to the conference from universities and industries. All of the papers were subjected to peer reviewing by at least two expert referees. The papers selected for this volume were evaluated on their quality and their relevancy to the conference. The volume presents the recent advances in the field of precision engineering and nanotechnologies, including precision metrology, precision machining, optical measurement, manufacturing systems and machine tools, motion control/ polishing and grinding, advanced moulding and precision forming/ advanced technologies and non-conventional machining techniques. It is therefore valuable to commercial sectors, research engineers, research students and academics in the field.

The Organizing Committee is particularly grateful to all of the contributors who made this volume possible. As the guest editor of the volume, I wish to acknowledge all of those who have reviewed and suggested necessary changes to the contributing papers. Great thanks are also given to Miss Yashu Shao and Mr. Duong Luc Hieu at National Taiwan University for their secretarial and editing work; and Trans Tech Publications for producing the volume.

Liang-Chia Chen
Professor, National Taiwan University
Guest editor, Precision Engineering and Nanotechnology V

Kuang-Chao Fan
Professor, National Taiwan University
President, the Asian Society for Precision Engineering and Nanotechnology

Conference Organizers

National Taiwan University, Taiwan

National Taipei University of Technology, Taiwan

Ministry of Science and Technology, Taiwan

Chinese Society of Mechanical Engineers, Taiwan (CSME)

Chinese Mechanical Engineering Society, China (CMES)

Japan Society for Precision Engineering, Japan (JSPE)

Korean Society for Precision Engineering, Korea (KSPE)