

Preface

The Proceedings *Applied Science and Precision Engineering Innovation* includes 232 papers presented in the first International Applied Science and Precision Engineering Conference 2013 held in Sun Moon Lake, NanTou, Taiwan on October 18th – October 22th, 2013. The ASPEC2013 conference covers a wide range of fields in science and engineering innovation and aims to bring together engineering technology expertise. The professionals from the industry, academia and government to discourse on research and development, professional practice, business and management in the science and engineering fields are welcome to the ASPEC2013. This conference enables interdisciplinary collaboration between science and engineering technologists in the academic and industrial fields as well as networking internationally. During the conference, there should be substantial time for presentation and discussion. Attendees will find various activities useful in bringing together a diverse group of engineers and technologists from across disciplines for the generation of new ideas, collaboration potential and business opportunities. To meet the need of the growth of the technology, contributor from the world, especially for Asia, will be welcomed to provide new developments on this area. The objective of the conference is to facilitate close dialogues among experts on issues relating to research and technological development in advanced science and engineering innovation technology.

Over two hundred of attendees all over the world from the industry, academia and government to discourse on research and development, professional practice, business and management in the science and engineering fields will present at the ASPEC2013 conference. All the submitted papers were reviewed by at least two of the members of the technical committee and the accessory review team. The papers accepted for publication have been considered to be sufficiently original and to contain new developed data or technologies that deserve to be published in the Proceedings. Authors from all over the world are included in the Proceedings, proving our international orientation.

Two hundred and thirty two papers selected by the Editors for inclusion in this volume and the Editors would like to thank heartily to all members of the Technical and Organizing Committees for their efforts to organize the conference successfully, and to perform their duties as Chairman and reviewers. We would like to appreciate the authors for submitting their work to the conference and contributing to the quality of the conference Proceedings. We also acknowledge our profound gratitude to the reviewers for their time, efforts and expert comments in evaluating the papers, and the distinguished keynote speakers for accepting our invitation.

Our gratitude to Taiwan Association of Engineering and Technology Innovation for their support in organizing ASPEC2013 Conference and publishing the Proceedings.

Chien-Hung Liu & Editorial Board
Taichung, Taiwan, R.O.C.
October, 2013

Welcome Address

Distinguished Guests, Ladies and Gentlemen:



On behalf of the organizing committees, I would like to welcome all of you to Nantou, Taiwan for 2013 International Applied Science and Precision Engineering Conference. It is my great pleasure in declaring this conference open.

The conference is organized by Taiwan Association of Engineering and Technology Innovation, Chiuan Yan Technology Co., Ltd, and National Chung Hsing University in the beautiful setting of Taichung. We would like to express our sincere appreciation for their supports to the conference.

The theme of the conference is set as “Applied Science and Precision Engineering Innovation.” This is a great opportunity for the engineering and technology community to present their new research results, exchange ideas and become familiar with new trends and directions in the fields of Science and Engineering Innovation. In addition, it is also a unique opportunity for us to form an international collaboration framework for promoting engineering and technology innovation.

We have with us today representatives from research funding organizations, universities, as well as other research agencies. I hope that this five-day conference — a platform for thought-leaders, academics and researchers to share their ideas and views on common engineering and technology innovation issues — will challenge all delegates, in particular the heads of institutions, to think more about the technology challenges and responses in engineering innovation which may in turn inspire new and practicable standards in the field.

The conference has received 326 submitted papers, whereby 232 papers have been selected by the committees to be included within the ASPEC2013 proceeding. These papers on various topics are divided into 35 sessions and presented in several parallel sessions in the conference. To all members of the Technical and Organizing Committees, we would like to take this opportunity to thank all of them for their tremendous efforts to organize this conference successfully.

At last, I would like to thank all of you for your participation. The program committee not only organizes keynote speeches and technical sessions, but also a special banquet to give the warm welcome to our guests. We look forward to having a successful conference, and we hope that all the attendees will have an enjoyable stay in Taiwan.

Chien-Hung Liu
Program Chairman of ASPEC2013

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