

# Preface

This book collects papers selected from the 14<sup>th</sup> Annual Conference of the Chinese Society of Micro/Nano Technology (CSMNT), and the 3<sup>rd</sup> international conference of the Chinese society of micro-nano technology.

Micro-nano is considered as an emerging high technology for the 21<sup>th</sup> century. It involves various high-tech fields including electronics, machinery, materials, manufacturing, testing, and disciplines of physical, chemical and biological. A lot of remarkable achievements have been made in the past few years. Still it is expected that the emerging novel ideas will change people's way of thinking. The conference brings together leading scientists and engineers in Micro-Nanotechnology to exchange information on their latest research progress. The theme of the conference this year will be "Micro-Nanotechnology changes human life", reflecting the rapid growing interests in applying nanotechnology to multi-disciplinary fields that will help develop society and improve the quality of life for people. The conference provides a perfect forum for scientist and engineers of different disciplines to meet and discuss.

The 14<sup>th</sup> annual conference and the 3<sup>rd</sup> international conference of the Chinese society of micro-nano technology have been held in Hangzhou, China. Hangzhou, capital of Zhejiang Province in East China, is one of the more modern and prosperous cities in China. It sits at the southern end of Grand Canal and is one of the eight ancient capitals in Chinese history. The most famous attraction in Hangzhou is West Lake (Xi Hu/ssheehoo/). When Marco Polo came to Hangzhou in the 13<sup>th</sup> century, he declared it to be "the most beautiful and elegant city in the world".

This conference is chaired by academician Henggao Ding and Chunli Bai, while the organizing committee includes about 430 experts and scholars from all over the world. The conference is co-organized by Zhejiang University.

This conference received a total of 628 papers, and accepted 405 papers with the acceptance rate of 64%, including 109 papers in 12 parallel sessions and 296 papers in poster sessions.

In this conference, 12 top level MEMS and nano technology researchers were invited to make plenary presentations. They are:

- Xiaogang Peng, Professor, the Department of Chemistry at Zhejiang University;
- Prof. Dr. Roland Zengerle, director at the "Institut für Mikro- und Informationstechnik" of the Hahn-Schickard-Gesellschaft (HSG-IMIT), the vice-chairman of the "BIOSS - Centre for Biological Signalling Studies" at the University of Freiburg;
- M.Hu, Institute of Bioengineering and Nanotechnology, 31 Biopolis Way, The Nanos, Singapore;
- Dr. Yi-Kuen Lee, the Vice President, Hong Kong Society of Theoretical and Applied Mechanics;
- Uwe Kleinkes, CEO of the IVAM Microtechnology Network;
- Rolf Johansson, Professor, Lund university in Sweden;

- Jean-Christophe Eloy, CEO and Founder of Yole Développement;
- Dr. Mo-Huang Li, the Chief Executive Officer of CellSievo Pte Ltd ;
- Prof. Jack Luo, Professor, Centre of material Research and Innovation, Bolton University;
- Prof. Dr.-Ing. habil. Sergej Fatikow, professor, the Department of Computing Science, the University of Oldenburg, Germany;
- Keon Jae Lee, Ph.D, Professor, Department of Materials Science and Engineering, Korea Advanced Institute of Science and Technology (KAIST);
- Masayoshi Esashi, the director of Micro System Integration Center ( $\mu$ SIC) in Tohoku University.

Thanks the staff of Zhejiang University and CSMNT Secretary for the efforts they have made, and thanks all honored attendees. Their contributions in all aspects are indispensable to the conference's success.

Thanks to Trans Tech Publications (TTP) for their work on publishing the special volume for selected papers of this conference. We have a very good experience for cooperation, and hope that we can continue this cooperation in coming conferences in the future.

The 15<sup>th</sup> annual conference CSMNT will be held in November, 2013, Tianjin, China. Tianjin sits at the southeast of Beijing, about 140 km, as the confluence of five tributaries of the North China Plain, east is near Bohai sea, north of Yanshan, known as "the pearl of the Bohai sea". The mother river — the Haihe river, flows through the city, making Tianjin more beautiful and prosperous. There are not only famous snacks-Goubuli stuffed bun, Tianjin twist, etc, but also the local folk—art crosstalk, Tianjin allegro, Ping Ju, in Tianjin.

See you in Tianjin!

Zheng You

Chairman of Organizing Committee

Vice President of Chinese Society of Micro/Nano Technology