

# Preface

The 2013 3rd International Conference on Materials and Products Manufacturing Technology (ICMPMT 2013) took place in Changsha, China, September 25-26, 2013. This conference series provides a forum for accessing to the up-to-date knowledge from both industrial and academic worlds and allows for the free exchange of ideas and challenges faced by these two key stakeholders and encourage future collaboration between these groups.

Following evaluation and feedback by the International Scientific Committee, accepted papers are selected for publications in those volumes. Studies presented in this book cover these topics: Micro/Nano Materials and Films, Polymer Materials, Composites, Ceramic, Metal, Alloys and Mining Engineering, Chemical Materials, Biomaterials and Technology, Surface Engineering/Coatings, Building Materials, Construction and Architecture, Material Processing Technology, Sensors and Detecting Technology, Signal and Intelligent Information Processing, Electronic, Optoelectronic and Automation, Industrial Robotics and Mechatronics, Mechanical Design and Modeling, CAD/CAM/CAE, Product Design and Manufacture, Advanced Manufacturing Technology, Computer Applications and Mathematical Modeling, Industrial Engineering and System Analysis, Engineering Management and Engineering Education.

We would like to express our sincere thanks to all participants for their contributions and stimulating discussions. We thank the conference session chairmen for their help and assistance in defining the program of presentations. We are also grateful to the committee for their hard work.

*The editors*

The 3rd International Conference on  
Materials and Products Manufacturing Technology  
(ICMPMT 2013)

**Conference Organization**

**Chairmen**

Prof. Yun-Hae Kim, Korea Maritime University, Korea

Prof. Prasad Yarlagadda, Queensland University of Technology, Australia

**International Scientific Committee**

Prof. Zhiming Shi, Inner Mongolia University of Technology, China

Prof. Xiangdong Liu, Inner Mongolia University of Technology, China

Prof. Yongquan Han, Inner Mongolia University of Technology, China

Prof. Junhui Dong, Inner Mongolia University of Technology, China

Prof. Pengcheng Wang, Inner Mongolia University of Technology, China

Prof. Liqun Ai, Hebei United University, China

Prof. Qingyou Liu, Southwest Petroleum University, China

Prof. Zheng Liang, Southwest Petroleum University, China

Prof. Xiaodong Zhang, Southwest Petroleum University, China

Prof. Zhijiu Ai, Southwest Petroleum University, China

Prof. Yongze Zhang, Baoji Oilfield Machinery Co.,LTD

Prof. Hong Zhang, China University of Petroleum

Prof. Jinglong Bu, Hebei United University, China

Prof. Daolun Chen, Ryerson University, Canada

Prof. Zunce Wang, Northeast Petroleum University, China

Prof. Sizhu Zhou, Yangtze University, China

Prof. Yong Peng, Southwest Petroleum University, China

Prof. Yongjin Chen, Kunming Univ. of Science of Technology, China

Prof. Weixing Chen, Xi'an Technological University, China

Prof. Wenbo Du, Beijing University of Technology, China

Prof. Huili Ding, Hebei University of Technology, China

Prof. Xianjin Yu, Shandong University of Technology, China

Prof. Ming Dong, Shanghai Jiao Tong University, China

Prof. Xiaoxing Feng, Hebei University of Technology, China

Prof. Wenzhi Fu, Jilin University, China

Prof. Zhengping Fang, Zhejiang University, China

Prof. Jian Gao, Guangdong University of Technology, China

Prof. Jing Guo, Dalian Polytechnic University, China

Prof. Kai Gu, Beijing Institute of Petrochemical Technology

Prof. Yin Biao Guo, Xiamen University, China

Prof. Junjie Hao, Beijing University of Technology, China

Prof. Julong He, Yanshan University, China

Prof. Xingang Hou, Lanzhou University of Technology, China

Prof. Jingtao Han, Beijing University of Technology, China

Prof. Xiaoming Jia, Hebei United University, China

Prof. Xiaolin Jia, Zhengzhou University, China

Prof. Zhenglian Jiang, Research Institute, Baosteel, China

Prof. Sihai Jiao, Research Institute, Baosteel, China

Prof. Shanqing Li, Research Institute, Baosteel, China

Prof. Xianghua Liu, Northeastern University, China

Prof. Jiacheng Liu, Tianjing University, China

Prof. Kaiqi Liu, Iron&Steel Research Institute, China

Prof. Yaqing Liu, North University of China

Prof. Jialu Li, Tianjin University of Technology, China

Prof. Yungang Li, Hebei United University, China

Prof. Dehong Lu, Kunming University of Science and Technology

Prof. Changsheng Li, Northeastern University, China

Prof. Baochun Lu, Nanjing University of Science and Technology

Prof. Chenxu Lu, Insti. of Process Eng., Chinese Academy of Science

Prof. Yi Shen, Hebei United University, China

Prof. Xiaoming San, Hebei United University, China

Prof. Xitang Wang, Wuhan University of Science and Technology

Prof. Jun Wang, Northeastern University, China

Prof. Qiang Wang, University of Jinan, China

Prof. Mingzhi Wang, Yanshan University, China

Prof. Jiuba Wen, Henan University of Science and Technology

Prof. Ming Wen, Hebei University of Technology, China

Prof. Kaiming Wu, Wuhan University of Science and Technology

Prof. Prasad Yarlagadda, Queensland University of Technology, Australia

Prof. Peiyu Yan, Tsinghua University, China

Prof. Xiaoyan Yuan, Tianjin University, China

Prof. Shao Hui Yin, Hunan University, China

Prof. Daoyuan Yang, Zhengzhou University, China

Prof. Chun Liang Zhang, Guangzhou University, China

Prof. Jianmin Zeng, Guangxi University, China

Prof. Ping Zou, Northeastern University, China

Prof. Shihong Zhang, The Institute of Metal Research, CAS

Prof. Changsheng Zhao, Sichuan University, China

Prof. AKM Nurul Amin, International Islamic University, Malaysia

Prof. Carlos Caceres, The University of Queensland, Australia

Dr. Chunsheng Lu, Curtin University of Technology, Australia

Dr. Dongbin Wei, University of Wollongong, Australia

Prof. Geun Jo Han, Dong-A University, Korea

Dr. Gui Wang, The University of Queensland, Australia

Prof. Jong Kook Lee, Chosun University, Korea

Prof. Ken-ichi Manabe, Tokyo Metropolitan University, Japan

Prof. Jeng-Haur Horng, National Formosa University, Taiwan

Prof. Jia-Horng Lin, Feng Chia University, Taiwan

Prof. Indra Putra Almanar, Universiti Sains Malaysia

Prof. Kyung-Man Moon, Korea Maritime University, Korea

Prof. P. S. Pa, National Taipei University of Education, Taiwan

Prof. Sagar Kamarthi, Northeastern University, USA

Prof. Shahrum Abdullah, University Kebangsaan Malaysia, Malaysia

Prof. Toshio Haga, Osaka Institute of Technology, Japan

Prof. Walid Mahmoud Shewakh, Beni Suef university, Egypt

Prof. Yun-Hae Kim, Korea Maritime University, Korea

Dr. Yuantong Gu, Queensland University of Technology, Au

Prof. Yu-Shiang Wu, China Univerisity of Sci. and Tech., Taiwan

Prof. Heinz-Gunter, Brokmeier, Technische Universitat Clausthal, Germany

Prof. Zhengyi Jiang, University of Wollongong, Australia

Prof. Yun-Hae Kim, Korea Maritime University, Korea