

Manufacturing Technology, Electronics, Computer and Information Technology Applications

Part 1

Edited by
Zhang Lin, Hongying Hu, Yajun Zhang,
Jianguo Qiao and Jiamin Xu

Manufacturing Technology, Electronics, Computer and Information Technology Applications

PART 1

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Edited by

**Zhang Lin, Hongying Hu, Yajun Zhang,
Jianguo Qiao and Jiamin Xu**



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Preface

It is our pleasure to welcome you to the 2014 International Conference on Manufacturing Technology and Electronics Applications (ICMTEA 2014) in Taiyuan, China. ICMTEA 2014 is the first conference dedicated to issues related to Manufacturing, Mechanical Engineering, Mechatronics, Power Systems and Electronics, Measurement, Monitoring and Control, Automation, Information technology, Communication and network, Management Engineering, Materials Science, Computing Methods and Algorithms, Electric Applications. A major goal and feature of it is to bring academic scientists, engineers, industry researchers together to exchange and share their experiences and research results, and discuss the practical challenges encountered and the solutions adopted.

We hope you will have a technically rewarding experience, and use this occasion to meet old friends and make many new ones. Don't miss the opportunity to explore in Taiyuan, China. And don't forget to take a sample of the many and diverse attractions in the rest of the China.

ICMTEA 2014 promises to be both stimulating and informative with a wonderful array of keynote and invited speakers from all over the world. Delegates will have a wide range of sessions to choose from and will have a difficult decision in deciding which sessions to attend.

The program consists of invited sessions, and technical workshops and discussions with eminent speakers covering a wide range of topics in Manufacturing, Mechanical Engineering, Mechatronics, Power Systems and Electronics, Measurement, Monitoring and Control, Automation, Information technology, Communication and network, Management Engineering, Materials Science, Computing Methods and Algorithms, Electric Applications. This rich program provides all attendees with the opportunities to meet and interact with one another. We hope your experience with ICMTEA 2014 is a fruitful and long lasting one. With your support and participation, the conference will continue its success for a long time.

We would like to thank the organization staff, the members of the program committees and reviewers. They have worked very hard in reviewing papers and making valuable suggestions for the authors to improve their work. We also would like to express our gratitude to the external reviewers, for providing extra helps in the review process, and the authors for contributing their research result to the conference. Special thanks go to TTP Publisher.

We wish all attendees of the ICMTEA 2014 an enjoyable scientific gathering in Taiyuan, China. We look forward to seeing all of you next year at the conference.

Organizing Committee

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CHAPTER 1:

Researching and Designing in Mechanical Engineering, Mechatronics, Automation and Control