

# **Material Science, Civil Engineering and Architecture Science, Mechanical Engineering and Manufacturing Technology II**

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## **Part 1**

Edited by  
H.W. Liu, G. Wang and G.W. Zhang



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H.W. Liu, G. Wang  
and G.W. Zhang

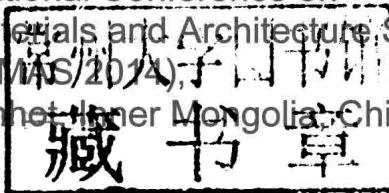


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# **Material Science, Civil Engineering and Architecture Science, Mechanical Engineering and Manufacturing Technology II**

## **PART 1**

Selected, peer reviewed papers from the  
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*Edited by*

**H.W. Liu, G. Wang and G.W. Zhang**



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**Material Science,  
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and Manufacturing  
Technology II**

**PART 1**

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G. Wang  
G.W. Zhang



## Preface

It is our pleasure to welcome you to 2014 the 3rd International Conference on Advanced Engineering Materials and Architecture Science (ICAEMAS 2014) in Huhhot, Inner Mongolia, China. ICAEMAS 2014 is the first conference dedicated to issues related to Materials Science, Civil Engineering and Architecture Science, Mechanical Engineering, Manufacturing Technology, Automation, Management Engineering and Information Technology. A major goal and feature of it is to bring academic scientists, engineers, industrial researchers together to exchange and share their experiences and research results about most aspects of Materials Science, Civil Engineering and Architecture Science, Mechanical Engineering, Manufacturing Technology, Automation, Management Engineering, 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 Huhhot, Inner Mongolia, China. And don't forget to take a sample of the many and diverse attractions in the rest of the China.

ICAEMAS 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 Materials Science, Civil Engineering and Architecture Science, Mechanical Engineering, Manufacturing Technology, Automation, Management Engineering. This rich program provides all attendees with the opportunities to meet and interact with one another. We hope your experience with ICAEMAS 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 organizing 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 ICAEMAS 2014 an enjoyable scientific gathering in Huhhot, Inner Mongolia, China. We look forward to seeing all of you next year at the conference.

### **Organizing Committee**



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