

Preface

Dear Distinguished Authors and Guests,

The Organizing Committee warmly welcomes you to 2012 International Conference on Mechanical Engineering , Materials Science and Civil Engineering (ICMEMSCE 2012) held on 18-20, August, 2012, Harbin, China.

The aim of ICMEMSCE 2012 is to present the latest research and results of scientists (professors, students, PhD Students, engineers, and post-doc scientist) related to Mechanical Engineering , Materials Science and Civil Engineering topics. This conference provides opportunities for the different areas delegates to exchange new ideas and application experiences face to face, to establish business or research relations and to find global partners for future collaboration.

After the peer-review process, the submitted papers were selected on the basis of originality, significance, and clarity for the purpose of the conference. The selected papers and additional late-breaking contributions to be presented as lectures will make an exciting technical program. The conference program is extremely rich, featuring high-impact presentation. We hope that the conference results constituted significant contribution to the knowledge in these up to date scientific field.

The proceeding records the fully refereed papers presented at the conference. The main conference themes and tracks are Mechanical Engineering; Material Engineering; Civil Engineering; Modeling, Simulation and Automation, etc. Hopefully, all participants and other interested readers benefit scientifically from the proceedings and also find it stimulating in the process.

On behalf of the organizing committee, I would like to especially thank Anne, Tanja, Dorthé and all the editors from Trans Tech Publications for their great support to ICMEMSCE 2012. Without their excellent editorial work, ICMEMSCE 2012 will not be published so timely and successfully.

With our warmest regards,

Junpeng Shao, Xianli Liu

Conference Organizing Chair

August 22, 2012