

## Preface

This book proceeding contains some of the contributions presented at the second International Conference on Applied Engineering, Materials and Mechanics (ICAEMM 2017, April 14-16, 2017, Tianjin, China).

The primary objective of ICAEMM 2017 was to provide a world class forum for exchange original ideas and new information, latest research and discussing scientific. Also it to bring together academics, scientists, engineers, postgraduates and other professionals in the area of material science and engineering technology from all over the world.

In the collection are presented the newest results of researches and solutions in the field of Materials Engineering and Engineering Science.

On behalf of the conference organizing committee, we would like to express our sincere appreciation to the keynote speakers, for their excellent and inspirational speeches, to reviewers, for their valuable inputs for improving the scientific content of these papers. We also would like to thank every technical committee members and authors who has contributed to the success of the conference.

The Organizing Committee of ICAEMM 2017

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Incheon Disaster Prevention Research Center  
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Recently, various efforts to prevent and prepare are vitally needed for prevention of Disasters and calamities. So we understand the necessity for technology of disaster and we built up the Incheon Disaster Prevention Research Center (IDPRC) in Incheon National University (INU) in 1997.

Accordingly Incheon Disaster Prevention Research Center (IDPRC) in Incheon National University has progressed of research on the prevention of disasters and calamities through the various seminars, conference and lectures. These research could be conducted cooperation with Incheon National University (INU) in various fields structure, soil, hydraulic and environment.

Incheon Disaster Prevention Research Center (IDPRC) will try to be a leader in the disaster of industry through the various research activities and global conference.

Incheon National University



Incheon National University established a global campus by integrating two city council funded colleges into one in March 2010 and became a national university operated by the legal entity. With the start of attracting the branch of Lawrence Berkeley Research Center that is a world famous US national policy research center for education and research, Incheon National University will attract St. Petersburg University in Russia, Polymers University in Britain, and Kent University in Belgium and other foreign universities and research centers. These efforts will make INU spring to a world-wide competitive university.

As a local development leading university, Incheon National University established INU VISON 2020 and improved its competition actively through investment in selection and concentration. In compliance with the geographic feature and areal specialty, it will concentrate on the international trade, goods distribution, applied technology convergence, BNT-based life science, urban science and the sinology- based local humanity fields.