

# Preface

The 2017 4<sup>th</sup> International Conference on Advanced Materials, Structures and Mechanical Engineering (ICAMSME 2017) was taken place in Incheon, Incheon National University, South-Korea, May 19-21, 2017.

The primary objective of ICAMSME 2017 is 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.

All papers were accepted through a peer review process by the conference program committee and international reviewers, and were categorized into 3 chapters based on their specific themes.

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, the reviewers, for their valuable inputs for improving the scientific content of these papers. We also would like to thank every technical committee member and author who has contributed to the success of the conference.

The Organizing Committee of ICAMSME 2017

Committee Chair

Prof. Jongwan Hu, Incheon National University  
Department of Civil and Environmental Engineering

# Committees

## Organizer

Prof. Jongwan Hu	Incheon National University Department of Civil and Environmental Engineering
------------------	--

## Secretary

Hongki Son	Incheon Disaster Prevention Research Center
------------	---

## Associate Editors

Prof. Dongkeon Kim	Dong-A Univerisity
Prof. Mosbeh Kaloop	Incheon National Univerisy
Prof. Sungwan Kim	Incheon National University

## Technical Committee

Prof. Abdul Rahim	University Teknikal Malaysia Melaka
Prof. Shengli Wei	Jiangsu University
Prof. Wasim Helal	Harbin Engineering University

## Sponsors

Incheon Disaster Prevention Research Center  
(IDPRC)



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.