



# ISSRI 2016

基礎建設永續發展與  
復原力國際研討會

International Symposium on Sustainability and Resiliency of Infrastructure

November 9 — 12, 2016 Taipei, Taiwan



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## 1 OBJECTIVE

The sustainability of the infrastructure system in a region, as well as its related resiliency, are important in the long-term or life-cycle viability of the region, especially in those areas under the threats of occasional natural and man-made hazards. The main objective of the proposed symposium is to provide a forum for discussion and exchange of information on the existing and emerging technologies to support the analysis of sustainability and resilience of all infrastructure systems, with special emphasis on applications for Taiwan and the Asia region. Also, in light of climate change, the severity of natural hazards in this region, such as earthquakes, typhoons, rain-storms and flooding, and sea-level rise can be expected to increase in intensity.

To achieve sustainability requires knowledge and tools of risk and reliability, as well as life-cycle engineering. In light of unavoidable uncertainties, reliability serves to ensure an acceptable level of system performance whereas life-cycle engineering would ensure long-term sustainability within a specified reliability, and/or acceptable risk with due consideration of potential adverse consequences. Resiliency, on the other hand, requires the development of technology for reasonably rapid recovery from damage or failure of existing infrastructure systems caused by natural or man-made hazards. Both risk & reliability, and life-cycle engineering analysis, therefore, are essential tools also for the study of resiliency.

## 2 SYMPOSIUM TOPICS

The important and pertinent technologies for the study of infrastructure sustainability and resiliency, therefore, would include the fields of reliability engineering and risk management, and life-cycle engineering with emphasis on whole life cost and performance. In the presence of uncertainties, the analysis of sustainability of any infrastructure system will necessarily require tools of probabilistic reliability and risk assessments, whereas when subjected to extreme natural or man-made hazards the resilience of the system to recover from potential damage or failure must also be taken into account. In this light, the Symposium will cover a wide range of technological topics that will serve to support sustainability and resiliency. These will include, to name a few, the following:

- Probabilistic hazard analysis
- Reliability analysis methods
- Reliability of systems including structures, geotechnical systems, water systems, electrical systems, etc
- Practical methods for uncertainty modeling and analysis
- Analysis of consequences of damage or failure from natural disasters
- Risk analysis
- Cost analysis, including effects of discount rates
- Risk management methods
- Applications of reliability to real engineering systems
- Illustrations of sustainability of engineering systems – specific system or network of systems, or a region
- Illustrations of resilience of engineering systems

## 3 CALL FOR PAPERS

Prospective authors of papers for the Symposium are encouraged to submit short abstracts of papers (limited to 200-300 words) for presentations at the Symposium and publication of the respective full papers in the Proceedings volume. The deadline for submission of abstracts is **15 April 2016**. Please submit your abstract at <http://www.issri2016.ntust.edu.tw/submissions.html>

## 4 IMPORTANT DATES

Submission of abstracts / April 15, 2016  
Review and approval of abstracts / May 15, 2016  
Submission of draft full papers / July 15, 2016  
Review & approval of full papers / August 15, 2016

## 5 REGISTRATION

Registration to attend the Symposium will include the following:

- Attendance, presentations, and participations at all the technical sessions.
- Attendance at all the social events, including the Welcome Reception and the Banquet.
- Receipt of one proceedings volume.
- Lunches and coffee breaks for the duration of the Symposium.

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### ORGANIZING COMMITTEES

Symposium Chair	Prof. Shi-Shuenn Chen – Director of TBTC; former President of Taiwan Tech
Steering Committee	Prof. Cheng-Cheng Chen – Chairman of CCE, Taiwan Tech, Chair Prof. Shi-Shuenn Chen – ex-officio Prof. Alfredo. H-S. Ang – University of California Deputy Director – Public Construction Commission Dean I-Tung Yang– Taiwan Construction Research Institute (TCRI) Prof. Liang-Jeng Leu –National Taiwan University Prof. Jianye- Ching – National Taiwan University
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## 7

### PROCEEDINGS

All the papers presented in the technical program will be published in a bound volume of the Symposium. The language of all the papers will be in English.

## 8

### VENUE AND SCHEDULE

The symposium will be held on the campus of the National Taiwan University of Science & Technology (Taiwan Tech), in Taipei, Taiwan. The tentative dates of the Symposium are 10-11 November 2016, with registration on the 9th and a tour on the 12th.

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### CONTACTS US

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SYMPOSIUM ORGANIZER

