

# **JCSS – China Researchers Joint Workshop on Reliability based Design of Engineering Structures and Systems (JC-RBD2017)**

May 17, 2017. Shanghai, China

## **Co-Sponsored by**

Joint Committee on Structural Safety (JCSS)  
Tongji University

## **Organized by**

Tongji University

- International Joint Research Center for Engineering Reliability & Stochastic Mechanics (CERSM)
- State Key Laboratory of Disaster Reduction in Civil Engineering
- College of Civil Engineering

## **Background and aim**

Reliability based design of structures has been adopted in professional practice in civil engineering for nearly 40 years in the world, and over 30 years in China. Since then great developments have been achieved in both theoretical research and engineering applications. Particularly, in China the rapid development of large engineering structures and infrastructure systems in the past decades, including super-high-rise buildings with heights of hundreds of meters, long span bridges with lengths of tens of kilometers, and thousands of kilometers of power/gas transmission, tens of thousands of kilometers of high-speed railways, and great dams, etc., together with the rapid growth of economics and societal development, increasing underlines the importance of reliability based design and risk based decision making. Great endeavors have been devoted to fundamental and engineering applications oriented research, yielding plentiful valuable achievements. Simultaneously, the frontiers at international scale have evolved rapidly, say from component reliability to global reliability of structures, from focusing on initial design of structures to their life-cycle performance, which may even involve the impact of climate changes; from engineering structures to engineering systems or even to interacting engineering systems; and from phenomenological based methodologies to more physically based perspectives, and so on. A variety of emerging concepts bring new insights, understandings and chances. For instance, among others, e.g., besides reliability, risk, robustness and resilience of structures, the interactions between the built environment and communities, and societal systems have become hot topics in the past decades, not to mention the impact of great enhancement of supercomputing and Big Data analysis capacity. On the other hand, significant and even more severe challenges still remain, particularly for engineering structures and systems under natural or man-made disasters, which appear to result in increasing economic losses and severe negative impacts to the sustainability of human society.

With this initiation point it appears very timely to initiate a strong dialogue between JCSS and Chinese researchers in various engineering fields, which will provide a forum to review the state-of-the-art and state-of-the-practice of reliability based design of engineering structures and systems, to discuss the trends, and to identify the topics in urgent demand and those important in

the long run to meet the challenges. To this end, JCSS and Tongji University will co-organize the JCSS-Chinese Researchers Joint Workshop on Reliability Based Design of Engineering Structures and Systems (JC-RBD2017) on May 17, 2017, in Shanghai, China. Around 10 leading researchers in the world will be invited to give keynote lectures. Researchers and engineers in civil engineering and related areas are welcome to participate in the workshop.

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