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Journal of Structural Engineering, ASCE

Special Issue: Resilience-based design of structures and infrastructures

Sponsored by:

*Disaster Resilience of Structures, Infrastructures and Communities
Sub-Committee of ASCE*

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The aim of this special issue is to answer the following question: How can the technical, operational and social elements of critical structures and infrastructure systems be integrated, designed and planned for disaster resilience against multiple hazards? Recent disasters such as hurricane Katrina in the U.S. in 2005, the 2010 Chile earthquake or the 2011 Tohoku earthquake in Japan, among others, have triggered the question about the role that the resilience of structures and infrastructural facilities should play for societies to rebound after threats or disasters, some of which cannot be averted.

Designing resilient structural and infrastructural systems requires interdisciplinary collaborative efforts to formulate new approaches and metrics that jointly consider performance and post event functionality goals that enhance disaster resilience. The engineering and functional aspects of critical buildings and infrastructure systems should be developed considering their lifetime with respect to impacts from disasters, repair and retrofit interventions, and evolving urban dynamics. Resilient structural and infrastructural systems also require considering interdependencies with other systems, and ultimately how they affect the aftermath of emergencies and disasters.

At this time, there are no explicit procedures that suggest how to quantify resilience for structures and infrastructures in the context of multiple hazards, how to compare structures and systems with one another in terms of their resilience, or how to determine whether individual retrofit interventions on structures or facilities move them in the direction of becoming more resilient.

This special issue aims to attract academics, researchers, students, post-graduate students and professional engineers dealing with, but not limited to, topics in technical-socio-economic functionality of structures and infrastructures, probabilistic risk and resilience-based design principles for recommended practices and standards, environmental dependencies and interdependencies of individual and spatially distributed structures and infrastructures, optimal considerations in pre- and post-event retrofit and restoration, and resilience based decision support systems for existing and new construction and dependent infrastructures.

Authors interested in publishing their work in this special issue are requested to send a detailed abstract to all the Guest Editors. The Guest Editors will respond to the authors regarding the suitability of their papers for the special issue. The following timeline is set for the special issue: The abstract submission deadline is **May 21, 2013**. Authors will be contacted regarding the suitability of their paper by **June 1, 2013**. Full invited papers will be due by **October 1, 2013**. The first and second review cycles (if required) will be completed by **February 1, 2014** and **May 1, 2014**, respectively. The first and second revisions (if required) are due **March 1, 2014** and **June 1, 2014**, respectively. Suitable papers will be selected for publication by **July 1, 2014** and published in **Fall 2014**. Papers that do not meet deadlines will be considered for regular issues.

Invited contributions should be submitted for rigorous peer review through the Journal's [Editorial Manager' submission page](#), and cover letters should include the title of the Special Issue and the names of the Guest Editors.