

## Special Issue on **Behaviour of Structures under Extreme Loading Conditions**

# CALL FOR PAPERS

After incidents such as the collapse of the Twin Towers which was caused by hijacked aircrafts crashing into them, collapse of building 7 World Trade Center due to fire, and blast induced partial collapse of the Alfred P. Murrah Federal Building in Oklahoma City, designing a structure under extreme loading conditions such as blast, fire, and hurricanes became an important task for civil engineers. They need to provide cost efficient design to minimize injuries and improve the probability of survival of people. This is based on the clear understanding of behaviour of the structures, accurate analysis theory and method, effective numerical modelling software, and specific design methods. However, due to the unconventional features of these extreme loading conditions, the behaviour of the structures has not been well investigated; advanced analysis theories including the fluid and structure interaction, high strain rate, nonlinear inelastic material behaviour, low-cycle fatigue performance, and failure criterion need to be further developed. Improvement in the performance based design guidance also needs to be made. In addition, the vulnerability assessment and risk assessment of the structures under certain extreme events should also be incorporated into the design practice.

This special issue is intended to present and discuss latest research outcome on both experimental and numerical studies. It is also aimed at providing an overview of current trends and advancements in design and analysis of civil engineering buildings and infrastructures. We solicit high quality, original research articles as well as review articles.

Potential topics include but are not limited to the following:

- ▶ Numerical study of structural members or structural system under blast loading, fire, or severe earthquakes
- ▶ Behaviour of tall buildings under strong wind loading such as hurricanes
- ▶ Behaviour of suspension bridges under strong wind loading
- ▶ Advanced numerical simulation of wind structure interactions
- ▶ Threat and vulnerability assessment of structures under extreme loading
- ▶ Risk assessment of structures under extreme loading
- ▶ Review/assessment of existing design tools and simplified methods

Authors can submit their manuscripts through the Manuscript Tracking System at <http://mts.hindawi.com/submit/journals/ace/bselc/>.

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### **First Round of Reviews**

Friday, 24 March 2017

### **Publication Date**

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