

Resiliency of Urban Tunnels

Sponsors



Supporters



Background

Tunnels have become a major critical component of our industrialized societies. However, their operation and maintenance is largely realized through heuristic approaches rather than a structured risk-based approach. The current research and practice in engineering risk is subjected to a key deficiency: while lots of efforts have been exerted on risk assessment, a little has been done for risk control including resilience of underground structures, thus resulting in unexpected economic losses. An application-oriented method for dynamic risk control is of great necessity for the safety of the underground and lifeline projects. As a particular technical challenge this approach needs to combine elements from structural engineering and systems engineering. Moreover, it needs to include a large monitoring component, and it needs to be dynamic to account for rapid changes in system states and conditions. In operating such ever growing infrastructure systems, the risk associated with the structural safety of shield tunnels has become a focus of the government and the public in the world. Since this situation does not only apply to one country or society but is a global problem, it can be addressed best with joint forces.

Objectives

This workshop convenes selected researchers in the areas of geotechnical, structural and systems risk from around the world in order to identify a structured research agenda for the development of a dynamic risk control approach. This workshop is supposed to cumulate in the development of large-scale research proposals by the attendees, which are all synchronized. On this basis a mechanism of resilience for urban shield tunnels could be developed very efficiently and within a short time. Consequently, the risk associated with the structural safety could be controlled and high cost effectiveness can be achieved.

Sep 1 2016
ASCE Bechtel Center
www.asce-bechtel-center.org

Important Dates

- 20th Jul, 2016: required for-free online registration at <http://jsform.com/f/zlramk>
- Reserve your room as soon as possible at www.SheratonReston.com/ASCE (Sheraton Reston)
- Aug 31st - Sep 1st, 2016 workshop (Aug 31st for registration)

Discussion Topics

- Monitoring for risk control of tunnels
- Robust design of tunnels
- Modeling and management of uncertainty

Workshop Outcome

- (i) State-of-the-art ASCE-Publications within the research topic areas;
- (ii) Agenda for large-scale joint research proposals for international cooperation.

Registration and Fees

No fees

Required online registration at

<http://jsform.com/f/zlramk>

No later than 20th Jul, 2016

Organizers and Contacts

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