

**Special Collection on Resilience of Tunnels, Pipelines and Geotechnical Infrastructures  
ASCE-ASME Journal of Risk and Uncertainty in Engineering Systems:**

**Part A. Civil Engineering (Special Collection number SC033A)**

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According to United Nations' data booklet "The World's Cities in 2016" 60% of world's population will be living in urban areas compared to 54.5% in 2016. This worldwide rapid Urbanization increases the challenges of sustaining urban infrastructure systems against natural and man-made disasters. As tunnels and pipelines are the backbone of urban infrastructures through water and energy supply as well as transportation systems, particularly in industrialized societies, the need to a comprehensive risk assessment and control that ensures the resilience of these critical underground structures is substantial. While the current engineering research and practice is mostly handling infrastructure risk assessment, less effort has been dedicated to an integrated approach that assures the dynamic nature of the associated risk. Such an approach, however, requires a combined effort from structural, geotechnical, and systems engineering disciplines along with intelligent monitoring strategies. Through this dynamic and holistic risk treatment that updates the alterations of system states as well as system components, the safety and the continuous operability, i.e. the resiliency, of the society's vital infrastructure systems will be maintained. Nevertheless, a successful development of resilience assessment models for tunnels and pipelines requires an appropriate integration of the theoretical foundations with the applicability of the models.

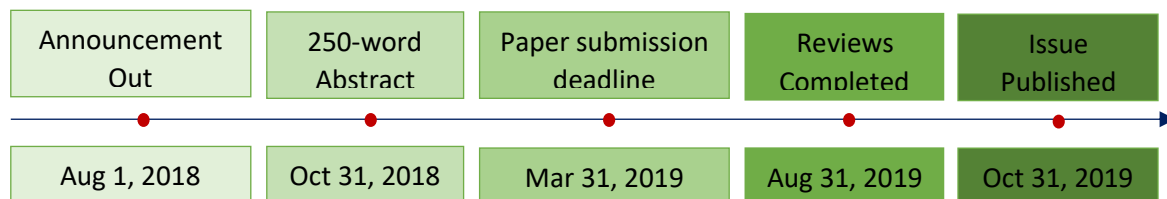
This special issue is aimed at providing a venue for leading experts, researchers, academics and practicing engineers working in the in the area of resilience assessment of infrastructures and systems to present the latest developments in the field and set the state of the art. Contributions addressing the following topics are especially welcome:

- Reliability, risk, and uncertainty in complex engineered networks and systems.
- Vulnerability and resilience analyses of critical infrastructures.
- Modelling of technological networks and uncertainty quantification
- Statistical properties of lifelines and processes on the networks.
- Avalanches, cascading failures and extreme events.
- Resilient network design and maintenance strategies
- Robustness of networks of networks and multiplexes

- Geotechnical
- Structural
- Systems
- Monitoring
- integrated resilience models
- Tools and models for resilience assessment of urban tunnels
- Theoretical foundations and practicability of available resilience models
- Integration of structural and system aspects in resilience models of tunnels
- Resilience-based design
- tunnel and pipelines resilience

### Proposed Timeline

The timeline for this special issues is shown below.



### Manuscript submission Links

For Part A: <http://www.editorialmanager.com/jrnrueng/default.aspx>