

Special Issue of the International Journal of Lifecycle Performance Engineering on "Hybrid Simulation for Multi-Hazard Engineering"

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Statement: Hybrid simulation is mainly used either when a structural system is too large or complex to evaluate using traditional techniques (high-rise buildings and long-span bridges, for example), or when the response of a physical specimen cannot be predicted using the latest computational models and its behavior must be observed under realistic operational conditions. In this way, researchers and practitioners can gain a better understanding of complex structural components and systems, potentially leading to improved computational models. Thus, hybrid simulation provides a critical bridge toward advancing and expanding our capabilities in computational modeling.

The majority of past applications for hybrid simulation have been in earthquake engineering. While this path continues to facilitate important investigations into the performance of our infrastructure, there is great potential to impact a much broader set of problems. The scope of hybrid simulation methods is expanding as these methods are being extended to also consider multi-hazard engineering. Multi-hazard refers to independent, sequential, or simultaneous hazards over the lifecycle of an infrastructure component or system. Through the organization and publication of this Special Issue, we aim to convey the breadth of problems enabled by these methods, while focusing on technical depth in both: (i) the applications that examine real-world lifecycle infrastructure problems, and (ii) the computational and experimental methods that enable hybrid simulation under one or multiple hazards.

Open Call: This [Special Issue on Hybrid Simulation for Multi-hazard Engineering](#) will focus on the advances taking place around the world that are essential to establish the fundamental theory of and expand the capacity for hybrid simulation methods, including real-time hybrid simulation, for multi-hazards applications. **Topics that directly address multi-hazard engineering are of interest, including, but not limited to:** innovative multi-hazard applications and innovative single-hazard applications outside of earthquake engineering. **Topics that can expand the reach of hybrid simulation (regardless of the hazard studied) are also of interest, including, but are not limited to:** validation and verification studies; uncertainty quantification and reliability analyses; lifecycle infrastructure problems; developments in enabling technologies, and tutorials that convey fundamental principles.

Further information can be found at: <http://www.inderscience.com/info/ingeneral/cfp.php?id=4336>

Submission: For detailed information, please follow the submission instructions at:
http://www.inderscience.com/info/inauthors/author_submit.php

All papers must be submitted online.

Timeline:

Manuscripts due: January 1, 2019

Notification to authors: March 1, 2019

Final versions due: July 1, 2019