

Call for Papers

IEEE Open Journal of Systems Engineering **Special Issue on Resilience in Systems Engineering**

Modern society is dependent on many critical structures and infrastructure systems, such as transportation, utilities, healthcare, communications, and national security networks. As these systems grow in complexity and scale, the nature of threats that they face is also changing and now includes failures (stemming from, for example, aging infrastructure and increasing interconnectedness), more frequent and more dramatic natural disasters, the effects of climate change, and deliberate acts such as terrorism. The services provided by these socio-technical systems are typically vital and time-sensitive, and disruptions tend to have far-reaching and long-lasting consequences. Increasingly, current ad hoc, reactive, and mostly bottom-up approaches are recognized as inadequate in designing and operating resilient systems. Despite the growing body of research on this topic and its importance, a well-established, peer-reviewed body of knowledge associated with resilience engineering is needed to formalize its activities, concepts, techniques, measurements, and assessment. Sharing successful examples of resilient designs and operations is crucial to identifying the deficiencies and opportunities of existing methodologies and providing a vision for the evolution of resilience engineering in the context of model-based and digital environments.

Key Topic Areas

This special issue initiates the formation of a well-established body of knowledge on resilience in systems engineering and aid in the pathfinding for innovative and long-term research. Papers in this issue are expected to be of interest for both researchers and practitioners. Papers are invited on all relevant topics including: conceptual and theoretical examinations of resilience and sustainability for the analysis of socio-technical systems; systematic approaches for resilience assessment of complex systems considering technical, human, and organizational factors; integration of risk with resilience; design for resilience approaches; uncertainty handling in resilience assessment; data-driven approaches for resilience assessment and monitoring; simulation methods; artificial intelligence for resilience; complexity science and resilience engineering; resilience coordination, decision-making, and governance; human factors considerations in the context of resilience; dynamic maintenance for resilience; and digital twins for reliability, risk and resilience engineering.

For information on paper submission, prospective authors should visit <http://ieeaeess.org/OJSE>. Manuscripts should be submitted using the manuscript submission web site for IEEE Open Journal of Systems Engineering at <https://ieeaeess.com/journal/ojse> for peer review. Publication costs are \$975 (USD) for a 10-page manuscript.

Important Dates

- Manuscript submission deadline: 1 November 2022
- First review completed: 15 January 2023
- Revised manuscript due: 15 February 2023
- Second review completed: 15 March 2023
- Final manuscript due: 15 April 2023

Guest Editors

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