

Special Issue

Risk Assessment and Structural Optimization of Sustainable Civil Engineering

Message from the Guest Editors

We are pleased to announce the Special Issue “Risk Assessment and Structural Optimization of Sustainable Civil Engineering” in *Sustainability*. Climate change, rapid urbanization, and resource scarcity demand sustainable civil infrastructure, while extreme hazards remain a major threat. Integrating resilience and efficiency is vital to achieving SDG 9 and SDG 11. This Special Issue focuses on advancing structural performance design and optimization to improve resistance, resilience, and durability, with the aim of extending service life, reducing maintenance, and minimizing environmental impact. We invite original research and reviews on, but not limited to, the following topics:

- AI-driven multi-hazard risk assessment for infrastructure under climate extremes;
- Digital-twin-enabled structural health monitoring and resilience enhancement;
- Machine learning for predictive maintenance of aging sustainable infrastructure;
- Multi-objective optimization balancing cost, safety, and embodied carbon;
- Resilience quantification of civil engineering under natural hazards;
- Performance design and evaluation of protection structures for infrastructures;
- Optimization of bio-based composite structures;

Guest Editors

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Dr. Ming Zhang

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Deadline for manuscript submissions

13 December 2026



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About the Journal

Message from the Editor-in-Chief

I encourage you to contribute a research or comprehensive review article for consideration for publication in Sustainability, an international open access journal which provides an advanced forum for research findings in areas related to sustainability and sustainable development. The journal publishes original research articles, reviews, conference proceedings (peer reviewed full articles) and communications. I am confident you will find the journal contributes to enhancing understanding of sustainability and fostering initiatives and applications of sustainability-based measures and activities.

Editor-in-Chief

Prof. Dr. Steve W. Lyon

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