

Special Issue

Fire Resistance of Structural Materials: Steel, Concrete, and Timber

Message from the Guest Editor

On 26 November 2025, a Level 5 fire—Hong Kong’s highest alarm—occurred during refurbishment. Likely fueled by flammable façade materials and wind, it spread to 7 of 8 buildings. Over 2300 firefighters responded. As of 15 January 2026, 168 lives, including one firefighter, were lost. Fire resistance of structural materials is fundamental to life safety and resilience. With evolving materials and ambitious designs, understanding the behavior of steel, concrete, and timber under severe fires remains a critical challenge, particularly with the rise of mass timber construction. This Special Issue seeks high-quality research and reviews on the thermo-mechanical performance of structural materials during and after fire exposure. Topics include, but are not limited to: advanced fire testing, material degradation modeling and simulation, innovative fire protection systems, post-fire residual capacity and rehabilitation, performance-based design, and fire behavior of hybrid systems.

Guest Editor

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About the Journal

Message from the Editor-in-Chief

Fire is an international open-access journal about the science, policy, and technology of fires and how they interact with communities and the environment. *Fire* seeks to provide a forum to help the fire science community convey how we can live with fire in a changing world. *Fire* seeks submissions from interdisciplinary studies that take a pyrogeography perspective of fires occurring in natural, cultural, and industrial landscapes and how they interact with communities in the science-policy interface. *Fire's* Editorial Board are widely recognized international leaders. The journal emphasizes quality and innovation and has a rigorous peer-review process. I strongly recommend *Fire* for the rapid publication of your innovative research publications and case studies.

Editor-in-Chief

Dr. Grant Williamson

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