

Special Issue

Tunnel Fire Behavior: Dynamics, Smoke Management, and Safety Strategies

Message from the Guest Editors

Tunnel fire safety is a critical global issue due to the rapid development of tunnel transportation. The semi-confined structure of tunnels leads to rapid smoke spread and challenges in evacuation and rescue, often resulting in severe casualties and structural damage. In recent years, the emergence of complex systems like underwater tunnels and urban interchanges has diversified smoke behavior and complicated control measures. Furthermore, the increase in new energy vehicles presents new fire risks, demanding enhanced safety management and emergency strategies. This Special Issue presents experimental, theoretical, and numerical studies on tunnel fire behavior, smoke management, and safety strategies to address these emerging challenges. Original research and reviews are welcome. Topics include, but are not limited to:

- Smoke spread characteristics in tunnels
- Ventilation strategies for tunnel fires
- Fire suppression technologies in tunnels
- Human evacuation during tunnel fires
- AI prediction for tunnel fires
- New energy vehicle fires in tunnels

Guest Editors

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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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