

## Special Issue

# Dynamics of Wind-Fire Interaction: Fundamentals and Applications

### Message from the Guest Editors

Wind is an important boundary condition in realistic fire scenario. Wind will modify the heat transportation, fuel-oxygen mixing, and flow field structure in fire, and will be induced by fire burning behavior and in turn affect the fire growth. The Special Issue aims to seek novel papers that address important issues in wind-fire interactions. The scope of this issue is to gather original, fundamental, and applied research that contribute towards the understanding of dynamics of wind-fire interaction. Original research articles and reviews are welcome. Research areas may include (but are not limited to) the following:

- Heat feedback and burning rate under wind;
- Flame stability under the influence of cross airflow;
- Flame spread and extinction behavior with the effect of wind;
- Fire plume characteristics under wind;
- Human behaviors and structural safety in fire under wind;
- Influence of fire-induced wind on fire growth;
- Fire detection and suppression, risk analysis and management;
- Applications of the dynamics of wind-fire interaction;
- Case study of fire accident.

We look forward to receiving your contributions.

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### Guest Editors

Dr. Xiaolei Zhang

Prof. Dr. Congling Shi

Dr. Chao Ding

Dr. Yanfu Wang

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### Deadline for manuscript submissions

30 September 2025



## Fire

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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.

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### Editor-in-Chief

Dr. Grant Williamson

School of Biological Sciences, University of Tasmania, Private Bag 55,  
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