Special Issue

MILD (Moderate or Intense Low-Oxygen Dilution) Combustion

Message from the Guest Editors

Across fire science, many critical scenarios involve high-temperature, low-oxygen, highly diluted conditions. In these regimes, heat release can become spatially distributed rather than flame-front-dominated. Moderate or Intense Low-Oxygen Dilution (MILD), flameless combustion/HiTAC, and colorless distributed combustion (CDC) demonstrate uniform temperature fields, stable operation over wide equivalence ratios, and ultra-low NOx/soot values. Harnessing distributed reaction zones enables safer, cleaner fire technologies, improves industrial performance, and aids fuel transitions, while integrating fire dynamics and modern analytics accelerates scientific and practical advancements. We lack an integrated, fire-centric view of distributed combustion that couples validated models with high-fidelity measurements under high-T/low-O_2, quantifies uncertainty, and translates fundamentals to design, control, and safety guidelines. For this Special Issue, we invite the submission of rigorous studies that fill in these gaps and provide actionable knowledge, benchmarks, and datasets for the fire community.

Guest Editors

Dr. Yufeng Lai

Dr. Jiansheng Yang

Prof. Dr. Yang Zhang

Deadline for manuscript submissions

30 June 2026

Fire

an Open Access Journal by MDPI

Impact Factor 2.7
CiteScore 3.9

mdpi.com/si/254416

Fire
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
fire@mdpi.com

mdpi.com/journal/fire

Fire

an Open Access Journal by MDPI

Impact Factor 2.7
CiteScore 3.9

mdpi.com/journal/fire

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
School of Biological Sciences, University of Tasmania, Private Bag 55, Hobart, TAS 7001, Australia

Author Benefits

Open Access:

free for readers, with article processing charges (APC) paid by authors or their institutions.

High Visibility:

indexed within Scopus, SCIE (Web of Science), AGRIS, PubAg, and other databases.

Journal Rank:

JCR - Q1 (Forestry) / CiteScore - Q1 (Forestry)