

Special Issue

Simulation, Experiment and Modeling of Coal Fires

Message from the Guest Editors

Coal fires, mainly initialized by the spontaneous combustion of coal, are characterized by concealed fire sources, easy reignition, dynamic movement, and complex air leakage channels. Coal fires are coupled by chemical reaction, heat and mass transfer, as well as rock/soil mechanics, and it is important to investigate how coal ignites and coal fire spreads widely and persistently underground using experimental, numerical, and modelling approaches. This Special Issue aims to reveal its disaster-causing mechanism from simulation, experimentation and modeling, to elucidate the spatio-temporal evolution process of the occurrence and development, and to provide a theoretical basis for the accurate prevention and control. It includes but is not limited to:

- Mechanism of coal fires/spontaneous combustion;
- Early warning method of coal fires/spontaneous combustion;
- Judgment theory of multi-information fusion in dangerous areas;
- Prevention and control technology of coal fires/spontaneous combustion
- Extraction and utilization of thermal energy from underground coal fires.

We look forward to receiving your contributions.

Guest Editors

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Deadline for manuscript submissions

closed (20 April 2025)



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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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