

Special Issue on
Oxygenated Biofuels: Combustion and Kinetics

CALL FOR PAPERS

Transportation is one of the major sources of global energy consumption and one of the main contributors to pollutant and greenhouse gas (GHG) emissions. To maximize fuel efficiency while dramatically reducing transportation-related petroleum consumption and GHG emissions, comprehensive fuel and engine research and development are required. It is commonly accepted that clean combustion can be fulfilled only if engine development is coupled with development of improved or reformulated fuels. This can be achieved by blending conventional petroleum-based fuels with sustainable oxygenated additives produced via biological processes. Oxygenated additives can be used in order to reduce HC and CO emissions, increase the octane number in gasoline-like fuels, lower GHG emissions through carbon fixation, and significantly reduce particulate levels in diesel engines. In order to improve and optimize existing combustion engines for oxygenated biofuel blends, it is essential to deeply understand their spray development, combustion process, and kinetic pathways.

This special issue covers a wide range of fundamental research topics in the field of oxygenated biofuels. The focus of this special issue is on combustion and chemical kinetics related to oxygenated biofuels and/or their blends with conventional fuels. The accepted original research papers will show a diversity of new findings and insights into recent research and development in this area. Submissions summarizing both experimental and computational studies are encouraged. Review articles which describe the current state-of-the-art are also welcome.

Potential topics include but are not limited to the following:

- ▶ Laminar flames of oxygenated biofuels including their ignition, structure, propagation, extinction, stabilization, dynamics, and instabilities
- ▶ Turbulent flames of oxygenated biofuels including their ignition, structure, propagation, extinction, stabilization, dynamics, and instabilities
- ▶ Gas-phase reaction kinetics of oxygenated biofuels including the formation of gaseous pollutants, elementary reactions, mechanism generation, and reduction and uncertainty quantification

Authors can submit their manuscripts through the Manuscript Tracking System at <https://mts.hindawi.com/submit/journals/jc/obsc/>.

Papers are published upon acceptance, regardless of the Special Issue publication date.

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