Special Issue

Advances in Molecular Rheology and Tribology

Message from the Guest Editor

Designing efficient lubricants for various applications requires an understanding of their behaviour at the molecular scale. Lubricants' properties, such as viscosity and rheological behaviour, surface tension, liquid–surface interactions, tribo-film formation, pressure and temperature dependencies, are ultimately governed by their molecular composition. This Special Issue aims to highlight the research community's efforts to understand the behaviour of lubricants at the molecular level. All types of lubricants are considered, including mineral oils, ionic lubricants, water-based lubricants, green lubricants, bio-lubricants, boundary lubricants, self-assembled monolayers, and lubricant additives. Theoretical, modelling and experimental works are welcome, including molecular and mesoscale simulations and modelling, experimental rheological, tribological, and nanostructural characterization, and applications in boundary, elastohydrodynamic, and hydrodynamic lubrication regimes.

Guest Editor

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About the Journal

Message from the Editor-in-Chief

Friction, wear, and lubrication are tribological phenomena that govern the behavior of interacting surfaces in a wide range of machine components. Understanding the physical and chemical nature of these phenomena is critical to achieving long component lifetime and economical operation. Research in the field of tribology is highly interdisciplinary, and encompasses the fields of physics, chemistry, engineering, and mathematical modeling. *Lubricants* invites contributions on new advances in all areas of tribology for publication as peer-reviewed research articles, reviews of current research, letters, and communications. We are committed to providing timely reviews of all articles submitted. Please consider sharing your work with the scientific community through publication in *Lubricants.*

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