Special Issue

Liquid Crystalline and Ionic Liquid Crystalline Lubricants

Message from the Guest Editor

The first investigations on the friction-reducing effect of liquid crystals (LCs) were published in the 1980s. It was found that LCs are surface-active and also have special anisotropic properties which can lead to ultralow friction. Subsequently, a number of molecular structures were found which led to a significant reduction of friction. In recent years, tribological studies have also shown the potential of ionic liquid crystals as possible additives in oil and even in water. These attractive properties have led to further research in the field of tribology of LCs. This Special Issue will show current advances and future trends using liquid crystals and ionic liquid crystals in the field of tribology, emphasizing the underlying friction and lubrication mechanisms. Contributions are welcome dealing with mechanisms under mild tribological conditions, as well as under high pressures and temperatures with the additional effects of tribochemical reactions. Principal topics include, but are not limited to:

- (Ionic) liquid crystals;
- Lubricant additives;
- Nanofluids;
- Friction;
- Lubrication;
- Coatings;
- Tribochemistry;

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.*

Editor-in-Chief

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