



## Liquid Crystalline and Ionic Liquid Crystalline Lubricants

Guest Editor:

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### Message from the Guest Editor

Dear Colleagues,

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;



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*Guest Editor*

# Special Issue