Special Issue

Recent Advances in Eco-Friendly Ionic Liquids as Lubricants and Additives

Message from the Guest Editors

Since 2001, when the first study on using Ionic Liquids (ILs) as lubricants was published, interest in these ordered fluids has grown significantly within the tribology community. ILs, known for their low melting points and customizable physico-chemical properties, offer several unique advantages for lubricant applications. Their non-flammability, negligible volatility, excellent thermal stability, and wide liquid range make them highly promising candidates. Additionally, their high polarity can enhance the formation of adsorption films or tribolayers on contact surfaces, leading to notable reductions in friction and wear. This Special Issue aims to capture recent progress and explore emerging trends in the application of eco-friendly ionic liquids as lubricants and additives. Key topics of interest include, but are not limited to, the following:

- Ionic Liquids as high-performance neat lubricants.
- Ionic Liquids as additives in lubricants.
- Biodegradability and miscibility of Ionic Liquids.
- Ionic Liquids as additives in cutting fluids.
- Ionic Liquids for high-temperature applications.

Guest Editors

Dr. Patricia Iglesias

Department of Mechanical Engineering, Kate Gleason College of Engineering, Rochester Institute of Technology, Rochester, NY 14623, USA

Dr. Marlene Bartolomé

Department of Marine Science and Technology, University of Oviedo, Blasco de Garay, s/n, 33203 Gijón, Spain

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Lubricants
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
lubricants@mdpi.com

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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

Prof. Dr. Homer Rahnejat
School of Engineering, University of Central Lancashire, Preston PR1 2HE, UK

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