Special Issue

Advances in Ionic Liquids as New Lubricant Materials

Message from the Guest Editors

Advances have been made in the use of ionic liquids (ILs) as new lubricants, which have revolutionized the field of tribology by offering unique properties such as low volatility, high thermal stability, and tunable viscosity. ILs exhibit excellent lubrication performance under extreme conditions, reducing friction and wear more effectively than traditional lubricants. Their customizable chemical structures allow for the design of specific ILs tailored to particular applications, enhancing their efficiency. Additionally, the environmentally friendly nature of many ILs positions them as sustainable alternatives to conventional lubricants. Ongoing research focuses on understanding the fundamental mechanisms of lubrication by ILs and on overcoming challenges related to cost and large-scale production, aiming to fully integrate these advanced materials into industrial applications.

Guest Editors

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Deadline for manuscript submissions

30 January 2026

Lubricants

an Open Access Journal by MDPI

Impact Factor 2.9
CiteScore 4.5

mdpi.com/si/208192

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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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