



an Open Access Journal by MDPI

Biolubricants: Synthesis, Properties, Applications and Future Prospects

Guest Editor:

Dr. Min Yang

School of Mechanical and Automotive Engineering, Qingdao University of Technology, Qingdao 266229, China

Deadline for manuscript submissions: **30 June 2025**

Message from the Guest Editor

Dear Colleagues,

With the continuous promotion of green, low-carbon, and circular-development economic systems, energy conservation, environmental protection, low carbon usage, and efficiency have become new requirements that various industries must meet, and the lubricant industry is no exception. Currently, lubricants are mainly made of mineral oil which leads to a significant amount of oil leakage and discharge into the environment. Mineral oil lubricants have poor biodegradability and can accumulate in soil and water, causing pollution. Waste mineral oil contains harmful pollutants, including volatile organic compounds and heavy metals.

Biolubricants made from vegetable oils are a sustainable solution that can meet the needs of various industries without harming the environment. Many countries have prioritized the development and research of biolubricants to address environmental concerns. More research is needed to understand the performance mechanisms despite efforts. Therefore, this Special Issue aims to introduce the latest developments in biolubricants and reveal the mechanism by which biolubricants improve anti-friction and wear reduction performance.

Specialsue



mdpi.com/si/199679





an Open Access Journal by MDPI

Editors-in-Chief

Prof. Dr. Wei Pan

State Key Laboratory of New Ceramics and Fine Processing, School of Materials Science & Engineering, Tsinghua University, Beijing 100084, China

Dr. Emerson Coy

NanoBioMedical Centre, Adam Mickiewicz University in Poznań, ul. Wszechnicy Piastowskiej 3, 61-614 Poznań, Poland

Message from the Editorial Board

Now more than ever, research is called for to produce technologies and improve knowledge to solve the major challenges faced by our society. The development of new materials and devices for (without the ambition to be exhaustive) energy, health and food technology, together with the need for establishing processes that reduce the impact on critical resources and the environment, is indeed at the center of most contemporary research. Surface science and engineering play a key role in this regard. Refining surfaces and their modifications provides new materials, architectures and processes with a huge potential to aid most societal challenges. Coatings is a well-established, peer-reviewed, online journal that focuses on the dissemination of publications in the field of surface science and engineering. Coatings publishes original research articles that report cutting-edge results and review papers on the hottest topics.

Author Benefits

Open Access: free for readers, with article processing charges (APC) paid by authors or their institutions.

High Visibility: indexed within Scopus, SCIE (Web of Science), Inspec,

CAPlus / SciFinder, and other databases.

Journal Rank: JCR - Q2 (*Materials Science, Coatings & Films*) / CiteScore - Q2 (*Surfaces and Interfaces*)

Contact Us

Coatings Editorial Office MDPI, St. Alban-Anlage 66 4052 Basel, Switzerland Tel: +41 61 683 77 34 www.mdpi.com mdpi.com/journal/coatings coatings@mdpi.com X@Coatings_MDPI