Special Issue

Tribology of Seals

Message from the Guest Editor

Seals are indispensable elements in almost every kind of technical system and natural organism. It took long time to recognize that dynamic seals are primarily a tribological system. Wear and proper material selection was and will always be an issue, but it happened very late that the role of hydrodynamic lubrication in contacting dynamic seals and the analogies with hydrodynamic plain bearings were finally recognized. Lubricant films are very thin, which is necessary to minimize leakage, but this forces seals to operate in or close to the mixed lubrication regime. Given the otherwise inevitable, albeit small, leakage, "zero leakage" requires a hydrodynamic or aerodynamic reverse pumping mechanism, which transports the previously leaked fluid back into the working space of the machinery. These effects are still not fully understood. A specific issue of sealing technology is the compatibility between seal materials, especially elastomers, and lubricants, calling for an interdisciplinary approach by chemists, physical chemists, and tribologists.

Guest Editor

Prof. Dr. Gerhard Poll

Institute of Machine Design and Tribology (IMKT), Leibniz Universität Hannover, 30167 Hannover, Germany

Deadline for manuscript submissions

closed (31 March 2020)

Lubricants

an Open Access Journal by MDPI

Impact Factor 2.9
CiteScore 4.5

mdpi.com/si/27593

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

mdpi.com/journal/lubricants

Lubricants

an Open Access Journal by MDPI

Impact Factor 2.9
CiteScore 4.5

mdpi.com/journal/lubricants

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

Author Benefits

High Visibility:

indexed within Scopus, SCIE (Web of Science), Ei Compendex, Inspec, CAPlus / SciFinder, and other databases.

Journal Rank:

JCR - Q2 (Engineering, Mechanical) / CiteScore - Q2 (Mechanical Engineering)

Rapid Publication:

manuscripts are peer-reviewed and a first decision is provided to authors approximately 14.8 days after submission; acceptance to publication is undertaken in 1.9 days (median values for papers published in this journal in the first half of 2025).

MDPI