Special Issue

Fundamentals in Building Tribological Digital Twins of Machine Elements, 2nd Edition

Message from the Guest Editor

Machine elements are critical in many essential applications. Tribological characteristics play essential roles in the design, manufacturing, and life prediction of most machine elements. A better understanding of these tribological characteristics can help researchers and engineers to develop and maintain machine elements with higher standards. Such breakthroughs in machine elements are crucial in pursuing sustainable development in the field of mechanical equipment.

A digital twin is usually defined as a virtual duplicate of a complex system built from models and data fusion. The real-time reflection characteristic is a crucial factor needed to improve the current studies of the tribological performance of machine elements. Therefore, building tribological digital twins of machine elements could be a way to push loads of tribological knowledge and techniques toward real-world applications.

This Special Issue addresses studies on fundamentals in building tribological digital twins of machine elements. Contributions are welcome from all scientists working in tribology and related areas.

Guest Editor

Dr. Yuechang Wang
School of Mechanical Engineering and Automation, Harbin Institute of Technology (Shenzhen), Shenzhen 518055, China

Deadline for manuscript submissions

closed (28 February 2025)

Lubricants

an Open Access Journal by MDPI

Impact Factor 2.9
CiteScore 4.5

mdpi.com/si/211579

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

MDPI

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).