

Special Issue

Multiphysics Modelling in Bearing Lubrication

Message from the Guest Editors

We are pleased to invite submissions to the Special Issue entitled “Multiphysics Modelling in Bearing Lubrication.” This issue aims to bring together the latest advances, emerging methodologies, and innovative insights into the complex multiphysics interactions governing bearing lubrication performance.

The scope of this Special Issue includes, but is not limited to, the following topics: thermo–hydrodynamic and thermo–elasto–hydrodynamic lubrication (THD/TEHD); fluid–structure and thermal coupling in journal, thrust, and rolling bearings; effects of turbulence, cavitation, and non-Newtonian fluids; multiscale and multiphysics simulation methods for lubricated interfaces; shear-thinning, temperature-dependent, and surface roughness effects; data-driven and reduced-order models for lubrication systems; advanced materials, coatings, and smart lubricants under coupled fields; experimental techniques for validation of multiphysics models.

Guest Editors

Dr. Shaoyu Zhu

School of Mechatronic Engineering, China University of Mining and Technology, Xuzhou 221116, China

Prof. Dr. Jun Sun

School of Automotive Transportation and Engineering, Hefei University of Technology, Hefei 230009, China

Deadline for manuscript submissions

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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 Lancashire, Preston PR1 2HE, UK

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