# **Special Issue**

# Tribology in Cryogenic Machining

## Message from the Guest Editors

Various technologies have been developed to improve the performance of machining processes sustainably. These technologies aim to avoid the use of traditional metalworking coolants as oil-based fluids can cause health and environmental damage. Within this context. cryogenic cutting has emerged as a cleaner and more environmentally friendly solution. However, its effect on tool wear, machined surface integrity, and environmental impact has not yet been thoroughly investigated. Moreover, production costs, consumption rate, and difficulties associated with its application are commonly neglected. This Special Issue therefore intends to share the latest advances in applying cryogenic coolants in metal cutting operations, considering their drawbacks and benefits. Focusing on tribological aspects, it covers tool wear and surface integrity analysis and the machinability of different materials. Both theoretical and experimental investigations are highly welcome.

### **Guest Editors**

Prof. Dr. Carlos Ventura

Department of Mechanical Engineering, Federal University of São Carlos, Rod. Washington Luis Km 235, São Carlos 13565-905, SP, Brazil

Prof. Dr. Wengfeng Ding

College of Mechanical and Electrical Engineering, Nanjing University of Aeronautics and Astronautics, Nanjing 210016, China

## Deadline for manuscript submissions

15 February 2026



## Lubricants

an Open Access Journal by MDPI

Impact Factor 2.9 CiteScore 4.5



mdpi.com/si/236967

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





## 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 Lancahire, 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).

