# Special Issue

# Tribological Properties of Advanced Cutting Tools

### Message from the Guest Editors

The efficiency and longevity of cutting tools are critical in modern manufacturing, significantly impacting productivity and cost-effectiveness. The wear resistance is the most important indicator for the performance of a cutting tool. With the development of mechanical engineering and material science, ultrahard materials such as cubic boron nitride (CBN) and polycrystalline diamond (PCD) are extensively applied in the aerospace industry; different coatings, such as titanium nitride (TiN), titanium aluminum nitride (TiAlN), and diamond-like carbon (DLC), are deposited on the tungsten carbide tools via CVD or PVD, which aims to enhance the tribological properties of these tools. Also, cutting tools with microstructures on the surface can significantly modify the surface properties, especially the tribological behavior in cutting processes. Therefore, understanding the tribological properties of advanced cutting tools in different cutting scenarios is essential for optimizing their performance. This Special Issue aims to

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### Deadline for manuscript submissions

31 January 2026

**Lubricants**

an Open Access Journal by MDPI

Impact Factor 2.9
CiteScore 4.5

mdpi.com/si/210063

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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.*

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