



***lubricants***



*Special Issue Reprint*

## **Tribology of Textured Surfaces**

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Edited by

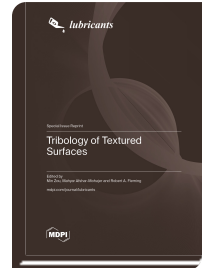
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This reprint highlights the latest advances in tribology focused on textured surfaces, showcasing 14 peer-reviewed contributions that explore innovative strategies to reduce friction, enhance lubrication, and improve wear resistance. The volume spans a broad spectrum of texture scales, from micro-dimples as small as 5  $\mu\text{m}$  to millimeter-sized grooves, and covers diverse fabrication methods including laser surface texturing, controlled grinding, and hybrid coatings. The studies demonstrate how precise surface engineering can dramatically enhance the performance of mechanical components such as bearings, seals, piston-cylinder systems, and biomedical implants.

A significant portion of the contributions emphasize computational modeling and simulations, including non-linear optimization, computational fluid dynamics, and finite element methods, which complement experimental validation and provide predictive insights into tribological performance. By integrating theory, experiments, and practical applications, this reprint serves as a comprehensive resource for researchers and engineers seeking to design advanced textured surfaces.

Together, these contributions underscore the transformative potential of surface texturing in extending component life, improving energy efficiency, and enabling next-generation engineering solutions across industrial and biomedical applications.



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