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Friction and Wear of Ceramics

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Message from the Guest Editors

Dear Colleague,

Ceramics are the materials of choice as surface coatings or bulks in harsh environments due to their unique combination of good high temperature stability, high hardness and strength, light weight, and excellent corrosion resistance. The relatively high coefficients of friction and wear rates, however, have impeded their practical applications as mechanical moving parts. To overcome these obstacles, a fundamental understanding of the friction and wear behavior and failure mechanisms and vigorous efforts to develop ceramic-based lubricants have become important. As such, this Special Issue will provide a platform for scientists and engineers to present their recent achievements in tribological properties of ceramics and ceramic matrix composites, new ceramic-based lubricants and new material design paradigms. Papers on the design, fraction and wear, and lubricating properties of high-entropy ceramics, films and coatings are welcome. We expect that major developments are pursued to tackle the challenges in harsh environment lubrication.

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