



## Advances in Mixed Lubrication

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### Message from the Guest Editors

Dear Colleagues,

Mixed lubrication is the term applied to the transitional region between full hydrodynamic or elastohydrodynamic lubrication and boundary lubrication. In machine elements, rough surface contacts are often not dry and are lubricated by thin films. Machines are often subjected to extreme operating conditions such as high loading configurations, frequent start-stop conditions, starved lubrication, high temperatures, vibrations, and thin films. Both boundary lubrication and elastohydrodynamic lubrication are bridged together by mixed lubrication, which confirms local events such as solid-to-solid (asperity) contact. The movement of interacting surfaces generates friction forces, which are responsible for high heat generation, thereby causing increased energy loss and severe wear on the surface. Moreover, flow, pressure, stress distribution, friction, wear, and adhesion are significantly impacted by the roughness of interacting surfaces when under mixed lubrication. Understanding mixed lubrication is particularly important. The study of mixed lubrication processes such as fluid mechanisms, contact

