Advances in Computational Materials Tribology

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Message from the Guest Editor

Dear Colleagues,

Materials science as well as tribology, the scientific field interested in friction, lubrication, and wear, are both of an inherently multiscale nature spanning several length and time scales from the electronic to the component level.

The systems that can nowadays be treated using a palette of computational methods will usually feature much higher degrees of realism and sheer complexity than can be achieved with purely theoretical approaches, while at the same time being able to provide more precision and detail than most experiments. Although many of the mechanisms acting in tribological contacts are generally understood, computational materials tribology can be seen as a tool for finding out which mechanisms matter under which conditions and how they interact.

In this Special Issue, we call for computational studies focusing on nano- and microscale aspects of tribological contact evolution. These include, but are not limited to, plastic deformation near tribologically loaded surfaces, microstructural aspects of surface finishing or abrasive wear, or the formation of protective films by interaction between lubricant additives and sliding surfaces.

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Special Issue

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Message from the Editor-in-Chief

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