

# MSE 2024

24 - 26 Sep 2024 (Darmstadt)

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Topic C: Characterization

## C11: Tribology: understanding mechanisms of friction and wear across scales and disciplines

Friction and wear occur in a wide variety of technical components, and in many cases reduce energy efficiency of operations and lifetimes of components. The impact of tribological losses on economy is huge, due to the high number of affected systems.

Understanding underlying mechanisms and material reactions is key for the design of resilient tribosystems with low wear and friction. This challenge can be addressed on different scales and by various approaches – from analyzing friction of single asperities and wear on the nanoscale, to the design of components with advantageous contact geometries and loads. The development of novel coatings or surface modifications, modelling of chemical processes at the surface or microstructural alterations, in-situ observations of processes in the contact or a lubricant are just few examples of research with the goal of improving our understanding of tribological problems.

This symposium brings together experts with a background in numerical and experimental tribology. We focus on all time- and length-scales relevant to tribology, from component testing on the macroscale down to atomistic-scale, with the common goal of strategically tailoring long-lasting tribosystems.

### Symposium Organizer



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