

## ESMC 2025 - Wear Mechanisms - Mini Symposium 8-3

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In the light of climate change, the improvement of mechanical systems' sustainability will help for carbon reduction emission. Wear of materials in moving parts is associated to one of the most common failure mechanisms which may drastically increase the energy consumption of engineering systems. The understanding of wear mechanisms as well as its realistic quantification remains an everyday challenge for both researchers and industrials. To get a deeper insight into the causes, progression and reduction of wear a multiscale (from nm to m) and multiphysics (mechanics, physics, chemistry, materials and surface science) approach is needed together with the development of numerical and experimental tools.

Prediction of wear through quantitative modelling and tailored experiments, is fundamental to develop appropriate wear reduction solutions.

Researchers are warmly invited to join the wear mechanisms mini-symposia to share their ongoing work within the broad aspects of wear (fundamentals, quantification, modelling...) and wear reduction.

**Keywords :** Wear fundamentals, Tribofilm and 3<sup>rd</sup> bodies, Wear reduction, Wear modelling and experimental approached, Wear quantification