



## Session description

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Title of the session: Experimental studies on the relation between microstructure and mechanical fracture processes

Objectives: The research field of the session is mainly focused on the interaction between microstructure and fracture related processes as it can be assessed by conventional and modern experimental analytical techniques, aiming to provide insightful comments and contributions towards the better understanding of damage evolution and fracture, that could assist to the expansion of operational lifetime of materials, components and structures, resulting in failure prevention. Case histories featuring industrial applications are also encouraged.

The special session topics could be divided in to the following major representative (but not limited to) groups:

1. Microstructure-induced failures
2. Fractographic analysis for failure investigation
3. Texture relationships and fracture
4. Genesis of damage at nano- and micro-scale level
5. Modeling of microstructure degradation processes with experimental validation
6. Failures in new and modern manufacturing processes
7. Failure prevention strategies based on microstructural design