

9th International Conference on Very High Cycle Fatigue (VHCF9)

Proposed session:

Multiaxial HCF and VHCF: Experimental methods, specimens and machines, and damage mechanisms

Session Chairs:

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Abstract:

Grasping the complexities of multiaxial fatigue is crucial for designing and ensuring the reliability of components in aerospace, automotive, and structural applications. The intricate nature of multiaxial loading conditions presents significant challenges in thoroughly and accurately studying and characterizing them. This session will focus on the criticality of advancing our understanding of multiaxial fatigue through comprehensive experimental testing methodologies, sophisticated and innovative modelling specimens' techniques, and the analysis of the damage mechanisms. By linking the gap between HCF and VHCF research, between uniaxial and multiaxial fatigue, we can significantly enhance our capacity to predict and mitigate structural failures under complex loading conditions, thereby safeguarding the structural integrity and durability of engineering machines that undergo a considerable number of cycles.