THEMATIC SYMPOSIUM

Energy Methods for Fatigue Assessment

Call for Papers

In the framework of the joint IGF28 and MedFract3 conferences, researchers and experts are invited to submit scientific contributions to the Symposium on Energy Methods for Fatigue Assessment, one of the technical sessions dedicated to the assessment of **fatigue** and **structural integrity** through advanced **energy-based approaches**.

The symposium places particular emphasis on the application of non-destructive methodologies based on **thermographic techniques**, which are gaining increasing attention in the mechanical characterization of materials due to their effectiveness in the early detection of **damage** phenomena and in the assessment of fatigue. Local approaches, preferably based on energy assumptions, will also be central, as they are essential tools for a more precise description of fracture behavior and for the reliable design of components subjected to cyclic loading.

The aim of the symposium is to deepen the development and application of experimental energy-based methods for stress-strain analysis, fatigue characterization and damage control in static and dynamic regimes. Particular attention will be paid to the integration of these methods in industrial contexts, therefore contributions presenting application case studies, practical solutions and experimental validations on real components are strongly encouraged.

The symposium represents an important opportunity for dialogue between the academic and industrial worlds, encouraging discussion on new technological challenges, emerging techniques and future perspectives in the field of fracture, fatigue and structural integrity.

Papers covering the following topics (but not limited to) are welcome:

- Thermographic Method
- Energy-based Local approaches
- Full-Field Measurement

- Crack Propagation
- Fatigue Crack Growth
- Stress Intensity Factor
- Multiaxial fatigue
- Connections (welded and bonded joint, …)
- Energetic release on additive-manufactured materials during fatigue test

Abstract submission deadline: May 30, 2025

Organizer:

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IMPORTANT:

1. When submitting your abstract please mention the name of Symposium - “Energy Methods for fatigue assessment”.
2. Please inform us about your submission/intention to submit so that we could plan Symposium’s sessions.

With best regards

Dario Santonocito

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Giacomo Risitano

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