



## **Thematic Session on Probabilistic Fatigue & Fracture** **Approaches Applied to Materials and Structures**

### **1. Thematic session title**

Probabilistic Fatigue & Fracture Approaches Applied to Materials and Structures

### **2. Organizers, including affiliations**

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#### **4. Short description of the symposium including the scope and target public**

The Thematic Session on Probabilistic Fatigue & Fracture Approaches Applied to Materials and Structures (A-IRAS2019-PFFA) is organised within the First International Symposium on Risk Analysis and Safety of Complex Structures and Components (IRAS2019), which will take place in the beautiful city of Porto, Portugal, on 01-02 July 2019. This Symposium is intended to be a forum of discussion of the recent advances in the domain of the probabilistic approaches or reliability methods for the fatigue and fracture characterization and design of materials (metals, polymers, composites among others) and structures (metallic, composite, joints, etc). It is expected contributions from engineers, metallurgists, material scientists, among others, allowing a very multidisciplinary discussion.

The goal of the Thematic Session on Probabilistic Fatigue & Fracture Approaches Applied to Materials and Structures (A-IRAS2019-PFFA) is to provide a platform to present the last research advances on:

- Fracture mechanics
- Fatigue reliability
- Probabilistic damage tolerance
- Physics of Failure modelling
- Multi-physics damage modelling and analysis
- Uncertainty quantification and propagation
- Structural reliability
- Scale/notch effects
- Probabilistic PoF modelling
- Reliability testing and statistics
- Life prediction
- Reliability-based design

All contributions in the form of extended abstracts will be peer reviewed by the members of A-IRAS2019-PFFA Scientific Committee. Full papers will be published in special issues of the scientific journals available for IRAS2019 event upon peer review and acceptance.

Please submit your work by email to [zspeng2007@uestc.edu.cn](mailto:zspeng2007@uestc.edu.cn) or [iras2019@fe.up.pt](mailto:iras2019@fe.up.pt) with subject **A-IRAS2019-PFFA**.