MS08: Process induced microstructures & durability of additively manufactured materials & structures in aeronautics (Prof. Nicolas SAINTIER, ENSAM Bordeaux, France)

The development of additive manufacturing in aeronautics is conditioned by the full understanding of the links between material microstructure process and durability. The aim of this mini-symposium is to address some of the key issues related to process induced material microstructure and durability for aeronautical applications. All types of additive processes will be considered (EBM, LMD, DMD, LMWD etc.) and a wide range of materials will be considered (metals, ceramics, composites, etc.). Durability aspects will include, mechanical properties (statics, fatigue, shock), environmental effects such as corrosion, oxidation and coupled mechanical/environmental loadings. The topics may include, but not only to:

- Effect of process parameters and strategies on microstructures
- Process optimisation for specific microstructures and/or durability
- Post-processing for specific for specific microstructures and/or durability
- Durability of additively manufactured materials including environment and mechanical loadings
- Lightweight structures, architectured materials including lattices and cellular structures
- Impact of surface and volume defects on fatigue of additively manufactured materials

