

### **Mini-Symposium 6-3: Dynamic and transient phenomena, dynamic phase transitions, nonlinear waves**

**Organizers:** Michael Nieves (Keele University, UK), Vincent Tournat (Le Mans Université, FR)

This minisymposium aims to showcase recent theoretical, computational and experimental advancements in the understanding and development of materials with unconventional wave and vibration properties. The scope of this minisymposium is focused on, but not limited to, the modelling, design, characterisation and application of:

- mechanical metamaterials,
- continuous and discrete structured composites, architected solids,
- soft multi-scale media, porous solids, e.g. aerogels,
- nonequilibrium and multi-stable materials.

Emphasis will be placed on the steady or transient dynamic regimes these materials possess, where complex linear or non-linear physical processes appear and interact, including:

- wave scattering, transmission, reflection, attenuation, absorption and localisation and the control of these responses.
- nonlinear waves, solitons, large amplitude dynamics,
- dynamic material phase transitions, transition waves, wave reconfiguration,
- catastrophic failure and fracture propagation,
- slow dynamic processes and fatigue,
- macrolevel responses for multiscale mechanical systems.