

**Thematic Symposium
ESIS TC 14
“Integrity of Biomedical and Biological Materials”**

Thematic Symposium “**Integrity of Biomedical and Biological Materials**” will be organised by Technical Committee 14 of the European Structural Integrity Society within the framework of **ECF23, European Conference on Fracture 2022** to be held in Funchal, Madeira, Portugal, 27 June – 1 July 2022 (see <https://www.ecf23.eu/>).

The aim of this Symposium is to bring together specialists in mechanics and micromechanics of materials, applied mathematics, continuum mechanics, materials science, physics, biomechanics and medical engineering to discuss latest developments and trends in characterisation and testing protocols for biomedical materials as well as biological tissues and organs (both *in vivo* and *in vitro*), constitutive equations of their behaviour and advanced numerical simulation schemes.

The topics of the Symposium include, but are not limited to, the following:

- Structural integrity of implants and medical devices (orthopaedic, dental, cardiovascular, etc.);
- Fatigue, creep and biodegradation of biomedical materials used in implants;
- Structural integrity of prostheses;
- Mechanical performance of biomedical materials *in vivo*;
- Structural integrity of 3d-printed biomedical components and structures;
- Bio-inspired and biomimetic materials and structures;
- Mechanical characterisation of artificial tissues and scaffolds;
- Mechanics of cells;
- Fracture mechanics of biological tissues;
- Damage in hard and soft tissues;
- Responses of biological tissues and biomedical materials to dynamic loading;
- Numerical simulations of properties and performance of biological and biomedical materials and devices.

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