Dear Colleagues,

I invite you to submit an abstract to the Symposium

"Structural integrity of Additive Manufactured materials"

organised by Technical Committee 15 "Structural Integrity of Additive Manufactured Components (In-TEAM TC 15)" of the European Structural Integrity Society within the framework of the 22nd European Conference on Fracture - ECF22 to be held in Belgrade, Serbia, 26-31 August 2018 (see http://www.ecf22.rs/).

The deadline for the abstracts is 15 December 2017.

The aim of this Symposium is to bring together specialists in mechanics and structural integrity of additive manufactured materials with particular attention to materials science, fracture and fatigue behavior, structural integrity, optimal design, interactions between process parameters and mechanical properties.

The idea is to discuss the latest developments and trends in the field of AM components paying attention to structures, testing protocols, constitutive equations and advanced numerical simulation tools.

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

• Fatigue and crack propagation in additive manufactured parts

• Influence of the additive manufacturing process signature on microstructure

• Fatigue behavior of lattice structures

• Residual stress measurement in additive manufactured parts

• Smart implants for biomedical applications

• Characterization of mechanical properties in additive manufacturing

• Development of shock absorbing protection made of crushable materials (lattice cellular structure) using Additive Manufacturing

• Development of one single part integrating waveguide filter, bends, couplers, supporting structures made by Additive Manufacturing

• Development of embedded thermal functions in structural parts using 3D printing

• New generation of prosthetics (complex reticular shapes and multi-material, functionally graded structures)

• Lattice Structures for Launchers and Spacecraft Produced with Automatic Processes

• Hybrid processes for advanced additive manufacturing components

• Optimization of the functional mechanical/surface behavior at micro and nano scale levels

• High strain rate and impact behavior of additively manufacturing materials

• Advanced titanium and aluminum alloys tailored for Additive Manufacturing space applications

• Development of very large 3D printed structures

• Development of a manufacturing process for polymer structures

• Advanced thermal models for microstructure optimization in powder based additive manufacturing processes

• Topology optimization

A selection of papers presented at this Symposium will be published in a Special Issue on associated ESIS journals.

IMPORTANT:

1) When submitting your abstract please mention the name of Symposium - **"Structural integrity of additive manufactured materials"**.

2) Please inform us about your submission/intention to submit so that we could plan Symposium's sessions.

With best regards

Filippo Berto and Luca Susmel

ESIS TC15 Chairs