

New trends in 4D printing

Giulia Scalet, Università di Pavia, Italy

Stefano Pandini, Università di Brescia, Italy

The so-called four-dimensional (4D) printing, which synergically combines flexibility in fabrication of objects with complex shapes and the possibility to change such shapes in response to an external stimulus, may be regarded as a frontier in the advancement of both 3D printing and stimuli-responsive material researches, and their related applications. Various backgrounds, ranging from advanced technology to material science, from mathematical modelling to thermo-mechanical testing, may contribute to the development of such research field, as well as the potentialities are manifolds.

The special session is intended to cover the last advances in 4D printing, bringing together specialists in different disciplines. Session themes will include, but will be not limited to, experimental methods, innovative materials, mathematical modeling, numerical simulations, and applications to diverse areas in engineering, medicine, robotics.

Topics:

- Innovative application;
- Material modeling;
- Multi-physics and multi-scale simulation;
- Validation and verification