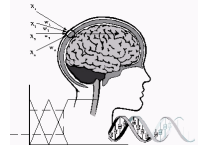




International

Innovation in Knowledge Based and Intelligent
Engineering Systems



INVITED SESSION SUMMARY

Title of Session:

Eco-design and eco-assessment for Additive Manufacturing

Name, Title and Affiliation of Chair:

Christian Spreafico, Assistant Professor, Department of Management, Information and Production Engineering, University of Bergamo

Co-chair:

Davide Russo, Full Professor, Department of Management, Information and Production Engineering, University of Bergamo

Details of Session (including aim and scope):

The Special Session on Eco-design for Additive Manufacturing provides an opportunity to explore the role of design approaches, methods, and tools, as well as printing technologies and materials, in enhancing the environmental sustainability of additive manufacturing. The primary focus is on proposing innovative solutions related to the life cycle of 3D printed components and their eco-assessment, addressing uncertainties arising from varying levels of development in the provided solutions.

This session aims to address a knowledge gap in eco-design and eco-assessment for additive manufacturing, considering the combined effects of structure/microstructure, materials, and technologies.

Specifically, the session welcomes research contributions that cover:

- Lightweight (eco) design for additive manufacturing.
- Exploration of the intersection between design for additive manufacturing and the limitations of materials (e.g., recycled metal powders) and technologies.
- Utilization of structured eco-assessment techniques, such as life cycle assessment (LCA) and prospective LCA, in the field of additive manufacturing.
- Discussion on the relationships between theory and industrial practice in the context of eco-design for additive manufacturing.

The session is open to theoretical and practical contributions to eco-design, involving systematic methods, computer-aided design (CAD) and finite element method (FEM) tools, information retrieval strategies, and theories developed or experimented with to support eco-design for additive manufacturing in the industry.

Main Contributing Researchers / Research Centres (tentative, if known at this stage):

University of Bergamo, Universidade NOVA de Lisboa, Sapienza University of Rome, Leiden University, Roma Tre University, Free University of Bozen-Bolzano

Website URL of Call for Papers (if any):**Email & Contact Details:**

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