INTERNATIONAL

INVITED SESSION SUMMARY

Title of Session:

Manufacturing the Circular Economy through Innovation

Name, Title and Affiliation of Chair:

Dr Sinéad Mitchell[1]
Assistant Professor/Lecturer and Researcher in Engineering

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Details of Session (including aim and scope):

This session is focused on the urgency for researchers, designers and manufactures to accelerate the transition to a circular economy in the next decade through innovations. This aligns with the European Green Deal for industry to achieve net zero emissions by mid-century (European Commission, 2020).and various country targets on SDGs and the Circular Economy.
While the concept of a circular economy is simple, there are many challenges involved in operationalising the circular economy and making it a reality. How we innovate, design and make all of our stuff needs a seismic shift from many actors working together with a systems approach, exploring new methods, materials, manufacturing processes and understanding the impacts and choices we make. Traditional and advanced manufacturing techniques (such as additive manufacturing) have the potential to reduce impacts through designing for circularity in manufacturing, waste reduction and energy efficiency

Session aim:

This session aims to look at how a transition to a circular future can be attained through focusing on innovations in manufacturing techniques, resource efficiency, materials and measuring impacts.

Session scope:
We invite contributions from researchers, manufacturers, designers and collaborative partnerships on the innovation challenges, transitions, advances and future-thinking such as:

- Novel insights from the wider field of manufacturing, materials
- Experiences with innovating for the circular economy with academic relevance
- Methodological insights
- New developments in circular manufacturing from a systems thinking perspective

Proposed Topics

- Bio-based plastics and composites
- Sustainable materials
- Life Cycle Assessment
- Design for the Circular Economy
- Advanced Manufacturing
- Measuring circularity in manufacturing
- Education for the circular economy
- Circular economy and medical technologies
- Sustainable Development Goals
- Future technologies
- Systems thinking innovation
- Repair, Reuse and Remanufacturing

Main Contributing Researchers / Research Centres (tentative, if known at this stage):
Website URL of Call for Papers (if any):
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