

INVITED SESSION SUMMARY**Title of Session:**

Sustainable Materials: Renewable and Eco Materials, Bio-Polymers, Composites with Natural Fibres

Name, Title and Affiliation of Chair:

Dr. Mario D. Monzón. Professor in Mechanical Engineering Department. University of Las Palmas de Gran Canaria. Spain

Details of Session (including aim and scope):

There is significant global interest in the demand for environmentally friendly materials due to the problem of residues and recyclability. Europe produces around 25 million tons per year of post-consumer polymeric residues, being around 7%w/w of the global amount of urban residues. Bio-based polymers production capacity is expected to rise increase from 3.5 billion Million tonnes in 2011 to nearly 12 million in 2020. Currently 8.2% of polymers produced worldwide are bio-based. Also, chosen for their abundance, renewability and biodegradability agricultural wastes such as plant fibres have shown their potential to match or improve the core characteristics of unfilled base polymers. In practical applications, low cost bio-waste reinforced thermoplastic composites are gaining significant roles in building and automobile industries, and other consumer applications. In this context this special session is mainly focused on:

- Renewable and eco materials with high impact in the reduction of waste and improvement of recyclability or biodegradability.
- Development and processability of Bio-Polymers.
- Extraction and process of natural fibres for composite, compounding and technical textile.
- Processability and behaviour of natural fibre composites.
- LCA of these sustainable materials.
- Design and simulation for natural fibre composites.

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

Zaida Ortega . University of Las Palmas de Gran Canaria, Spain
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Website URL of Call for Papers (if any):

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