



SUBMIT AN ABSTRACT FOR THE FOLLOWING SYMPOSIUM

MATERIALS SYNTHESIS AND PROCESSING

Fundamentals of Sustainable Metallurgy and Processing of Materials

The transition toward sustainable development requires innovative approaches to metallurgy, processing, and manufacturing. This symposium will explore the fundamental aspects of recent advancements in techniques and methods that promote sustainability across the lifecycle of materials, from extraction and downstream processing to recycling/upcycling and end-of-life management. It aims to bring together researchers to discuss the basic science questions and fundamental mechanisms in developing low-carbon and energy-efficient metal processing and productions, circular economy practices, integration of sustainable supply chains, and environmentally friendly materials.

The key scopes include, but are not limited to, the following areas:

- Fundamental understanding of physical and chemical phenomena involved in sustainable metallurgical processes
- Low-carbon metallurgical methods for metallic materials for structural and functional applications
- Novel production methods (e.g., solid phase processing, electrochemical and pyrometallurgical methods, etc.) for recycling or upcycling of metals from waste and end-of-life materials
- Advanced characterization of the microstructure and properties of materials produced through sustainable and/or low-carbon metallurgy approaches
- Advances in computational efforts for sustainable metallurgy and low-carbon manufacturing
- Novel materials design concepts to enhance recyclability, reduce waste, and lower energy consumption

SPONSORED BY:

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