Symposium Q : Metals in Additive Manufacturing

Scope of the Symposium

Additive manufacturing (AM) is a growing range of technologies that allows the production of components with functionalities that were otherwise not possible to achieve. Much has been discussed on the ability of building metallic parts with complex geometries without the use of expensive tooling taking advantage of additive techniques. However, it is mandatory to understand processing/microstructure/performance relationship of metallic AM parts. Typically, each layer goes through localized melting, rapid solidification and multiple heating-cooling cycles. As a consequence, metallic AM materials can exhibit unique microstructures and properties. Furthermore, alloys development to build a property gradient and to better suit additive processes are also the target of researchers that aimed to enhance the understanding and benefit from the gains offer by AM parts.

Abstracts will be solicited in (but not limited to) the following areas

- *? Correlation between AM processing conditions and microstructure/material performance*
- *? Alloy design and development in AM*
- *? Processing of materials and properties of metallic AM*
- *? AM Thermal cycle modeling/simulation*
- *? AM metallic alloys: Ferrous, Ni, Ti, Al, etc.*
- *? Special materials: High entropy alloys, intermetallic alloys, metal matrix composites*
- *? Metallic Powders for Additive Manufacturing*
- *? Properties gradients in metal AM parts*
- *? Post heat treatments of AM metallic components*

Tentative list of invited speakers (To be confirmed)

Moataz Attallah (*University of Birmingham, UK*) **Anthony Rollett** (*Carnegie Mellon University, USA*) **Stefania Bruschi** (*University of Padova, Italy*) .

Symposium Organizers

Ana Sofia C M d'Oliveira (*UFPR*) **Fernando LandgrafF** (*USP*) **Daniel Bayerlein** (*IPT*) **Leandro J Silva** (*ISI-Laser*) **Milton Lima** (*ITA*) .