



Symposium: Structure-properties relationship of advanced metallic materials

Scope of the Symposium:

The search for new materials with improved properties now occupies an important position in the engineering world. A number of procedures have been recently proposed to aid the development of materials science and engineering. For example, the advents of the scanning tunneling microscope and the atomic force microscope, together with developments in electron microscopy, have opened new ways for the study of structure materials at the nano-scale. Advances in the field of fracture mechanics and its application to structural design and material selection have helped to offset some of the potential dangers posed by increasing technological complexity, and have undoubtedly prevented a substantial number of structural failures. The development of thermo-mechanical processing in steel industry changed the traditional concept of deformation processing, when the single operation to reduce thickness and to provide a desirable shape has been improved to product specific microstructures, with which are associated particular mechanical and physical properties. This Symposium deals with these topics, to show some of the new most important scientific and technological advances in materials science and engineering.

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

- Techniques for microstructure and properties characterization.
- Fracture mechanics applied to structural integrity.
- Light alloys (Al, Mg, Ti) for automotive and aeronautical applications.
- Recent developments in steels for automotive industry and for gas/oil pipelines.
- Materials to resist fatigue and creep.
- Recent technologies for welding procedures.

Symposium Organizers:

Principal Organizer:

1. Leonardo Barbosa Godefroid

Universidade Federal de Ouro Preto

Co-organizers:

2. Waldek Wladimir Bose Filho

Universidade de São Paulo

3. Luiz Carlos Rolim Lopes

Universidade Federal Fluminense

4. Juan Perez Ipiña

Universidad Nacional del Comahue, Argentina

5. Pedro Dolabella Portella

BAM: Federal Institute for Materials Research and Testing, Germany