

FEMS EUROMAT23

03 - 07 Sep 2023 (Frankfurt)

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FEMS EUROMAT is the most important international congress in materials science and technology in Europe. It continues a successful congress series promoting the transfer of knowledge and the exchange of experience between academia and industry. **Submission deadline: 31 January 2023**

Area B: Structural Materials

B03: High-Temperature Alloys and Intermetallic

The transition to low-carbon energy production poses a large number of technological challenges. One of them is to improve the efficiency of energy production systems to minimize the use of resources. It is well known that the best way to increase efficiency is to increase the process temperature. Thus, low carbon energy technologies as different from each other as fuel cells and hydrogen, concentrated solar power, bioenergy, geothermal, and sustainable nuclear, find commonalities in need to operate at temperatures above 400°C, up to 1000°C. These extreme operating conditions, that is high temperature operation under an aggressive environment, requires the use and development of alloys that maintain their integrity for a sufficiently long time within reasonable costs.

This symposium will focus on the understanding processing-microstructure-property of high temperature resistant alloys and Intermetallic for structural application in energy production systems. Topics of interest include:

- Development of new materials with superior creep and/or corrosion resistance at high temperature
- Improvement of material performance at high temperatures by tailoring chemical composition or thermomechanical process
- Advanced characterization techniques to assess high temperature mechanical properties and corrosion resistance
- Advanced tools to accelerate the materials development process, e.g., by the use of high throughput characterization techniques, artificial intelligence algorithms, automatization of process, ...

Experimental and modeling contributions are welcome

The symposium will gather researchers interested in material development to operate at high temperatures and aggressive environments as well as on advances techniques to assess creep and oxidation/corrosion resistance.

Symposium Organizer



Dr. Rebeca Hernández Pascual
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Prof. Dr. Marta Serrano García
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