



## Introduction

The 9<sup>th</sup> Liège Conference on Materials for Advanced Power Engineering will be held on September 27<sup>th</sup> – 29<sup>th</sup>, 2010 at the Palais des Congrès in Liège, Belgium. The achievements of the European materials development projects carried out in the COST Actions 536 ‘Alloy Development for Critical Components of Environmentally Friendly Power Plant’ and 538 ‘High Temperature Plant Lifetime Extension’ which are ended in 2009 and 2008, respectively, will be reviewed. In addition, the broad field of current materials research for high efficiency, low-emission and zero emission power plants are reported.

The topics that will be covered in the conference are:

- Ferritic, martensitic, and austenitic steels as well as Nickel base alloys for high temperature steam power plants
- Coatings for protection against fire-side and steam-side corrosion in steam power plants
- High performance Nickel base alloys for gas turbines
- Innovative thermal barrier coatings for high efficiency gas turbines
- Membrane materials for CO<sub>2</sub> - separation in zero emission power plants
- Materials for nuclear fusion reactors and advanced nuclear fission power plants
- Materials issues for alternative power plant processes (IGCC, Oxyfuel) as well as for combustion of low grade fuels, biomass and waste
- Production of components, including casting, hot and cold working, heat treatment and welding
- Novel materials (intermetallics, composites) and processes for energy conversion
- Cross cutting topics in research on high temperature materials, especially:
  - High temperature corrosion
  - Thermomechanical fatigue
  - Modeling and lifetime prediction tools

Following the well established format of previous Liège conferences, a series of review papers will describe the European materials developments carried out in the COST Actions 536 and 538. Invited lectures by internationally recognized experts will present the status within the other topics mentioned above. Sessions concerning new energy technologies and materials perspectives for the next decade are planned. Contributions on all issues to be presented at the conference are welcome. They will be presented in the form of posters combined with reviewed proceedings.

## Language

The official language will be English.

## Proceedings

The papers and poster contributions will be reviewed and published in the Conference Proceedings, which will be available at the Conference.

## Social and Guest Programmes

The social programme will include an ice-breaker party on Sunday September 26<sup>th</sup> and a Conference Dinner. An attractive guest programme with visits to Liège, Maastricht and Aachen will be organised. Further details will be given in the Second Announcement.

## Accommodation

A list of hotels and guest houses in Liège and surroundings will be provided.

## Travel Information

Liege is easily reached by road or train from Germany, France and the Netherlands. The nearest airports are Brussels International (Zaventem) with frequent train services to Liège Guillemins Railway Station; and Brussels South (Charleroi) for low cost airlines, with shuttle bus to Charleroi train station and connections to Liège Guillemins.

## Call for Papers

Contributions related to any of the Conference topics may be submitted for presentation as posters. The reviewed manuscripts of poster presentations will be published in the Proceedings. If you wish to submit a poster presentation, please send the title and a halfpage abstract, as soon as possible, either by e-mail or post to: Marc.Carton@ulg.ac.be

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## 9<sup>th</sup> Liège Conference September 27<sup>th</sup> – 29<sup>th</sup>, 2010

### Preliminary Programme

#### Sunday, September 26<sup>th</sup>

From 18:00      Registration and Ice-Breaker Party

#### Monday, September 27<sup>th</sup>

08:30 – 09:15      Registration

09:15 – 10:00      Inaugural Session

10:00 – 12:30      Materials for Advanced Steam Power Plants  
Materials, Joining Technology and Future  
Perspectives

14:00 – 17:30      Gas Turbine Materials  
Nickel Base Superalloys and Thermal Barrier  
Coating Systems

18:00 – 20:00      Reception and Poster Session

#### Tuesday, September 28<sup>th</sup>

09:00 – 10:30      Nuclear Fission and Fusion  
Fast Breeder Technology, Generation IV reactors,  
Supply Chain Issues, ITER Materials Research

11:00 – 12:30      Solid Oxide Fuel Cells  
Materials for SOFCs and Gas Separation  
Membranes  
Worldwide Solid Oxide Fuel Cell Development

14:00 – 17:00      General Topics  
Corrosion, Thermomechanical Fatigue,  
Modeling, Life Assessment

#### Wednesday, September 29<sup>th</sup>

09:00 – 12:30      Materials for Zero-Emission Power Plants  
Materials, processing and practical experience

12:30 – 13:00      Closing Session

## 9<sup>th</sup> Liège Conference on Materials for Advanced Power Engineering Sept. 27<sup>th</sup> – 29<sup>th</sup>, 2010 • Liège • Belgium Preliminary Registration

I am interested in the meeting. Please put me on your mailing list.

I would like to submit a poster

Name: .....

First name: .....

Institution: .....

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Address: .....

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Telephone: .....

Telefax: .....

E-mail: .....

Title of contribution: .....

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Authors: .....

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