

**9<sup>th</sup> LIEGE Conference – Program**

SUNDAY, SEPTEMBER 26<sup>TH</sup>

**18:00 – 21:00**      ***Ice Breaker Party***

MONDAY, SEPTEMBER 27<sup>TH</sup>

**08:00 – 09:15**      ***Registration***

**09:15 – 10:00**      ***Inaugural Session (Chairman: T. Beck)***

**09:15 – 09:30**      **Welcome addresses from ULg and FZ Jülich**

**09:30 – 10:00**      **Introducing Lecture: Dr. P. Dechamps (European Commission)**  
Energy, Power Generation and Materials in a Carbon Constrained World

**10:00 – 12:30**      ***Materials for Advanced Steam Power Plants (Chairman: J. Hald)***

**10:00 – 10:30**      **M. Fukuda (National Institute of Material Science, Japan)**  
Advanced USC Technology Development in Japan

**10:30 – 11:00**      **H. Tschaffon (E.ON Energie AG, Germany)**  
700°C Power Plant Technology - Status and Challenge

**11:00 – 11:20**      **T. U. Kern (Siemens Energy Sector, Germany)**  
The European Efforts in Development of New High Temperature Rotor Materials – COST 536

**11:20 – 11:40**      **P. Barnard (Doosan Babcock, UK)**  
Material Developments for Supercritical Boilers and Pipework

**11:40 – 12:00**      **J. Hald (Technical University of Denmark, Denmark)**  
Development Status and Future Possibilities for Martensitic Creep Resistant Steels

**12:00 – 13:30**      ***Lunch***

- 13:30 – 17:00**      ***Gas Turbine Materials (Chairman: J. Oakey)***
- 13:30 – 14:00**      **M. Nazmy (Alstom Power, Switzerland) + A. Scholz (Technical University of Darmstadt, Germany)**  
Modelling of Microstructure and Mechanical Property Changes in Gas Turbine Alloys
- 14:00 – 14:30**      **U. Glatzel (University of Bayreuth, Germany)**  
Development of the Single Crystal Reduced Density Nickel Base Superalloy LEK 94
- 14:30 – 15:00**      **L. Remy (EDM, France), J. Y. Guédou (SNECMA, France)**  
Recent trends (or advances) in superalloys research for critical aero-engine components
- 15:00 – 15:30**      ***Coffee Break***
- 15:30 – 16:00**      **H. Harada (National Institute of Material Science, Japan)**  
Development of Superalloys for a 1700°C Ultra-Efficient Gas Turbine
- 16:00 – 16:30**      **U. Schulz (Deutsches Zentrum für Luft- und Raumfahrt, Germany)**  
Recent developments of thermal barrier coatings for advanced gas turbines
- 16:30 – 17:00**      **J. Nicholls (Cranfield University, United Kingdom)**  
Influence of Bondcoat Composition and Process Parameters on the Lifetime of EB-PVD Thermal Barrier Coatings
- 17:00 – 19:30**      ***Reception and poster session***

TUESDAY, SEPTEMBER 28<sup>TH</sup>

- 08:30 – 10:30**      ***Materials for Nuclear Fusion and Fission (Chairman: T. Beck)***
- 08:30 – 09:00**      **N. Lopes Cardozo (Eindhoven University of Technology, Netherlands)**  
Clearing the seven obstacles on the road to fusion power
- 09:00 – 09:30**      **J. Linke (Forschungszentrum Jülich, Germany)**  
Development and evaluation of plasma facing materials for future thermonuclear fusion reactors
- 09:30 – 10:00**      **B. Raj (Indira Gandhi Center for Atomic Research, India)**  
Development of Materials and Manufacturing Technologies for Indian Fast Reactor Programme
- 10:00 – 10:30**      **D. Buckthorpe (AMEC, United Kingdom)**  
Material Challenges for the next generation of Fission Reactor Systems
- 10:30 – 11:00**      ***Coffee Break***
- 11:00 – 12:30**      ***Solid Oxide Fuel Cells (Chairman: B. Kuhn):***
- 11:00 – 11:30**      **M. Mogensen (Risø National Laboratory for Sustainable Energy, Denmark)**  
Materials and structural aspects of solid oxide electrochemical cells for conversion of electricity to hydrocarbons and reverse
- 11:30 – 12:00**      **H. Yokokawa (National Institute of Advanced Industrial Science and Technology, Japan)**  
Recent Activities of Solid Oxide Fuel Cell Research and Development in Japan
- 12:00 – 12:30**      **L. G. J. de Haart (Forschungszentrum Jülich, Germany)**  
Recent Developments in Solid Oxide Fuel Cells at Forschungszentrum Juelich and in Europe
- 12:30 – 14:30**      ***Lunch***

- 14:30 – 17:00**      ***Corrosion, Thermomechanical Fatigue and Modeling (Chairman: W.J. Quadackers):***
- 14:30 – 15:00**      **J. Wells (RWE Power, United Kingdom)**  
Application of Tools for High Temperature Life Assessment
- 15:00 – 15:30**      **A. T. Fry, A. Aguera (National Physical Laboratory, United Kingdom)**  
Steam Oxidation and the Evaluation of Coatings and Material Performance through Collaborative Research
- 15:30 – 16:00**      **S. Holdsworth (Swiss Federal Laboratories for Materials Testing and Research, Switzerland)**  
Advances in the Assessment of Creep Data
- 16:00 – 16:30**      **P. Henderson / A. Hjörnhede (Vattenfall AB, Sweden)**  
Combatting Corrosion in Biomass and Waste Fired Plants
- 16:30 – 19:00**      ***Reception and Poster session***
- 20:00 – 24:00**      ***Conference Dinner***

WEDNESDAY, SEPTEMBER 29<sup>TH</sup>

- 09:00 – 13:30**      ***Zero-Emission Power Plants (Chairman: L. Singheiser)***
- 09:00 – 09:30**      **B. Romanosky (National Energy Technology Laboratory, USA)**  
US Perspective in Fossil Energy Power Production in a Carbon  
Constrained World
- 09:30 – 10:00**      **R. Kneer (Rheinisch–Westfälische Technische Hochschule Aachen,  
Germany)**  
OXYCOAL-AC: Innovative components and concepts for the power  
plants of the future
- 10:00 – 10:30**      **A. Hjörnhede (Vattenfall, D)**  
Preliminary Corrosion Results from Vattenfall’s 30 MW Oxyfuel Pilot  
Plant
- 10:30 – 11:00**      **J. Kaptein (NUON Energy, NL)**  
Experience with Integrated Gasification Combined Cycle Plants and  
Future Developments
- 11:00 – 11:30**      ***Coffee Break***
- 11:30 – 12:00**      **P. Mathieu (Université de Liège, Belgium)**  
Advanced capture technologies in power generation
- 12:00 – 12:30**      **W. Meulenbergh (Forschungszentrum Jülich, Germany)**  
Ceramic Membranes for Gas Separation in Advanced Fossil Fired  
Power Plants
- 12:30 – 13:00**      **B. Bordenet (Alstom, Switzerland)**  
Developments in Post-combustion CO<sub>2</sub> Capture Technologies
- 13:00 – 13:30**      ***Closing Session (Chairman: T. Beck)***  
Concluding remarks