



Invitation  
15-16 March  
2016

# Invitation to the KME/HTC Research Symposium 2016

It is time for the annual KME/HTC conference! New and exciting results from the research programmes will be presented.

Date: 15-16 March, 2016  
Location: AF-borgen  
Sandgatan 2, Lund, Sweden  
**Register here**  
The symposium is free of charge.

The symposium will take place in Lund in the south of Sweden on March 15th-16th. The programme will be updated.

The symposium is intended for employees at member companies and others taking part in the HTC and KME programmes in the current programme periods 2014-2017/8.

The participants cover their own costs for lodging. All other arrangements, including participation in the symposium, lunches, dinner are free of charge.

**Please register as soon as possible, latest on March 13th.**

Welcome,

Bertil Wahlund, KME  
Lars-Gunnar Johansson, HTC

**Accommodation:** We recommend the Hotel Concordia which is close to the venue. Make your reservation at +46 (0) 46-13 50 50 or info@concordia.se and refer to booking code "KME-HTC".

# Programme

March 15th: KME-HTC Research Symposium 2016

**09.00 Registration and Coffee**

**10.00 Opening**

Chairperson: Bo Jönsson

**Presentation of the KME programme**

Bertil Wahlund, Energiforsk

**Presentation of the HTC programme**

Lars-Gunnar Johansson, Chalmers

## Gas turbine applications

Chairperson: Sten Johansson

**10.20 High temperature corrosion in gas turbines (HTC)**

Krystyna Stiller, Chalmers & M. Hörnqvist, Chalmers/GKN

**10.40 LCF and TMF crack growth in cast nickelbased superalloys (KME-702)**

Johan Moverare, Linköping University

**11.10 Durable MCrAlX Coatings for demanding applications in gas turbines (KME-703)**

Pimin Zhang, Linköping University

**11.30 MoSi<sub>2</sub> matrix composites for combustion components exposed to high temperature oxidation and hot corrosion (KME-705)**

Yiming Yao, Chalmers & Erik Ström, Sandvik HT

**12.00 Lunch**

**13.00 Weldability of nickel-base superalloys for energy applications (KME-706)**

**Development of weldability assessment and understanding of hot cracking in boiler and gas turbine materials (KME-719)**

Lars Nyborg, Chalmers & Joel Andersson, GKN

## Steam boiler applications

Chairperson: Pamela Henderson

**13.30 Critical corrosion phenomena in the combustion of biomass and waste**

**Introduction**

Jesper Liske, Chalmers

**The effect of chlorine containing salts and HCl(g) on water wall corrosion**

Erik Larsson, Chalmers

**HTC**



**KME**

 **Energiforsk**

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# Programme

**The effect of corrosive deposits and gases – KCl continuously deposited in laboratory exposures**

Julien Phother, Chalmers

**Mechanistic study of chlorine penetration of oxide scales**

Andrea Olivas, Chalmers

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14.15 **Coffee-break (Lilla salen)**

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14.45 **Increased steam temperature in grate fired boilers - Steamboost (KME-709)**

Loli Paz & Torbjörn Jonsson, Chalmers

**Combating superheater corrosion by new materials and testing procedures (KME-711+720)**

Andrea Olivas, Loli Paz & Jesper Liske, Chalmers

**Sulphur recirculation and improved material selection for high temperature corrosion abatement (KME-714)**

Torbjörn Jonsson, Chalmers

15.45 **Guest lecture: Modelling oxide growth**

John Ågren, KTH

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16.15 **Hotel check in, free time**

17.15 **Poster session (Lilla salen). Snacks is served**

19.30 **Conference Dinner at Weibullsalen**

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The poster session is an important part of the conference and complements the oral sessions. It is intended for in-depth presentations of scientific results and for reporting project activities not covered by the orals.

## March 16th: KME-HTC Research Symposium 2016

### Steam boiler applications, continuation

Chairperson: Sonja Enestam

08.30 **High temperature corrosion in used wood fired boilers (KME-708)**

Pamela Henderson, Vattenfall

09.00 **Boiler corrosion at lower temperatures – influence of lead, zinc and chlorides found in used wood (KME-717)**

Rikard Norling, Swerea KIMAB

09.20 **Composite Metal Polymer for non-stick improvements in CHP plants (KME-715)**

Matti Huhtakangas, MH Engineering & Rikard Norling, Swerea KIMAB

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# Programme

- 09.40 **High Temperature corrosion in small scale biomass boilers**  
Bo Jönsson, Sandvik Heating Technologies
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- 10.00 **Coffee-break (Lilla salen)**
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- 10.20 **Influence of high-temperature environments on the mechanical behaviours of high-temperature austenitic stainless steel (KME-701)**  
Mattias Calmunger, Linköping University
- 10.40 **Improved steam turbine design for optimum efficiency and reduced cost of ownership (KME-707)**  
Magnus Genrup & Srikanth Deshpande, Lund University
- 11.00 **Design of a new generation of 12 % chromium steels (KME-710)**  
Masoud Rashidi, Chalmers
- Materials challenges in new energy technologies**  
Chairperson: Lars Mikkelsen
- 11.20 **High Temperature Corrosion in Gasification of Biomass and waste (HTC)**  
Rikard Norling, Ragna Elger, Swerea KIMAB & Hamed Hooshyar, Chalmers
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- 11.45 **Lunch (Lilla salen)**
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- 12.45 **High temperature materials for industrial processes (HTC)**  
Christine Geers, Chalmers & Peter Szakalos, KTH
- 13.05 **Corrosion of FeCr alloys in Solid Oxide Fuel Cells (SOFC) (HTC)**  
Jan Froitzheim, Hannes Falk-Windish, Chalmers
- 13.30 **Guest Lecture: New thermal processes for tomorrow's energy system (preliminary title)**  
Henrik Thunman, Chalmers
- 14.00 **Introduction to site visit**  
Lars Hammar & Patrik Schneider, Kraftringen
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- 14.20 **Bus trip to the Site visit**
- 17.00 **End of conference, Lund**

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