

# Wednesday 13th December 2017

## Main Room

### Welcome and keynotes

09:00 - 10:20

---

*DP700-Phase 1 Preparation for Commercial Demonstration of 700oC Power Plant*25 Mins  
by: Peter Barnard (Doosan Babcock Ltd)

---

*United States Advanced Ultra-Supercritical Component Test Facility for 760°C Steam Power Plants*25 Mins

by: Horst Hack (Electric Power Research Institute)

### Coffee break

10:20 - 10:40

### DP700 1

10:40 - 12:20

---

*Theoretical and practical residual stress analyses of nickel Waterwall Panel Welds*20 Mins  
by: André Hälsig (Technical University Chemnitz)

---

*Creep-fatigue design for power plants*20 Mins  
by: Rami Pohja (VTT)

---

*DP700-Phase 1 Design by Analysis as Applied to 700C Power Plant*20 Mins  
by: David Anderson (Doosan Babcock)

---

*Cyclic & Monotonic Plasticity*20 Mins

### Lunch

12:20 - 13:20

### International AUSC materials research

13:20 - 15:00

---

*Indian AUSC Programme*20 Mins  
by: NISHIKANT EDKIE (BHEL - AUSC)

---

*Next stage of A-USC boiler development– Life evaluation and new material development –*20 Mins  
by: Keiji Kubushiro (IHI Corporation)

---

*The technology development of high efficiency 700°C class steam turbine*20 Mins  
by: xin wang (Dongfang Turbine Co.Ltd. )

---

*Creep damage behaviour of 23Cr-45Ni-6W alloy thick welding component*20 Mins  
by: Keita Hashimoto (Mitsubishi Heavy Industries, Ltd.)

---

*Creep assessment on pressurized components for USC plants* 20 Mins

**Coffee break**

15:00 - 15:20

**DP700 2**

15:20 - 17:00

---

*Fireside Corrosion and Steam Oxidation in Superheater / Reheater Tubes for Advanced Ultra-Supercritical Power Systems* 20 Mins

by: Nigel Simms (Cranfield University)

---

*Inspection of a 700°C power plant* 20 Mins

by: Arthur Stam (DEKRA)

---

*Understanding microstructural evolution of Ni alloys during service and its effects on long-term properties* 20 Mins

by: Oriana Tassa (Rina Consulting - Centro Sviluppo Materiali Spa)

---

*Collation of Existing Knowledge of materials used in A-HSC power plants* 20 Mins

by: Mohammad Reza Ahmadi (Technical University of Graz)

---

## **Thursday 14th December 2017**

### **Main Room**

**Raising the efficiency of USC plant**

09:00 - 10:40

---

*Advanced - Ultra Super Critical (A-USC) Power Plant* 25 Mins

by: Amir Mujezinovic (General Electric Company )

---

*Development and Prospect of Double Reheat Technology in China* 20 Mins

by: Wenkai LI (Electric Power Planning & Engineering Institute (China))

---

*630-650 DG A-USC technology and material selection* 20 Mins

by: Yanyan Bi (Sandvik)

---

*Thermodynamic assessment of liquid metal–steam USC binary plants to break 50% efficiency in pulverized coal plants* 20 Mins

by: Marco Astolfi (Politecnico di Milano)

---

*A New Milestone of Pingshan Phase II Coal Power Achieves Around 50% Net Efficiency with a 600°C Class Material* 20 Mins

by: YAN CAO (Shanghai Waigaoqiao No.3 Power Generation Co., Ltd.)

## Coffee break

10:40 - 11:00

### High-efficiency combustion

11:00 - 12:30

---

*3D-modelling of the coal combustion process in combustion chamber of industrial boiler initiated by a plasma source* 20 Mins

by: Valeriy Maximov (Al-Farabi Kazakh National University)

---

*Predicting the impact of fuel flexibility by using integrated CFD/process modelling of an industrial scale coal-fired power plant* 20 Mins

by: Alastair Clements (Energy2050, Faculty of Engineering, University of Sheffield)

---

*Strategies of Satisfying CO<sub>2</sub> Emission Standards for Coal fired AUSC Units Without CCS* 20 Mins

by: Yongjian Ye (EAST CHINA ELECTRICAL POWER DESIGN INSTITUTE LTD.)

---

*Activity of microalgae biomass on improving the combustion of coal and reducing CO<sub>2</sub> emission* 20 Mins

by: Vitus Obialo Ejesieme (Nelson Mandela University)

## Lunch

12:30 - 13:30

### Tour of CSM laboratories

13:30 - 17:00