

## **Programme Scientific Exchange Day Tuesday, March 12<sup>th</sup> 2013, 9:00, TU Graz**

Main goal of the Scientific Exchange Day is to stimulate the interaction between researchers of the research institutes and the industrial partners of K1-MET. The official program consists of 14 speeches, there will be plenty of time for discussion and interaction.

**9:00-9:30** Come together, Registration

**9:30-9:40** Welcome and Introduction (Prof. Kepplinger)

### **Morning Session: Raw material efficiency Chairman: Prof. Rüdiger Deike (Universität Duisburg)**

**9:40-10:00** a) Enhancement of efficiency in crude iron production using an increased amount of pellet feed (Schmidt; RA 4, RA 5)

**10:00-10:20** b) Characterization of raw materials for efficient use in iron making processes (Kain-Bückner, Rantitsch; RA 4)

**10:20-10:40** c) Efficient use of reductands in iron making (Lohmeier, Maier; RA 4)

**10:40-11:00** Break

**11:00-11:20** d) Efficient recovery of Zn and Fe from steel mill residues with the RecoDust Process (Delfs, Pilz; RA 1)

**11:20-11:40** e) Application of thermodynamic and kinetic model for converter steelmaking to optimise manganese yield in crude steel (Lytvyniuk; RA 5)

**11:40-12:00** f) Wet vs. Dry top gas cleaning technology for blast furnaces (Klugsberger; RA1)

**12:00-13:30** Lunch

### **Afternoon Session: Process efficiency and productivity Chairman: Prof. Heinrich-Wilhelm Gudenau (RWTH Aachen)**

**13:30-13:50** a) Efficient scalable simulation of burden flow using a non-spherical particle DEM approach (Kloss, Feilmayr; RA 5)

**13:50-14:10** b) Numerical modelling of moving bed inside the COREX melter gasifier (Nietrost; RA 3)

**14:10-14:50** c) Thermochemical wear of refractory linings associated to gas firing in metallurgical plants (Drózd-Ryś, Rieger; RA 1, RA 2)

Part1) Influence of NO<sub>x</sub> formation on stress corrosion cracking of the cowper steel shell (Rieger, RA 1)

Part 2) Decarburisation of magnesia-carbon refractories during steel ladle preheating (M. Drózd-Rys, RA 2)

**14:50-15:10** d) Dissolution behaviour of  $Al_2O_3$  and  $MgO \cdot Al_2O_3$  in MgO-saturated Secondary Metallurgical Slag (Goriupp; RA 5)

**15:10-15:40** break

**15:40-16:00** e) Thermomechanical behaviour of steel ladle linings and the influence of insulations (Harmuth; RA 2)

**16:00-16:20** f) Modelling Bubble Stirring in Metallurgical Vessels (Pirker; RA 3)

**16:20-16:40** g) Stresses and Crack formation in continuous cast steel slabs (Requena; RA 5)

**16:40-17:00** h) Electric arc furnace off-gas heat recovery and experience with a testing plant (Steinparzer; RA 1)

### Location

TU-Graz  
Kopernikusgasse 24, 1. Stock, Hörsaal E  
8010 Graz  
Austria

