

## **Session Program**

**25-28 Sept 2018**



# **8th International Congress on Science and Technology of Ironmaking - ICSTI 2018**

## ***Blast furnace ironmaking***

Schloss Schönbrunn  
Schloss Schönbrunn, Apothekertrakt, Vienna

## Tuesday 25 September

10:45

### Blast furnace ironmaking

**Session** | **Location:** Schloss Schönbrunn, Schloss Schönbrunn, Apothekertrakt, Vienna

10:45-11:05

#### BLAST FURNACES CAMPAIGN EXTENSION AND RELINE PLANNING AT CHERMK - SEVERSTAL

##### Speaker

Dr Yakov Gordon

11:05-11:25

#### STRUCTURAL CHARACTERIZATION OF COKE FROM THE TUYERE REGION OF THE BLAST FURNACE

##### Speaker

Dr Anrin Bhattacharyya

11:25-11:45

#### THE POSSIBILITY OF SIGNIFICANT BF-HEARTH LINING LIFE EXTENSION

##### Speaker

Rudolf Hebel

11:45-12:05

#### COMPARING THE RESULTS OF ACOUSTO ULTRASONIC-ECHO (AU-E) WITH PHYSICAL MEASUREMENTS FOR SEVERAL BLAST FURNACE HEARTH REFRACTORY LININGS

##### Speaker

Dr Afshin Sadri

12:05

14:30

### Blast furnace ironmaking

**Session** | **Location:** Schloss Schönbrunn, Room A - Maria Theresia, Schloss Schönbrunn, Apothekertrakt, Vienna

14:30-14:50

#### HEARTH RECOVERY - AN EXPERIENCE WITH USIMINAS BLAST FURNACE#1

##### Speaker

Mrs BEATRIZ FAUSTA GANDRA

14:50-15:10

#### ESTIMATION OF LIQUID LEVELS IN THE BF HEARTH

##### Speaker

Dr Mikko Helle

15:10-15:30

#### A SUCCESSFUL ENDEAVOR IN DEVELOPING LONG LIFE TUYERE AT 'I'BLAST FURNACE, TATA STEEL, JAMSHEDPUR

##### Speaker

Mr Ujjal Ghosh

15:30-15:50

#### PLASMA BLAST HEATING - CONCEPT FOR AN INDUSTRIAL TRIAL

##### Speakers

Mr Ian Cameron, Dr Mitren Sukhram

15:50

16:15

**Blast furnace ironmaking****Session** | **Location:** Schloss Schönbrunn, Room A - Maria Theresia, Schloss Schönbrunn, Apothekertrakt, Vienna

16:15–16:35

**LKAB EXPERIMENTAL BLAST FURNACE, AN IMPORTANT TOOL IN DEVELOPMENT OF PRODUCTS AND PROCESSES FOR SUSTAINABLE IRONMAKING****Speaker**

Johanna Alatalo

16:35–16:55

**INFLUENCE OF CRYSTAL STRUCTURE AND CHEMICAL COMPOSITION OF SILICO-FERRITE OF CALCIUM AND ALUMINUM ON ITS REDUCIBILITY****Speaker**

Dr Daisuke Maruoka

16:55–17:15

**SIMULATION AND DEVELOPMENT OF MATHEMATICAL MODEL FOR THE BELL-LESS TOP BURDEN DISTRIBUTION ON ANSTEEL****Speaker**

Mr Yuman CHE

17:15–17:35

**HOW IRON ORE MELTS, PART 2: ROLE OF COKE AND NUT COKE****Speaker**

Dr Maarten Geerdes

17:35

## Wednesday 26 September

09:00

### Blast furnace ironmaking: 5

**Session** | **Location:** Schloss Schönbrunn, Room 1 - Maria Theresia, Schloss Schönbrunn, Apothekertrakt, Vienna

09:00–09:20

#### THE APPLICATION OF THERMALCAMERA IN THE 5800m3 BLAST FURNACE AT SHAGANG GROUP

**Speaker**

Prof. Zhengkai Gao

09:20–09:40

#### HOW IRON ORE MELTS IN A BLAST FURNACE. PART 1: FERROUS BURDEN, SLAG FLOODING, PRODUCTIVITY

**Speaker**

Dr Maarten Geerdes

09:40–10:00

#### FUNDAMENTAL INVESTIGATION OF COKE MIXED CHARGING USING DISCRETE ELEMENT METHOD

**Speaker**

Mr Koki Terui

10:00–10:20

#### THE CONCEPT OF CHARGING DIFFERENT SINTER SIZE FRACTIONS INTO THE BLAST FURNACE

**Speaker**

Gilles Kaas

10:20

09:00

### Blast furnace ironmaking: 6

**Session** | **Location:** Schloss Schönbrunn, Room 9 - Maximilian, Schloss Schönbrunn, Apothekertrakt, Vienna

09:00–09:20

#### BLAST FURNACE PROCESS OPTIMIZATION SYSTEM - TOOL FOR RISK & KNOWLEDGE MANAGEMENT

**Speaker**

Dieter Bettinger

09:20–09:40

#### REGULARITIES OF HEAT EXCHANGE AT MODERN CONDITIONS OF INTENSIVE BLAST FURNACE OPERATION

**Speaker**

Prof. Nikolai Spirin

09:40–10:00

#### A MULTI-COUPLED TRANSIENT MODEL FOR NUMERICAL SIMULATION OF BLAST FURNACE PROCESSES

**Speaker**

Dr Jianbo Huang

10:00-10:20

**REGULARITIES OF HIGH INTENSIVE BLAST FURNACE OPERATION****Speaker**

Dr Yakov Gordon

10:20

10:50

**Blast furnace ironmaking: 7****Session** | **Location:** Schloss Schönbrunn, Room 1 - Maria Theresia, Schloss Schönbrunn, Apothekertrakt, Vienna

10:50-11:10

**APPARENT SOFTENING VISCOSITY MEASUREMENT OF GRANULATED SLAG PACKED BED WITH SOFTENING AND MELTING SIMULATOR****Speaker**

Prof. Ko-ichiro Ohno

11:10-11:30

**ALKALI IN THE BLAST FURNACE - INFLUENCE OF MODIFIED ASH COMPOSITION IN COKE AND CHARGING PRACTICE****Speaker**

Mrs Amanda Gullberg

11:30-11:50

**A Thermodynamic Study on the Selective Reduction of Ni in NiFe<sub>2</sub>O<sub>4</sub>****Speaker**

Mr Gi Ho La

11:50-12:10

**PETROLOGICAL STUDY OF SINTER-PELLET-COKE INTERACTION IN ADVANCED SOFTENING AND MELTING (ASAM) EXPERIMENTS****Speaker**

Dr James Small

12:10

10:50

**Blast furnace ironmaking: Blast furnace ironmaking****Session** | **Location:** Schloss Schönbrunn, Room 9 - Maximilian, Schloss Schönbrunn, Apothekertrakt, Vienna

10:50-11:10

**MEASUREMENT OF ACTIVITY OF AL<sub>2</sub>O<sub>3</sub> IN METALLURGICAL SLAG****Speaker**

Prof. Fengman Shen

11:10-11:30

**EFFECT OF HYDROGEN CONCENTRATION IN BLAST FURNACE REDUCING GAS ON REDUCTION BEHAVIOR OF IRON ORE SINTER****Speaker**

Dr TAICHI MURAKAMI

11:30-11:50

**NON-ISOTHERMAL REDUCTION BEHAVIOR OF CaO•Fe<sub>2</sub>O<sub>3</sub> AND Fe<sub>2</sub>O<sub>3</sub>****Speaker**

Mr Gang Li

11:50-12:10

**DEVELOPMENT AND APPLICATION OF NEW LONG CAMPAIGN TECHNOLOGY OF BLAST FURNACE****Speaker**

Mr chunlong wang

12:10

13:30

**Blast furnace ironmaking: 8****Session** | **Location:** Schloss Schönbrunn, Room 1 - Maria Theresia, Schloss Schönbrunn, Apothekertrakt, Vienna

13:30–13:50

**OPTIMIZATION OF ROTATING CHUTE SHAPE IN BLAST FURNACE BASE ON DEM****Speaker**

Dr Mingyin Kou

13:50–14:10

**HIGH TEMPERATURE CHARACTERISTICS OF BLAST FURNACE FERROUS BURDENS****Speaker**

Dr Liming Lu

14:10–14:30

**THE APPLICATION OF ONLINE LASER DETECTOR OF BURDERN SURFACE PROFILE IN THE 3200m3 BF HANSTEEL****Speaker**

Prof. Zhengkai Gao

14:30–14:50

**USE OF HBI IN BLAST FURNACE****Speaker**

Thomas Bürgler

14:50–15:10

**HIGH PELLETS RATIO BURDEN IN HBIS SERBIA BLAST FURNACE****Speaker**

Mr Vladan Andrejic

15:10

13:30

**Blast furnace ironmaking: 9****Session** | **Location:** Schloss Schönbrunn, Room 9 - Maximilian, Schloss Schönbrunn, Apothekertrakt, Vienna

13:30–13:50

**CALCULATION MODEL FOR CONCENTRATION OF QUATERNARY SLAG SYSTEM  $\text{SiO}_2$ - $\text{CaO}$ - $\text{Al}_2\text{O}_3$ - $\text{FeO}$** **Speaker**

Prof. Guojun Ma

13:50

16:00

**Blast furnace ironmaking: 10****Session** | **Location:** Schloss Schönbrunn, Room 1 - Maria Theresia, Schloss Schönbrunn, Apothekertrakt, Vienna

16:00–16:20

**DEVELOPMENT OF THE BLAST FURNACE PRODUCTION IN RUSSIA****Speaker**

Mr Dmitrii Tikhonov

16:20–16:40

**FORMULATION OF SHRINKING BEHAVIOR OF SINTER DURING SOFTENING PROCESS****Speaker**

Dr Naoto Yasuda

16:40–17:00

**PHYSICOCHEMICAL BEHAVIOUR OF OLIVINE IRON ORE PELLETS MIXED WITH NUT COKE UNDER SIMULATED BLAST FURNACE CONDITIONS**

17:00

**Speaker**

Mr Dharm Jeet Gavel

## Thursday 27 September

08:30

### Blast furnace ironmaking: Blast furnace ironmaking

**Session** | **Location:** Schloss Schönbrunn, Room 1 - Maria Theresia, Schloss Schönbrunn, Apothekertrakt, Vienna

#### 08:30-08:50 COPPER STAVE BENDING IN BLAST FURNACES

##### Speaker

Dr Hamid Ghorbani

#### 08:50-09:10 NEW COOLING TECHNOLOGY FOR REDEFINING STAVE LIFE

##### Speaker

Mr DUSTIN VICKRESS

#### 09:10-09:30 THE NEXT GENERATION COPPER STAVE

##### Speaker

Mr David Osborne

#### 09:30-09:50

### EXPERIENCE OF IMPLEMENTING INNOVATIVE COOLING SYSTEMS IN BLAST FURNACE PRODUCTION

##### Speakers

Andrii Kalantarenko, Olexandr Vynohradov

09:50

08:30

### Blast furnace ironmaking: Blast furnace ironmaking

**Session** | **Location:** Schloss Schönbrunn, Room 8 - Sophie, Schloss Schönbrunn, Apothekertrakt, Vienna

#### 08:30-08:50

### WETTING BEHAVIOR OF GRAPHITE- $\text{Al}_2\text{O}_3$ SUBSTRATES AGAINST MOLETTEN $\text{CaO-SiO}_2\text{-Al}_2\text{O}_3\text{-MgO}$ SLAGS

##### Speaker

Prof. Noritaka Saito

#### 08:50-09:10

### COKE DEGRADATION AFTER REACTION WITH CARBON DIOXIDE IN BLAST FURNACE USING NMR GAS IMAGING

##### Speaker

Dr Koji Saito

#### 09:10-09:30 EVOLUTION OF COKE NANOSTRUCTURE DURING GASIFICATION

##### Speaker

Dr Mihaela Grigore

#### 09:30-09:50

### COKE TEXTURE AS COKE PERFORMANCE PARAMETER FOR THE BLAST FURNACE

##### Speaker

Mr Bert Gols

09:50

10:20

**Blast furnace ironmaking: Blast furnace ironmaking****Session** | **Location:** Schloss Schönbrunn, Room 1 - Maria Theresia, Schloss Schönbrunn, Apothekertrakt, Vienna

10:20–10:40

**DESIGN AND APPLICATION OF BLAST FURNACE LONGEVOUS COPPER COOLING STAVE****Speaker**

Dr Fuming Zhang

10:40–11:00

**THE APPLICATION PRACTICE OF PROLONGING SERVICE LIFE OF LARGE SIZE BF COPPER COOLING STAVE****Speaker**

Mr Man Xiang zhao

11:00–11:20

**ON-LINE THICKNESS MONITORING SYSTEM OF COPPER STAVES IN BLAST FURNACE IN CSC****Speaker**

Mr Yung Chang Ko

11:20–11:40

**INNOVATIVE DESIGN OF KALUGIN TOP COMBUSTION STOVES****Speaker**

Mr Sergey Ivlev

11:40

10:20

**Blast furnace ironmaking: Blast furnace ironmaking****Session** | **Location:** Schloss Schönbrunn, Room 8 - Sophie, Schloss Schönbrunn, Apothekertrakt, Vienna

10:20–10:40

**THE EFFECT OF UNBURNED PULVERIZED COAL ON THE SLAG VISCOSITY****Speaker**

Prof. Xin Jiang

10:40–11:00

**INTERACTION BETWEEN LUMP ORE AND SINTER UNDER SIMULATED BLAST FURNACE CONDITIONS****Speakers**

Prof. Tom Honeyands, Dr Xinliang Liu

11:00–11:20

**CHARACTERISATION OF PC CHAR IN RESPECT TO ITS CONSUMPTION IN THE BLAST FURNACE****Speaker**

Dr Alexander Babich

11:20–11:40

**INCREASING THE EFFICIENCY OF BIOMASS PRODUCT INJECTION INTO THE BLAST FURNACE****Speaker**

Dr Alexander Babich

11:40

12:40

## Blast furnace ironmaking: Blast furnace ironmaking

**Session** | **Location:** Schloss Schönbrunn, Room 1 - Maria Theresia, Schloss Schönbrunn, Apothekertrakt, Vienna

12:40–13:00 **NO RETURN FINE BF IRONMAKING PROCESS**

**Speaker**

Prof. Yongzhi Sha

13:00–13:20

### EVALUATION ON DECHLORINATION EFFECT FOR ALKALI LIQUOR SPRAY SCRUBBER AFTER BF DRY DUST-CATCH

**Speaker**

Dr HUI CHEN

13:20–13:40

### INCREASE IN PRODUCTION BY INCREASING DOUBLE TROUGH OPERATION THROUGH STRAIGHT CAMPAIGN OF TROUGH REPAIR AT G BLAST FURNACE, TATA STEEL JAMSHEDPUR

**Speaker**

Mr MAHESH AGARWAL

13:40–14:00

### PROPERTIES AND PERFORMANCE OF TAP HOLE CLAYS WITH RESPECT TO STABLE BLAST FURNACE OPERATIONS

**Speaker**

Dr Ansgar Schepers

14:00–14:20

### DEVELOPMENT OF NEW CHARGING TECHNIQUE FOR MIXING COKE IN ORE LAYER AT BLAST FURNACE WITH CENTER FEED TYPE BELL-LESS TOP

**Speaker**

Kyohei Suzuki

14:20

12:40

## Blast furnace ironmaking: Blast furnace ironmaking

**Session** | **Location:** Schloss Schönbrunn, Room 8 - Sophie, Schloss Schönbrunn, Apothekertrakt, Vienna

12:40–13:00 **PULVERIZED COAL INJECTION SIMULATION**

**Speaker**

Mr Ka Wing Ng

13:00–13:20

### A study on the control of porosity and its reduction behavior by using FeCl<sub>2</sub> in FeO

**Speaker**

Mr Sang Gyun Shin

13:20–13:40

### PRACTICAL STUDY ON THE FLOWABILITY AND COMBUSTION CHARACTERISTICS OF PULVERIZED COAL FOR IMPROVING PCI OPERATION EFFICIENCY

**Speaker**

Mr DONGMYUNG SEO

13:40-14:00

**ANALYSIS OF DAMAGE MECHANISM OF COOLING STAVE OF LAIWU STEEL'S 3200 m3 BLAST FURNACE**

**Speaker**

Prof. Haibin Zuo

14:00-14:20

**BELL LESS TOP® COUPLED WITH ADVANCED MATERIAL SAMPLING: THE ONLY SYSTEM ALLOWING TO KNOW HOW THE BF IS REALLY CHARGED**

**Speakers**

Mr Christian de Gruiter, Mr Cristiano Castagnola

14:20