9th European Electric Steelmaking Conference

19–21 May 2008
The Jagiellonian University lecture theatre complex - Auditorium Maximum Krakow, Poland

Organised by
SITPH - Polish Association of Metallurgical Engineers and Technicians

on behalf of
AGH – University of Science and Technology
Conference Chairman
Miroslaw Karbowniczek, AGH UST Krakow, Poland

Organising Committee
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Miroslaw Wcislik, Kielce University of Technology, Poland
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Antoni Bator, SITPH, Poland
Jens Kempken, SMS Demag AG, Germany
Angel Pueyo, Celsa Huta Ostrowiec, Poland
Antoni Tajdus, AGH UST Krakow, Poland
Since the first European Electric Steel Congress, held in Aachen, Germany, in 1983, a number of 8 cyclic conferences have been organised. All of them took place in West Europe, while the coming 9-th conference will be held for the first time in East Europe, at Krakow, Poland.

As the fraction of the total world steel production coming from electric arc furnaces is up to 30% nowadays and we witness a non-stop technical development of the electric arc process and its auxiliary equipment as well as environmental problems are appearing - all these require better cooperation of steelmaking people.

The objective of the 9th European Electric Steelmaking Conference is to provide a forum for information transfer of the latest techniques and applications in electric furnace steelmaking area by bringing together steel producers, research and academics active in steelmaking industries, energy production and plant supply.

Previous Conferences:
1st EEC – Aachen (Germany) – 1983
2nd EEC – Florence (Italy) – 1986
3rd EEC – Bournemouth (England) – 1989
4th EEC – Madrid (Spain) – 1992
5th EEC – Paris (France) – 1995
6th EEC – Düsseldorf (Germany) – 1999
7th EEC – Venice (Italy) – 2002
8th EEC – Birmingham (England) – 2005
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<td>8.00</td>
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<tr>
<td>12.00</td>
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<td>12.15</td>
<td><strong>Plenary session</strong>&lt;br&gt;Steel – Innovative solutions for energy and resource challenges&lt;br&gt;D. Ameling – President German Steel Federation, Germany</td>
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<tr>
<td>12.45</td>
<td>Present state and future of electric steelmaking processes at Celsa Steelplant&lt;br&gt;M. Strzelecki, P. H. Surroca – Celsa Huta Ostrowiec, Poland</td>
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<td>13.15</td>
<td>Control, optimization and automation of electric steel furnace operations for efficiency and productivity increase&lt;br&gt;F. Kongoli, E. McBow, Z. O’Brien, S. Llubani – FLOGEN Technologies Inc.</td>
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<td>13.45</td>
<td>Electric Arc Furnace – not just a melting pot; but a gateway to alloy steel processing&lt;br&gt;M. Nzotta – Uddeholm Tooling Ab, Sweden&lt;br&gt;T. Watanabe, S. Seetharaman – Royal Institute of Technology, Sweden&lt;br&gt;A.K. Lahiri – TATA Steel, India</td>
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<td>15.15</td>
<td>Lunch&lt;br&gt;Welcome party in the Gardens of the Archaeology Museum in Krakow&lt;br&gt;Departure: 18:00&lt;br&gt;Meeting with Orbis Travel guides at the Conference Venue 33, Krupnicza street.</td>
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Tuesday 20 May 2008
Room B

Session Raw Materials
chairperson: J. Wypartowicz

9.00 Demand and Arising of Ferrous Scrap: Strains and Consequences
P. Tardy – Association of the Hungarian Steel Industry, Hungary

9.20 Automated Assessment of Scrap Quality before Loading into an EAF
J.C. Baumert, M. Picco, C. Weiler – ArcelorMittal Belval & Differdange S.A., Luxembourg
M. Wauters, P. Albart, P. Nyssen – Centre de Recherches Métallurgiques, Belgium

9.40 The use of scrap substitutes like Cold / Hot DRI and Hot Metal in Electric Steelmaking
M. Abel, M. Hein – Siemens VAI MT

10.00 Melting behavior of simulated DRI in liquid steel
O.J. P. González, Y. I. C. Guzmán, A.N. Conejo – Morelia Technological Institute, Mexico
M.A. Ramírez-Argaez – National Autonomous University of México, Mexico

10.20 Coffee break

Session Modelling
chairperson: J. Wypartowicz

11.00 Steel flow characteristics in CFD improved EAF bottom tapping systems
M. Kirschen, C. Rahm, J. Jeitler, G. Hackl – RHI AG, Austria

11.20 EAF process optimization: theory and real results
S. Natschläger, S. Dimitrov, K. Stohl – Siemens VAI Metals Technologies GmbH & Co

11.40 Sidenor Basauri EAF emissions reduction through analysis and modelling
I. Unamuno, J.J. Laraudogoitia – Sidenor I+D S.A., Spain
S.M. Almeida – Instituto de Soldadura e Qualidade, Portugal

12.00 Analysis of the EAF operation by process modelling
J. Wendelstorf – Clausthal University of Technology, Germany

12.20 Lunch
Tuesday 20 May 2008
Room C

Session  Slag Foaming
chairperson: Z. Hanzelka

9.00  **EAF-foamy slag in stainless steel production. New extremely efficient technology. Easy to handle and cost-efficient**
J. Reichel, L. Rose, J. Kempken – SMS Demag AG, Germany
M.A. Damazio, R.G. Carvalho, H.B. Loss, E.M. Pinto, J.R. Dutra – Acesita S.A., Brazil
M. Karbowniczek – University of Science and Technology, Poland

9.20  **Foaming Slag and scrap melting behavior in electric arc furnaces – a new and very precise detection method with automatic carbon control**
T. Matschullat, D. Rieger, A. Döbbeler – Siemens AG, Germany
K. Krüger – Helmut Schmidt Universität Hamburg, Germany

9.40  **Tools for foaming slag operation at EAF steelmaking**
Ch. Sedivy, R. Krump – vatron gmbh, Austria

10.00  **Particularities of melting DRI in AC and DC arc furnaces**
S. Alameddine – GrafTech Switzerland SA, Switzerland
B. Bowman – GrafTech International Ltd., USA

10.20  **Coffee break**

Session Control
chairperson: Z. Hanzelka

11.00  **Dynamic control of slag foaming at Sidenor Basauri Meltshop**
S. Landa, T. Rodriguez, J.L. Munoz, J.J. Laraudogoitia – Sidenor I+D S.A, Spain

11.20  **Thermal based power control of a DC-EAF**
A. Treppschuh, K. Krüger – Helmut-Schmidt-University, University of the German Armed Forces, Germany
R. Kühn – Schmiedewerke Gröditz GmbH, Germany
H. Schliephake – Georgsmarienhütte GmbH, Germany

11.40  **Predictive dynamic power demand control in an EAF Steel Plant**
V. Haverkamp, K. Krüger – Helmut-Schmidt-University, University of the German Armed Forces, Germany
U. Braun, V. Jablonowski – ArcelorMittal, Germany

12.00  **Holistic control of energy and material flows of the Electric Arc Furnace**
M. Dorndorf, K. Krüger – Helmut-Schmidt-University/University of the Federal Armed Forces, Germany
J. Kempken, P. Monheim, N. Uebber, M. Schubert – SMS Demag AG, Germany

12.20  **Lunch**
Session State of Art
chairperson: J. Reichel

14.00 **X-Melt CONARC® technology. Metallurgy with future-oriented flexibility**
J. Kempken, J. Bader, P. Sanders, K. Schmale, J. Reichel – SMS Demag AG, Germany

14.20 **Operating results of Goodfellow EFSOP® at Riva, Verona, Italy**
M. Pozzi, J. Maiolo, V. Scipolo – Tenova Goodfellow Inc., Italy
D. Masoero – Tenova SpA, Italy
N. Veneri – Riva Acciaio SpA, Italy

14.40 **EAF SmartARC implementation at CMC Zawiercie, Poland**
G. Fernandez, F. Martinez – AMI GE

15.00 **A window into the Electric Arc Furnace, a continuous temperature sensor measuring the complete furnace cycle**
M. Kendall, M. Thys, J.P. Verhoeven – Heraeus Electro-Nite International, Belgium
A. Horrex – Heraeus Electro-Nite Co, USA

15.20 **Coffee break**

Session State of Art
chairperson: J. Reichel

16.00 **EAF post-combustion control by on-line laser-based off-gas measurement**
H.J. Krassnig – Marienhütte, Austria
B. Kleimt – VDEh-Betriebsforschungsinstitut (BFI), Germany
L. Voj – RWTH Aachen, Germany
H. Antrekowitsch – University of Leoben, Austria

16.20 **Direct observation of the melting process in an EAF with a closed slag door**
M.S. Millman – Corus, UK
P. Nyssen, C. Mathy – Centre de Recherches Métallurgiques, Belgium
D. Tolazzi, L. Londero, C. Candusso – MORÉ srl, Italy
J.C. Baumert, M. Brimmeyer, D. Gualtieri, D. Rigoni –ArcelorMittal Belval & Differdange S.A., Luxembourg

16.40 **Innovative technique for reliable operations and blowback prevention of EAF annular burners, combined burners and injectors**
C. Mathy, P. Nyssen – Centre de Recherches Métallurgiques, Belgium
M. Brimmeyer, D. Gualtieri, D. Rigoni, J.C. Baumert –ArcelorMittal Belval & Differdange S.A., Luxembourg

17.00 **A faster, more efficient EAF**
R. Gottardi, A. Partyka – CONCAST AG, Switzerland
S. Miani – CONCAST Technologies, Italy
Tuesday 20 May 2008
Room C

Session State of Art
chairperson: F. Kongoli

14.00 The 300-ton “Jumbo-size” FastArc EAF at MMK Iskenderun new Danieli minimill complex – Turkey
R. Sellan, M. Fabbro – Danieli Centro Met, Italy

14.20 Upgrading of EAF Shop at Kramatorsk Engineering Plant Energomashspecstal (Ukraine)
A. Smirnov, V. Saforon – Donets National Technical University, Ukraine
A. Tsuprun – Donix Ltd., Ukraine
A. Kovalyev – ENERGOMASHSPECSTAL JSC, Ukraine
V. Tiunov – NKMZ JSC, Ukraine

14.40 The latest experience with advanced chemical energy introduction to smaller size furnaces
J. Brhel, V. Shver, Ch. Farmer – Process Technology International Inc., USA
M. Novák, R. Heide – Pilsen Steel s.r.o, Czech Republic
M. Domovec, M. Mastelák, J. Kučera – Železiarne Podbrezová a.s., Slovakia
P. Tlamicha – Air Products spol. s r.o, Czech Republic

15.00 Reduction in total energy consumption at CORUS Engineering Steels – a success story utilising value added technical support
M. Holmes – CORUS Engineering Steels, UK
P. Stafford – UCAR Ltd. (A Graftech International Ltd. Company), UK

15.20 Coffee break

Session State of Art
chairperson: F. Kongoli

16.00 Giving you the power to be your best
M. Fleischer, J. Greinacher – Badische Stahl-Engineering GmbH, Germany

16.20 Improvement of energy consumption in ArcelorMittal Lázaro Cárdenas’ EAF under conditions of uncertain DRI quality
D. Kundrat, A. Wyatt, H. Fuchs – SGL Group, The Carbon Company, Germany
R.L. González, F.L. Acosta, S.A. Ayala – ArcelorMittal Steel, Mexico

16.40 Thermal analysis of sponge iron preheating using waste energy of EAF
E. Hajidavalloo, A. Alagheband – Shahid Chamran University, Iran

17.00 Construction of yield operation
Y. Takamiya – GODO Steel Company, Japan

Gala dinner at the Zalesie Manor, 25 kilometers from Krakow
Bus departure: 18:30 from Katuzy street, near the “Cracovia” hotel.
Wednesday 21 May 2008
Room B

Session Metallurgy
chairperson: J. Wypartowicz

9.00 The hot metal meets the electric arc furnace steelmaking route
R. Gottardi, A. Partyka – CONCAST AG, Switzerland
S. Miani – CONCAST Technologies, Italy

9.20 Hydrogen content control during steel melting process at Forged Product Plant of Celsa “Huta Ostrowiec” Sp. z o.o.
S. Binek, P. Dudkiewicz, G. Koziel, J. Kowalski – Celsa Huta Ostrowiec, Poland

9.40 Controlling of the nitrogen content during EAF – technology and continuous casting of steel
W. Derda, J. Siwka – Czestochowa University of Technology, Poland
Cz. Nowosielski – CMC Zawiercie S.A., Poland

10.00 Low carbon steel manufacture in EAF steelmaking shop
G. Stovpchenko, Y. Projdak, L. Kamkina, Y. Grishchenko – National Metallurgical Academy Of Ukraine, Ukraine
A. Savjuk, I. Dereveancenco, O. Kucherenko – CJSC Moldavski Steel Work, Moldova

10.20 Coffee break

Session Other
chairperson: J. Wypartowicz

11.00 Recent developments and experiences in modular dry mechanical vacuum pumping systems for secondary steel processing
S. Bruce, V. Cheetham – Edwards Ltd., UK

11.20 Rotary Hearth Furnace technologies for iron ore and recycling applications

11.40 New track record for CONSTEEL® due to new environmental friendly features
M. Marcozzi, M. Corbella – Tenova SpA, Italy

12.00 Steel refining in induction furnace by pressure
V. Kurka, I. Kratochvil – VÍTKOVICE - Research & Development, Ltd., Czech Republic
M. Krayzel – VÍTKOVICE HEAVY MACHINERY a.s., Czech Republic
J. Mráček – První železárská společnost Kladno, Ltd., Czech Republic

12.20 Lunch
Session **Optimization**
chairperson: T. Wieczorek

9.00 **Optimization of Electric Arc Furnace process at Deutsche Edelstahlwerke**
V.Y. Risonarta, L. Voj, H. Pfeifer – RWTH Aachen University, Germany
H.P. Jung, S. Lenz – Deutsche Edelstahlwerke, Germany

9.20 **EAFs optimization at OEMK**
G. Fernandez, F. Martinez – AMI GE
V.I. Fomin, N.A. Shlyahov – OEMK, Russia

9.40 **Optimization of the EAF process at CAPE GATE (PTY) LTD (DAVSTEEL DIVISION) using Goodfellow EFSOP® Technology**
V. Scipolo, M. Khan, S. Patil - Tenova Goodfellow Inc., Canada
G. Holmes - Cape Gate (PTY) LTD (DAVSTEEL DIVISION)

10.00 **Optimisation of Modern EAF Process focused on its economic benefit**
Y. Xu, Z. Chen – Baoshan Iron & Steel CO., Ltd., China
J. Fu – University Of Science And Technology Beijing, China

10.20 **Coffee break**

Session **Other**
chairperson: T. Wieczorek

11.00 **Electrical conductivity and corresponding specific energy consumption of new MgO-containing ESR-slags**
P. Presoly – University of Leoben, Austria
J. Korp – Böhler Edelstahl GmbH & Co KG, Austria
R. Schneider – Upper Austrian University of Applied Sciences, Austria

11.20 **Modelling of surface properties of metallurgical solutions: steels, slags and interfaces**
J. Iwanciw, K. Pytel, E. Kawecka-Cebula, M. Kostołowska – University of Science and Technology, Poland

11.40 **Polychlorinated dibenzo-p-dioxin and dibenzofuran emissions from Croatian metallurgical industry**
T. Sofilić – CMC Sisak d.o.o., Croatia
A. Rastovčan-Mioč – University of Zagreb, Croatia
Z. Šmit – Zagreb Public Health Institute, Croatia

12.00 **Thermodynamic analysis of elementary processes in molten oxide slag reduction**
D. Podorska, J. Wypartowicz – University of Science and Technology, Poland

12.20 **Lunch**
Wednesday 21 May 2008

Room B

Session Other
chairperson: S. Seetharaman

13.00 **Model of arc voltages measurement circuits and measurement system for the circuits parameters identification**
R. Kazala, M. Wcislik – Kielce University of Technology, Poland

13.20 **Analysis of AC EAF electrical magnitudes for different process conditions using a modified circular diagram perspective**
J.L. Munoz, G. Rojo, I. Unamuno, J.J. Laraudogoitia – Sidenor I+D S.A., Spain

13.40 **Energy efficiency of Electric Arc Furnace**
A. Opfermann, D. Riedinger – Badische Stahl-Engineering GmbH, Germany

14.00 **Classification of steel scrap in the EAF process using image analysis methods**
T. Wieczorek, M. Pilarczyk – Silesian University of Technology, Poland

Wednesday 21 May 2008

Room C

Session Other
chairperson: P. Tardy

13.00 **Increasing EAF lives by slag coating**
N. Pywell, B. Riley, M. Stacey – Mayerton Refractories, UK

13.20 **Complex ceramic service of electric arc furnace**
J. Gwozdz, D. Zalocha – ZM Invest S.A., Poland

13.40 **Extension of the life of the electric arc furnace working lining through a more effective protection of the carbon component in MgO-C bricks.**
M. Skalska – ZM Ropczyce S.A., Poland

14.00 **ENERGIRON Direct Reduction Technology - Economical, Flexible, Environmentally Friendly**
P. Duarte – Tenova HYL, Italy
A. Martinis – Danieli Centro Metallics, Italy
B. Franco – Danieli Centro Metallics, Italy
Poster Session:

1. Recovering technology of Fe and Zn from EAF electrofilter dust  
   G. Iorga, S. Stan – Metallurgical Research Institute, Romania  
   P. Demi – MiGRAL Ltd., Romania  
   C. Predescu – Politehnica University, Romania  

2. The rule of high alumina advance engineering ceramics as wear resistance materials  
   M. Jafari – Islamic Azad University, Iran  

3. System solutions for steel casting ladles in electric steelworks  
   J. Ledzion – ZM Service Sp. z o.o., Poland  
   M. Karbowniczek – University of Science and Technology, Poland  
   M. Czarny – ISD Huta Czestochowa, Poland  

4. Analysis of experimental results obtained by ESR and VAR process for special steels  
   F. Zaman, G. Iorga – Metallurgical Research Institute, Romania  
   M. Ionescu, A. Petrescu, D. Carciumareasa – IMA-METAV, Romania  

5. Environmental friendly consumption of scrap tires in EAF’s to save power & carbon  
   M.H. Joulazadeh – Persia Metal Company, Iran  

6. Computer-aided charge management system for electric steelworks  
   L. Bulkowski, T. Kuznik, B. Zdonek – Institute for Ferrous Metallurgy, Poland  

7. Thermal-fluid simulation of EBT-water cooled panel in an Electric Arc Furnace  
   A. Fallah, B. Zamani – Mobarakhe Steel Company, Iran  
   M. Meratian, H. Edris – Esfahan University of Technology, Iran  

8. Start-up and some experience of CAS-OB at POSCO  
   Chang-Su Ha, Jong-Min Park – POSCO, Korea  

9. Carbon reducers for the processes of ferroalloy production in the electric furnace  
   J. Gladysz, M. Karbowniczek – University of Science and Technology, Poland  

10. Statistical analysis of heats with targeted overheating realized in the EAF at Trinec Steelworks  
    J. Moravka – Trinecký inženýring, a.s., Czech Republic  
    K. Michalek – VŠB-Technical University of Ostrava, Czech Republic  
    B. Chmiel – Trinecké železárny, a.s., Czech Republic  

11. Process and Practice for Melting Stainless Steel with De-P Hot Metal Charging  
    Zhu Fangyi – Baoshan Iron & Steel Co. Ltd., China  

12. The optimisation of electric energy consumption in the Electric Arc Furnace  
    M. Czapla, M. Karbowniczek, A. Michaliszyn – University of Science and Technology, Poland
General information

Organising secretariat

AGH – University of Science and Technology

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Conference website: www.EEC-2008.agh.edu.pl

Conference Venue

The 9th European Electric Steelmaking Conference will be held at the Jagiellonian University lecture theatre complex - Auditorium Maximum. It is situated at the city center, a few minutes walk from the Main Market Square of Krakow.

Auditorium Maximum UJ
ul. Krupnicza 33, 44-100 Kraków
General information

Exhibitions

The conference will feature an exhibition for steel plant building companies, steel producers and service companies. The exhibition will take place adjacent to the EEC main conference hall in the same floor and will be open during all conference days.

An Exhibition Catalogue will be issued and given to all delegates on arrival. The exhibition area consists of the individual stands. Each stand includes a shell scheme display and basic electrical package. Different sizes of stands, not less than 9 sqm (3 m x 3m), may be purchased. Basic installation includes: white walls, 1 table, 4 chairs, 1 counter (100 cm long, 50 cm wide and 100 cm high), 3 spotlights, 1 single socket outlet (max 2 kW), grey carpet, company name on the fascia board written in dark blue. The shell system will be a modular aluminium exhibition system consisting of functional panels and fascias. The wide range of interchangeable profiles ensure that it is flexible in design and allows the exhibitor the freedom to be creative, using additional available components such as counters, shelving and glass cases.

Fees for exhibitors will consist of two parts:
- Delegate Fee for which they receive all the services included in the normal conference fee.
- Exhibition Fee for hiring one or more stands with basic installation for 140 /sqm.

Price of extra service will be given on request.

Companies wishing to take part in the exhibition can contact the Exhibitions Office.

ART-Expo
ul. Odmogile 1a, 31-751 Kraków, Poland
phone/fax +48126445378
e-mail: artexpo@com.pl
www.artexpo.com.pl
General information

Publication of Proceedings
Selected papers will be published in a Archives of Metallurgy and Materials (Metallurgical journal). All papers will be published on CD-Rom, both of which will be available to delegates on arrival at the conference.

Language
The conference language as well as presentations and all written materials will be in English.

Travel
Krakow may be reached by airplane (direct flights from many European and World airports), railway (the city is easily and comfortably accessible by train from Warsaw, e.g. the journey by InterCity train from Warsaw takes only 2.5 hours), and coach buses international links are offered by private carriers from almost every country of Europe. The conference organizers may provide accommodation ranging from inexpensive student hotels to moderate or expensive city hotels.

By Airplane
John Paul II International Airport in Cracow - Balice is located 11 kilometres west from the city and offers several national and international connections with the biggest airports in Europe, North America, and Close Orient, in addition to: Paris, London, Rome, New York, Chicago, Tel Aviv, as well as locally with Warsaw. There is a good connection between the airport and bus, tram and railway transport (approach from the bus station - lines 208, 192). More info: [www.lotnisko-balice.pl](http://www.lotnisko-balice.pl)

By Railway
As for as railway is concern state railways PKP offer an easy access to intercity connections with the majority of cities in Poland as well as international connections in Express, IC and EC class to Germany, Austria, Czech Republic, Slovakia, Ukraine, Hungary, Lithuania, etc. More info: [www.pkp.com.pl](http://www.pkp.com.pl)

By Coach
Bus transport is organized in the form of passenger transportation via local, intercity or international buses. Several transportation firms have interesting offers, in addition to: railway PKS SA and numerous private carriers local and national lines. Private carriers run also on international and long - distance routes of Polish Express. More info: [www.pkp.com.pl](http://www.pkp.com.pl)

City transport
City transport administrated by MPK S.A. is a close network of bus and train connections from 5 a.m. until 11 p.m. Between midnight and 5 a.m. run night buses, which enable an easy approach to any spot in the city. More info: [www.mpk.krakow.pl](http://www.mpk.krakow.pl)
**Social programme**

**Welcome party**
19 May 2008 (Monday)
On this day we invite you to a Welcome party which will be held in the blooming Gardens of the Museum of Archaeology in Kraków, located near the Wawel Hill. Welcome party will be preceded by a short guided tour.

Departure: 18:00
meeting with Orbis Travel guides at the Conference Venue 33, Krupnicza street.

Walk along Krupnicza street, Planty (a city park which surrounds the Old Town), building of the Collegium Novum (Jagiellonian University), Archbishop’s Palace which was a home of John Paul II for a number of years. There, we will see “the most famous window in the World” from which he always greeted people.

**Gala dinner**
20 May 2008 (Tuesday)
On this day we invite you to Zalesie Manor where a conference dinner will be served. Zalesie Manor is located 25 kilometres from Kraków (c.a. 40 minutes drive).

Bus departure: 18:30 from Kałuzy street, near the “Cracovia” hotel.

Zalesie is surrounded by fields, forests and breathtaking mountain views. An ideal meeting place set in fifty acres of real countryside. Here you can find a small outdoor museum of farming implements and curiosities from past centuries. A Polish style dinner will be served indoor where you can enjoy a fire in the fireplace. During dinner we invite you to a folklore show - guests will be entertain by Polish folk group of musicians and dancers, presenting different Polish regional costumes and dances. Then, we invite you to an informal part of the evening - a band of musicians playing “covers” of well known music hits will be entertaining all guests. After dinner, guest will be transferred by coaches to Krakow.

*The conference gala dinner is sponsored by SMS Demag*

**Social events**
In addition to the comprehensive technical programme, a social programme including welcome reception, gala dinner, refreshment breaks will be provided to give delegates the opportunity to meet informally and enjoy Krakow’s traditional atmosphere. Krakow is also a unique place for post conference tours to Auschwitz (concentration camp), Wieliczka (salt mine) and the Tatra Mountains.

All tours are in English. Tours start and end from the Conference Venue - Auditorium Maximum
The address: 33, Krupnicza street
Conference tours

20 May 2008 (Tuesday)
Kraków
Departure at 9:00 a.m.
Duration: 6.5 hours

Itinerary:
Meeting with Orbis Travel guide at the Conference Venue. The tour begins with walk to the Wawel Hill. Which was the seat of royal power up till the 17th century. The Castle was home to many Polish kings and queens and the royal crypts in the Cathedral their final resting place, along with several other Polish heroes. Then our route leads via charming Kanonicza street and Grodzka street to the Main Market Square with its famous Cloth Hall and St. Mary’s Church. Visit the St. Mary’s Church with its beautiful Gothic altar and two famous towers from which, every hour Krakow’s bugle call is playing by the trumpeter. For centuries the bugler sounds the hours. There is a legend that during a raid on the city by Tatars in the 12th or 13th century an enemy arrow punctured the bugler’s throat when he was about to finish the last of the four parts of his call. In the memory of that tragedy, the call always ends abruptly unfinished.

12.00 – 13.15 lunch at one of the restaurants located near the Main Market Square.
13.15 – 13.45 free time for souvenir shopping at the Cloth Hall. Walk along Florianska street (via Medieval city defense walls) to the Matejki Square.
14.00 – transfer by bus to the former Jewish district – Kazimierz.

Kazimierz, the south–east quarter of Kraków, was the historical centre of Kraków’s Jewish religious and social life. Originally a separate town named after King Casimir the Great, it was incorporated into Kraków in the 18th century. This short visit of Kazimierz takes you to the most important monuments in this area, also the sites which S. Spielberg used for his location shots of “Schindler’s List”.

Price: 45 EUR per person (minimum 15 persons is required).
Price includes: bus transportation, Orbis Travel guide, entrance tickets to: Royal Chambers, Royal Cathedral, St. Mary’s Church, lunch (main dish, dessert, water, coffee/tea).
This tour is included in the Accompanying person’s registration fee.
Conference tours

21 May 2008 (Wednesday)
Dunajec River Gorge – Pieniny Mountains
Departure at 8:00 a.m.
Duration: 8 hours

Itinerary:
Meeting with Orbis Travel guide at the Conference Venue. Bus transfer to Sromowce–Katy, raft trip by the Dunajec River to Szczawnica, lunch at Niedzica, return to Kraków.
The raft trip down the Dunajec river through the Pieniny Gorge and along the Polish–Slovak border is one of the greatest tourist attractions in Poland. The towering cliffs and the limestone rock formations of the gorge itself plus the picturesque mountain scenery, the surrounding national forest and the colorful river guides make for a wonderful day in a pristine and wild environment. For many centuries, the Dunajec valley served as an important trade route to Hungary and so Czorsztyn Castle (13th c.) and Niedzica Castle (14th c.) were built as strategic strongholds high on the cliffs on either side. Czorsztyn Castle was destroyed in a peasant uprising, but it has been partially restored and its ruins make for an adventurous visit. Niedzica Castle, in a delightful counterpoint, is in perfect condition. In fact, today, it is actually a working hotel in addition to housing a fine museum. Our trip begins at the raft wharf in Sromowce-Katy and ends 18 kms later in Szczawnica. It lasts two or three hours, depending on the water level of the river. While on the raft, you will enjoy excellent view of the high summits of Trzy Korony and Mt. Sokolica. Lunch will be served at the regional inn “Dwór”.

Price: 60 EUR per person (minimum 15 persons is required)
Price includes: Orbis Travel guide, transportation, ticket for rafting, lunch at the regional inn (main dish, dessert, water, coffee/tea).
Conference tours

21 May 2008 (Wednesday)
Wieliczka Salt Mine
Departure at 9:00 a.m.
Duration: 4 hours

Itinerary:
Meeting with Orbis Travel guide at the Conference Venue. Bus transfer to Wieliczka, visit the Salt Mine, return to Kraków.
Legend has it that the salt mines in Wieliczka were part of the dowry of the Hungarian princess, Kinga, when she wed Bolesław the Shy over 700 years ago, making the Wieliczka Salt Mine one of the oldest in all of Europe. Over the centuries, devout and superstitious, miners have carved fabulous figures, monuments and altarpieces out of its salt walls. These amazing works of art, in addition to the mine’s historical importance, have earned the Wieliczka Salt Mine a place on the UNESCO World Cultural Heritage list. Our route through the mine leads you through galleries and chambers on three levels, from 64 to 135 meters below the ground, including the unique and richly ornamented Chapel of the Blessed Kinga. The route is 2.5 km long and you have to walk down 400 steps. The last stop in the mine is the souvenir shop from here; a lift carries you back to the surface.

Price: 35 EUR per person (minimum 15 person is required)
Price includes: Orbis Travel guide, transportation, guide in the Mine, entrance tickets, souvenir (a small bag of salt).
## Time Table

### Monday 19 May 2008

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00</td>
<td>Registration</td>
</tr>
<tr>
<td>12:00</td>
<td>Plenary session</td>
</tr>
<tr>
<td>15:15</td>
<td>Lunch</td>
</tr>
<tr>
<td></td>
<td>Welcome party</td>
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</table>

### Tuesday 20 May 2008

<table>
<thead>
<tr>
<th>Room B</th>
<th>Room C</th>
</tr>
</thead>
<tbody>
<tr>
<td>9:00</td>
<td>Raw Materials</td>
</tr>
<tr>
<td>10:20</td>
<td>Slag Foaming</td>
</tr>
<tr>
<td>11:00</td>
<td>Coffee Break</td>
</tr>
<tr>
<td>12:20</td>
<td>Modelling</td>
</tr>
<tr>
<td>14:00</td>
<td>Control</td>
</tr>
<tr>
<td>16:00</td>
<td>State of Art</td>
</tr>
<tr>
<td>15:20</td>
<td>Coffee Break</td>
</tr>
<tr>
<td>16:00</td>
<td>State of Art</td>
</tr>
<tr>
<td></td>
<td>Gala dinner</td>
</tr>
</tbody>
</table>

### Wednesday 21 May 2008

<table>
<thead>
<tr>
<th>Room B</th>
<th>Room C</th>
</tr>
</thead>
<tbody>
<tr>
<td>9:00</td>
<td>Metallurgy</td>
</tr>
<tr>
<td>10:20</td>
<td>Optimization</td>
</tr>
<tr>
<td>11:00</td>
<td>Coffee Break</td>
</tr>
<tr>
<td>12:20</td>
<td>Other</td>
</tr>
<tr>
<td>13:00</td>
<td>Lunch</td>
</tr>
<tr>
<td></td>
<td>Other</td>
</tr>
</tbody>
</table>
9th European Electric Steelmaking Conference
19–21 May 2008
The Jagiellonian University lecture theatre complex - Auditorium Maximum
Krakow, Poland
Organised by SITPH - Polish Association of Metallurgical Engineers and Technicians on behalf of AGH – University of Science and Technology 2008 Krakow
Final programme