

Program of the Conference

23 October 2019	
12.00 - 14.00	Registration of participants (Reception)
from 14.00	Accommodation of participants
12.30 - 14.00	Lunch (Main Restaurant)
15.00 - 19.00	Plenary Session (Conference hall A)
19.00	Dinner (Main Restaurant)
20.30 - 22.30	The bowling tournament (Relax bar)
24 October 2019	
07.00 - 09.00	Breakfast (Main Restaurant)
Lectures	
09.00 - 12.00	Session: Iron and Steelmaking (Conference hall A)
09.00 - 12.30	Session: Non Ferrous and Non - Metallic Materials (Conference hall B)
12.30 - 14.00	Lunch (Main Restaurant)
14.30 - 16.10	Poster session A (Conference hall A)
14.30 - 16.00	Session: Energy Transformation in Industry (Conference hall B)
16.15 - 16.55	Poster session B (Conference hall B)
19.00	Social evening (Main Restaurant)
25 October 2019	
07.00 - 10.00	Breakfast (Main Restaurant)
09.00 - 11.00	Round Table Meeting (Individual meeting of participants)
11.00 - 11.30	Summary and evaluation of the conference (Organizer committee of conference)
Until 11.00	Checkout (Reception)
11.30 - 12.00	Conclusion of the conference

23 October 2019

12.00 - 14.00 Registration of participants

from 14.00 Accommodation of participants

12.30 - 14.00 Lunch

15.00 - 19.00 **Plenary Session**

Chairmen: prof. Ing. Jana Dobrovská, CSc., doc. Ing. Iveta Vasková, PhD., dr hab. inž. Jerzy Łabaj, prof. nadzw. PŚ, doc. Ing. Branislav Buľko, PhD., David Hathaway, Ing. Marcel Novosad, Ing. Branislav Klocok, Ing. Pavol Beraxa, PhD.

15.00 - 15.10 Conference Opening

Iveta Vasková, Faculty of Materials, Metallurgy and Recycling
Branislav Buľko, Guarantee of the conference

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- 15.10 - 15.30 RESEARCH AND INNOVATIONS: SMART INITIATIVES IN TRANSFORMATION OF INDUSTRY VIA ADVANCED MATERIALS AND TECHNOLOGIES
Maroš Halama, Faculty of Materials, Metallurgy and Recycling
- 15.30 - 16.00 CLIMATE CHANGE AND THE METALLURGICAL INDUSTRY
Mariana Pažinková, Eskada, s.r.o.
- 16.00 - 16.30 Nb BENEFITS IN FERROUS AND NON FERROUS CAST METAL APPLICATIONS
Paul Lalley, CBMM Europe BV
- 16.30 - 17.00 Coffee break
- 17.00 - 17.30 REFRACTORY MATERIALS FOR METALLURGICAL, CERAMIC AND CHEMICAL INDUSTRIES OF INTOCAST SLOVAKIA A.S.
Tomáš Kuchár, INTOCAST Slovakia a.s.
- 17.30 - 18.00 APPROACHES TO COMPUTATIONAL MESH GENERATION AND MONITORING OF STEEL FLOW IN TUNDISH DURING NUMERICAL MODELLING
Markéta Tkadlečková, Karel Michalek, Tomáš Huczala, Josef Walek, Jana Sviželová, Michaela Strouhalová, Dana Horáková, Monika Krejzková
- 18.00 - 18.30 MODELING OF STEEL HOMOGENIZATION AFTER ALLOY ADDITION
Marek Warzecha, Politechnika Częstochowska
- 18.30 - 19.00 MODELLING OF MASS – THERMAL BALANCE AND SIMULATION OF SINTERING PROCESS WITH BIOMASS
Jaroslav Legemza, Faculty of Materials, Metallurgy and Recycling
- 19.00 Dinner
- 20.30 - 22.30 The bowling tournament

24 October 2019

- 07.00 - 09.00 Breakfast
- Lectures**
- 09.00 - 12.00 **Session: Iron and Steelmaking**
- 09.00 - 12.30 **Session: Non Ferrous and Non - Metallic Materials**
- 12.30 - 14.00 Lunch
- 14.30 - 16.00 **Session: Energy Transformation in Industry**
- 14.30 - 16.10 **Poster session A**
- 16.15 - 16.55 **Poster session B**
- 19.00 Social evening

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09.00 - 12.15 **Session: Iron and Steelmaking**

Chairmen: doc. Ing. Róbert Findorák, PhD., prof. Ing. Karel Michalek, CSc., prof. dr hab. inż. Mirosław Karbowniczek

09.00 - 09.15 RESEARCH REDUCTION TESTS IN LABORATORY CONDITIONS

Anna Konstanciak

09.15 - 09.30 THE COMPARISON OF THE TWO TYPES OF IMPACT PADS IN TUNDISH OF ŽP A.S.

Branislav Buľko, Peter Demeter, Vladimír Chomič, Matej Brenkus

09.30 - 09.45 STUDY OF THE TEMPERATURES OF PHASE TRANSFORMATIONS OF STEELS AND THEIR APPLICABILITY IN THE TECHNOLOGY OF STEEL CASTING

Michaela Strouhalová, Karel Michalek, Bedřich Smetana

09.45 - 10.00 INFLUENCE OF BATCH CHARACTERISTICS ON PRODUCTS OUTPUT IN IMPERIAL SMELTING PROCESS

Mikolaj Bernasowski, Arkadiusz Klimczyk, Ryszard Stachura

10.00 - 10.15 LABORATORY OF MODEL RESEARCH AT WIMIM SILESIA UNIVERSITY OF TECHNOLOGY

Jacek Pieprzyca, Tomasz Merder, Mariola Saturnus

10.15 - 10.30 CFD SIMULATION OF FLOW IN THE CONTINUOUS CASTING TUNDISH

Slavomír Hubatka, Andrián Bitto

10.30 - 11.00 Coffee break

Chairmen: doc. Ing. Jaroslav Legemza, PhD., doc. Ing. Markéta Tkadlečková, Ph.D., Dr hab. inż. Anna Konstanciak, prof. PCz

11.00 - 11.15 TESTING OF BLACK PELLETS IN IRON ORE SINTERING CONDITIONS

Róbert Findorák, Mária Fröhlichová, Jaroslav Legemza, Martina Džupková

11.15 - 11.30 NUMERICAL SIMULATION OF LIQUID STEEL FLOWING INTO THE INGOT MOULD FOR DIFFERENT TYPES OF FLOW CHANNELS

Vladislav Kurka, Petr Jonšta, Jaroslav Pindor, David Bocek, Bohuslav Chmiel

11.30 - 11.45 LADLE SLAG FORMING WITH OPTIMAL PHYSICOCHEMICAL PROPERTIES FOR MINIMIZATION OF NONMETALLIC INCLUSIONS

Mirosław Karbowniczek, Piotr Migas, Artur Dobosz, Wojciech Ślęzak, Marta Ślęzak

11.45 - 12.00 OPTIMIZATION OF SLAG FORMATION CONDITIONS IN THE STEELMAKING PROCESS IN ORDER TO INCREASE THEIR DEPHOSPHORIZATION AND DESULPHURIZATION CAPACITY

Marta Ślęzak, Mirosław Karbowniczek, Michał Moskał, Piotr Migas, Wojciech Ślęzak

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14.30 - 16.00 **Poster session A**

- 14.30 - 14.40 CURRENT PROCESSING OF MINERALS, FUELS AND SECONDARY PRODUCTS, THEIR USE IN THE CZECH REPUBLIC AND POLAND
Pavĺina Pustějovská, Edyta Kardas, Aleš Zaoral
- 14.40 - 14.50 MIXING OF LIQUID STEEL IN A STEEL LADLE BY A COMBINED METHOD
Tomasz Merder, Jacek Pieprzyca, Michał Szymanowski
- 14.50 - 15.00 OPTIMIZATION OF STEEL FLOW IN THE THREE STRAND T - TYPE TUNDISH
Andrián Bitto, Slavomír Hubatka
- 15.00 - 15.10 IMPACT OF THE MEASURING POINTS NUMBER ON THE HEAT TRANSFER COEFFICIENT VALUE IN THE PRIMARY COOLING ZONE OF THE CCS PROCESS USING THE INVERSE METHOD
Katarzyna Miłkowska-Piszczek, Jan Falkus
- 15.10 - 15.20 ASPECTS OF EXTENDING THE LIFE OF A BLAST FURNACE SLAG RUNNER
Jan Haščin, Bohumil Horák, Jan Růžička
- 15.20 - 15.30 STUDY OF THE SINTERING IRON BEARING RAW MATERIALS OPTIMIZING GRAIN SIZE OF BURDEN
Mária Fröhlichová, Jaroslav Legemza, Róbert Findorák, Martina Džupková, Dušan Ivanišin
- 15.30 - 15.40 THERMAL ANALYSIS OF CAST IRON – POSSIBILITIES OF USE IN FOUNDRY AND HER RESTRICTION
Marianna Bartošová, Martina Hrubovčáková, Iveta Vasková, Alena Pribulová
- 15.40 - 15.50 THE BY PRODUCTS CREATED DURING THE OXYGEN STEELMAKING PROCESSES
Dana Baricová, Alena Pribulová, Branislav Buľko, Peter Demeter, Martina Hrubovčáková
- 15.50 - 16.00 EXPERIMENTAL INVESTIGATION OF THE REDUCTION OF IRON MILL SCALE
Artur Hutny, Marek Warzecha
- 16.00 - 16.10 STUDY OF HYDROGEN REDUCTION EFFECT ON METALLURGICAL MATERIALS
Jursova, S., Pustejovska, P., Bilik J.

09.00 - 12.30 **Session: Non Ferrous and Non - Metallic Materials**

Chairmen: doc. Ing. Silvie Brožová, Ph.D., doc. Ing. Iveta Vasková, PhD., prof. Ing. Aleš Slíva, Ph.D.

- 09.00 - 09.15 SOLUTION OF NON-CONFORMITIES IN THE CASE OF ALUMINIUM CASTINGS MADE IN METAL MOULDS
Ivana Kroupová, Petr Lichý, Isabel Nguyenová, Miroslav Dostál
- 09.15 - 09.30 THE POSSIBILITIES OF REFINING ALUMINIUM ALLOY MELTS USING GRAPHITE ROTORS
Petr Lichý, Ivana Kroupová, Markéta Baierová, Tomáš Obzina, Jaroslav Štefánek
- 09.30 - 09.45 SAMPLING PROCEDURE AND CHEMICAL ANALYSIS IN A FAUNDRY

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Martina Laubertová, Jordan Kostadinov, Matúš Jeremko, Jarmila Trpčevská, Silvia Ružičková

09.45 - 10.00 INFLUENCE OF BASIC PRODUCTION PARAMETERS ON MECHANICAL PROPERTIES OF CORES PRODUCED BY C-METHOD

Václav Merta, Jaroslav Beňo, Isabel Nguyenová, Miroslav Dostál

10.00 - 10.15 DESIGN OF CASTING TECHNOLOGY USING SIMULATION PROGRAM

Filip Radkovský, Václav Merta

10.15 - 10.30 EVAPORATION OF METALS IN INERT ATMOSPHERES

Jerzy Łabaj, Leszek Blacha, Maciej Jodkowski

10.30 - 11.00 Coffee break

Chairmen: doc. Ing. Petr Lichý, Ph.D., Ing. Marianna Bartošová, PhD., Ing. Martina Laubertová, PhD.

11.00 - 11.15 ZINC LOSSES IN THE MELTING PROCESS OF Al-Zn ALLOYS IN INDUCTION CRUCIBLE FURNACES

Węcki B., Makieta E.

11.15 - 11.30 UTILIZATION OF WASTES FROM COAL MINING IN Fe-Si-Al ALLOY PRODUCTION PROCESSES

Sławomir Kozłowski, Wojciech Bialik, Stanisław Gil, Łukasz Banasik

11.30 - 11.45 MODELLING OF MELT DEGASSING BY BLOWING OF INERT GAS THROUGH THE ROTATING IMPELLER

Josef Walek, Karel Michalek, Markéta Tkadlečková, Jana Sviželová

11.45 - 12.00 HYDROMETALLURGICAL TREATMENT OF METAL-BEARING WASTES USING NON-FERROUS METALS

Silvie Brožová, Monika Zbránková, Jaroslav Havránek

12.00 - 12.15 APPARATUS FOR PROCESSING METALS OF LOOSE NATURE TENDING TO AIR OXIDATION, ESPECIALLY ALKALINE EARTH METALS

Aleš Slíva, Robert Brázda

12.15 - 12.30 FLOTATION CONCENTRATE AS A CARBONACEOUS MATERIAL FOR APPLICATIONS IN COPPER PYROMETALLURGY PROCESSES

Maciej Jodkowski, Jerzy Łabaj, Leszek Blacha

14.30 - 16.00 **Session: Energy Transformation in Industry**

Chairmen: prof. Ing. Augustín Varga, CSc., doc. Ing. Karel Gryc, Ph.D., PhD DSc (Eng), Prof. SUT Stanisław Gil

14.30 - 14.45 MATHEMATICAL MODEL OF HEAT TRANSFER IN NON-OXIDISING FURNACE

Augustín Varga, Gustáv Jablonský, René Atyafi

14.45 - 15.00 DEVICE FOR REGULATION OF THE FLAME LENGTH IN THE THERMAL AGGREGATE

Dzurňák Róbert, Ján Kizek

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- 15.00 - 15.15 CO₂ EMISSIONS IN LIME INDUSTRY
René Berta, Ladislav Lukáč
- 15.15 - 15.30 ANALYSIS OF THE ENERGY CONSUPTION DURING THE ELECTRIC ARC PROCESS
Piotr Migas, Michał Moskał, Mirosław Karbowniczek, Jacek Czyż
- 15.30 - 15.45 ASSESSMENT OF THE ENERGY POTENTIAL OF SOLAR ENERGY IN INDUSTRIAL APPLICATIONS
Miroslav Rimár, Jakub Váhovský, Olha Kulikova
- 15.45 - 16.00 POSSIBLE USE OF WASTE HEAT FOR THE ELECTRIC POWER PRODUCTION
Peter Ďurčanský, Andrej Kapjor, Jozef Jandačka
- 16.00 - 16.15 Coffee break
- 16.15 - 16.55 **Poster session B**
- 16.15 - 16.25 COMPANY VEOLIA IN INDUSTRY
Otakar Vénos
- 16.25 - 16.35 RELATED ASPECTS OF CO₂ RECYCLING FROM METALLURGICAL PROCESSES
Jan Haščin, Bohumil Horák, Bohumil Horák ml
- 16.35 - 16.45 MODIFICATION OF LIQUID FESI75 FERROSILICON LADLE REFINING TO IMPROVE ITS PURITY
Stanisław Gil, Wojciech Bialik, Bolesław Machulec, Sławomir Kozłowski
- 16.45 - 16.55 NUMERICAL STUDY OF ALUMINIUM MELT DEGASSING PROCESS BY SUBMERSIBLE DEVICE
Jana Sviželová, Markéta Tkadlečková, Karel Michalek, Josef Walek

25 October 2019

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