MOLTEN 2024 PROGRAM

Sunday 16 June - WORKSHOPS		
8:00am	Workshop Registration, Arrival T&C	Boulevard Foyer
	Workshop 1	***Workshop 2***
	Boulevard B1	Boulevard B2
9:30am	Factsage Course	Fundamentals of Slag Chemistry
	Presenters: Liling Jin, LiFePO4 Batteries, Canada; Prof. In-Ho Jung, Seoul National University, South Korea; Dr Denis Shishin, University of Queensland, Australia; Dr Stephan Petersen, GTT-Technologies, Germany	*Presenter: Prof. Geoff Brooks, Swinburne University, Australia*
11:00am	Morning Tea	Boulevard Foyer
	Boulevard B1	Boulevard B2
11:30am	Workshop 1 cont'd	Workshop 2 cont'd
1:00pm	Lunch	Boulevard Foyer
	Boulevard B1	Boulevard B2
1:30pm	Workshop 1 cont'd	Workshop 2 cont'd
3:00pm	Afternoon Tea	Boulevard Foyer
	Boulevard B1	Boulevard B2
3:30pm	Workshop 1 cont'd	Workshop 2 cont'd
4:30pm	*Registration Opens for Conference*	Boulevard Foyer
6:00pm-8:00pm	Welcome Reception	Boulevard Foyer

** Program subject to change

Monday 17 June - CONFERENCE DAY 1				
7:30am	Registration Opens, arrival T&C			Boulevard Foyer
8:30am	Welcome to Country			Boulevard Auditorium
8:40am	Welcome from Chairs *Emer. Prof. Peter Hayes FAusIMM(CP), PYROSEARCH, University of Queensland, Australia*			Boulevard Auditorium
8:50am	Welcome from AusIMM *Stephen Durkin FAusIMM, CEO, Australasian Institute of Mining & Metallurgy (AusIMM), Australia*			Boulevard Auditorium
9:00am	Ministerial Welcome *Dr Mark Jacobs, Deputy Director-General, Science Division, Queensland Department of the Environment, Science & Innovation, Australia*			Boulevard Auditorium
9:10am	**Plenary Speaker 1:** Physicochemical properties of steelmaking slags for the mitigation of CO2 emissions in steel sector *Prof. Joohyun Park, Hanyang University, South Korea*			Boulevard Auditorium
9:50am	Morning Tea			Boulevard Foyer
	Session 1 - Slag Fundamentals	***Session 4 - T/D and Process Modeling***	***Session 7 - Ferrosilicon and Ferrochromium***	***Session 10 - Phase Diagram Studies***
	Boulevard Auditorium	**Boulevard B1**	**Boulevard B2**	**Boulevard B3**
Chairs:	***Prof. Geoffrey Brooks, Swinburne University of Technology, Australia***	***Dr Stephan Petersen, GTT-Technologies, Germany***	***Prof. Oleg Ostrovskii, University of New South Wales, Australia***	***Dr Taufiq Hidayat, Intitut Teknologi Bangung, Indonesia***
10:20am	**Keynote:** Slag-steel reactions in the refining of advanced high-strength steel *Dr P. Chris Pistorius, Carnegie Mellon University, United States*	**Keynote:** Pyrometallurgical process simulations using CALPHAD thermodynamic databases *Prof. In Ho Jung, Seoul National University, South Korea*	**Keynote:** Reducing CO2 emissions from the ferro-alloy and silicon production *Prof. Merete Tangsted, Norwegian University of Science and Technology (NTNU), Norway*	**Keynote:** Advancement in experimental methodologies to produce phase equilibria and thermodynamic data in multicomponent systems *Dr Maksym Shevchenko, PYROSEARCH, University of Queensland, Australia*
10:55am	Perspectives of chemical metallurgy fundamentals in slag innovation *Dr Sanghoon Lee, Yonsei University, South Korea*	Continuous method of thermodynamic optimization using first-derivative matrices for large multicomponent systems *Dr Evgenii Nekhoroshev, PYROSEARCH, University of Queensland, Australia*	Effect of slag composition on titanium distribution ratio between ferrosilicon melt and CaO-SiO2-Al2O3 slag at 1773K *Minjoo Lee, Hanyang University, South Korea*	Phase diagram study and thermodynamic modeling of the CaO-TiO2-CaF2 system *Jiho Bang, Seoul National University, South Korea*

11:20am	Theoretical and experimental approaches to determine the mass transfer coefficient in the steel/slag/refractory system *Manuel Schickbichler, Christian Doppler Laboratory for Inclusion Metallurgy in Advanced Steelmaking, Austria*	Pushing the boundaries of slag operability: Processing of High-MgO nickel concentrates with the Ausmelt® TSL process *Jacob Wood, Metso Australia Pty Ltd, Australia*	Towards ferrochromium production using molten oxide electrolysis *Dr Lassi Klemettinen, Aalto University, Finland*	Thermodynamic behavior of TiO2 in CaO-Al2O3–based slags at high temperatures *Dongyul Jung, Hanyang University, South Korea*
11:45am	Characterizing bubble size distribution and generation position in iron oxide-containing slag smelting reduction *Prof. Ko-ichiro Ohno, Kyushu University, Japan*	Integrated process modelling for the Kalgoorlie nickel smelter *Georgia Sartor, Hatch, Australia*	Ferroalloy extraction from a Zimbabwean ore using a closed DC furnace *Dr Edson Kugara Chiwandika, Harare Institute of Technology, Zimbabwe*	Thermal analysis of molten salts and their mixtures with metals *Dr Dmitry Sergeev, NETZSCH-Gerätebau GmbH, Germany*
12:10pm	Lunch			Boulevard Foyer
	Session 2 - Recycling of Slags	***Session 5 - Non-Ferrous***	***Session 8 - Hydrogen Reduction***	***Session 11 - Molten Salts***
	Boulevard Auditorium	**Boulevard B1**	**Boulevard B2**	**Boulevard B3**
Chairs:	***Prof. Geoffrey Brooks, Swinburne University of Technology, Australia***	***Adj. Prof. Gerardo Alvear, University of Queensland, Australia***	***Prof. Oleg Ostrovskii, University of New South Wales, Australia***	***Prof. Daniel Lindberg, Aalto University, Finland***
1:10pm	Dissolution behaviors of recycled cement paste and lime in simulated EAF slag under static condition *Dr Mingrui Yang, University of Warwick, United Kingdom*	Experimental and thermodynamic study of the phase equilibria in the NiO-CaO-FeO-Fe2O3 system in air and in equilibrium with metal (Fe-Ni) alloy *Dr Svetlana Sineva, PYROSEARCH, University of Queensland, Australia*	Hydrogen plasma in extractive metallurgy application *Bima Satritama, Swinburne University of Technology, Australia*	The extraction of white phosphorus from molten salt *Dr Xiao Yang, Westlake University, China*
1:35pm	The effect of FeO/SiO2 ratio on the feasibility of utilizing iron silicate slags as supplementary cementitious materials *Dr Anton Andersson, Luleå University of Technology, Sweden*	Slag-metal interfacial reactions in pyrometallurgical processing of industrial wastes for recovery of valuable metals *Hyunju Kim, Hanyang University, South Korea*	Flux smelting behavior of pre-reduced Mn ore by hydrogen at elevated temperatures *Pankaj Kumar, Norwegian University of Science and Technology (NTNU), Sweden*	Electrolytic reduction of metal sulfides/oxides in molten salts for sustainable metal production *Dr Xianfeng Hu, Swerim AB, Sweden*
2:00pm	Low-carbon manufacturing of mineral wool using steelmaking slags and silicate wastes from multisector *Dr Mingrui Yang, University of Warwick, United Kingdom*	Overview of the experimental phase equilibria studies of the Ni-Sn-S, Cu-Sb-S, Cu-Sn-S, Fe-Sb-As, and Fe-Sn-As systems *Modassir Akhtar, PYROSEARCH, University of Queensland, Australia*	A Short Review: Hydrogen Reduction of Copper-Containing Resources *Dian Mughni Fellicia, Swinburne University of Technology, Australia*	Electrodeposition and electrochemical behavior of molybdenum ions in ZnCl2-NaCl-KCl molten salt *Prof. Jianxun Song, Zhengzhou University, China*

** Program subject to change

2:25pm	Selective reduction of iron and effective enrichment of vanadium from vanadium slag by carbothermic reduction *Prof. Shiyuan Liu, University of Science and Technology Beijing, China*	Direct observation of the fayalite slag formation behavior from large SiO2 grains *Yuko Goto, Sumitomo Metal Mining Co., Ltd, Japan*	Transient slag behaviour in the high DRI and scrap based EAF route: Case study for high and low grade DRI input *Dr Saikat Chatterjee, Tata Steel, R&D, Ijmuiden, Netherlands*	Deoxidation of Ti-Ni alloy by the calcium and binary halide fluxes *Yao Su, Hanyang University, South Korea*
2:50pm	Afternoon Tea			Boulevard Foyer
	Session 3 - Slag/Steel	***Session 6 - Non-Ferrous***	***Session 9 - Physicochem. Props.***	***Session 12 - Molten Salts***
	Boulevard Auditorium	**Boulevard B1**	**Boulevard B2**	**Boulevard B3**
Chairs:	***Dr P. Chris Pistorius, Carnegie Mellon University, United States***	***Adj. Prof. Gerardo Alvear, University of Queensland, Australia***	***Prof. Brian Monaghan, University of Wollongong, Australia***	***Prof. Daniel Lindberg, Aalto University, Finland***
3:20pm	Study on change in mould slag characteristics during casting Ti bearing steel grades *Preeti Prakash Sahoo, Tata Steel Ltd, India*	Phase equilibria study in the sodium metasilicate primary phase field in PbO-Na2O-SiO2 system between 800 and 1000 °C *Xi Ling, University of Toronto, Canada*	Modelling of Liquid/Liquid Interface Movement during Spindle Rotation of Refractory - Slag Corrosion Test *Hana Lee, Tech University of Korea, South Korea*	Synthesis of actinide chlorides for molten salt preparation *Dr Pierrick Chevreux, CEA, France*
3:45pm	Carbon distribution behavior between molten iron and CaO-Al2O3-FeO-SiO2-MgO slag at 1873 K *Yeong Jin Jun, Hanyang University, South Korea*	Experimental study and thermodynamic modeling of phase equilibria in the FeO-FeO1.5-SbO1.5-SiO2 system in equilibrium with metal *Dr Hamed Abdeyazdan, University of Queensland, Australia*	Viscosity of CaO-aluminosilicate Slags *Prof. Ramana Reddy, University of Alabama, United States of America*	Melting behaviour investigation of municipal solid waste incineration fly ash samples from different incineration technologies for metal recovery: An integrated experimental and modelling approach *Ece Soylu, Norwegian University of Science and Technology (NTNU), Norway*
4:10pm	Prognostic models for electroslag remelting process and slag engineering *Prof. Ganna Stovpchenko, China First Heavy Industries (CFHI), China*	Monitoring Sb in lead refining using advanced techniques in Industry 4.0 *Amy Van den Bulck, Umicore NV, Belgium*	Viscosity of foaming fluid measured by falling ball method *Prof. Shigeru Ueda, Tohoku University, Japan*	Calcium based ternary nitrate salts for concentrating solar power applications *Pranjal Gandhre, Somaiya Vidyavihar University, India*
4:35pm	Characterization and assessment of B2O3 added LF Slag *Dr Ashok Kamaraj, Indian Institute of Technology, Hyderabad, India*	CFD modeling of slag fuming, with a focus on freeze-lining formation *Dr Christian Rodrigues, Montanuniversität Leoben, Austria*	A combined molecular dynamics - Experimental investigation of oxidic slag properties *Prof. Inge Bellemans, Ghent University, Belgium*	

** Program subject to change

5:00pm	Sulfur loss from the slag during desulfurization of liquid steel *Prof. Deepoo Kumar, Indian Institute of Technology, Bombay, India*	Studying the smelting behavior of bauxite residue pellets reduced by hydrogen using high temperature thermal analysis *Dali Hariswijaya, Norwegian University of Science and Technology (NTNU), Norway*	On the development of a viscosity model for molten multicomponent slag systems with several glass-forming, amphoteric and modifier oxides *Dr Alex Kondratiev, Lomonosov Moscow State University, Russian Federation*	
5:30pm-7:30pm	Poster Presentations Meet & Greet			Boulevard Foyer

Tuesday 18 June - CONFERENCE DAY 2				
7:30am	Registration Opens, arrival T&C			Boulevard Foyer
8:25am	Wrap up from Day 1 *Prof. Evgueni Jak , PYROSEARCH, University of Queensland, Australia*			Boulevard Auditorium
8:30am	**Plenary Speaker 2:** Challenges facing non-ferrous metal production *Prof. Daniel Lindberg, Aalto University, Finland*			Boulevard Auditorium
9:10am	**Plenary Speaker 3:** Fusion of molten phase R&D into the metallurgical industry to drive circularity *Dr Stanko Nikolic MAusIMM, Glencore Technology, Australia*			Boulevard Auditorium
9:50am	Morning Tea			Boulevard Foyer
	Session 13 - Steelmaking	***Session 16 - Non-Ferrous***	***Session 19 - Physicochem. Props.***	***Session 22 - Vanadium and Aluminum***
	Boulevard Auditorium	**Boulevard B1**	**Boulevard B2**	**Boulevard B3**
Chairs:	***Prof. In-Ho Jung, Seoul National University, South Korea***	***Dr Svetlana Sineva, University of Queensland, Australia***	***Prof. Inge Bellemans, Ghent University, Belgium***	***Prof. Akbar Rhamdhani, Swinburne University of Technology, Australia***
10:20am	**Keynote:** Recent advances in understanding phosphorous in oxygen steelmaking *Prof. Geoffrey Brooks, Swinburne University of Technology, Australia*	**Keynote:** Challenges and limitations in development of large thermodynamic database for multiple molten phases using Modified Quasichemical Formalism *Dr Denis Shishin AAusIMM, University of Queensland, Australia*	**Keynote:** Ionic Structure Analysis of Relaxed Surface of Molten Oxide Slags for Surface Tension Modeling *Assoc. Prof. Masanori Suzuki, Osaka University, Japan*	**Keynote:** Phase diagram of V2O3-FetO-SiO2-CaO(15 mass%) system at 1623 K *Prof. Baijun Yan, University of Science and Technology Beijing, China*
10:55am	Reoxidation of Al-killed ultra-low C steel by FetO in CaOAl2O3-MgOsat.-FetO slag representing RH slag by experiment and kinetic modeling *Prof. Youn-Bae Kang, Pohang University of Science and Technology (POSTECH), South Korea*	Impurity capacities of non-ferrous slags *Prof. Ramana Reddy, University of Alabama, United States*	Electrical conductivity measurement of CaO-Al2O3-CaF2 slags by van der Pauw-Ohta method *Prof. Noritaka Saito, Kyushu University, Japan*	Phase relationship of quaternary system FeO-Al2O3-SiO2-“V2O3“ at 1873 K and its impact during melting of H-DRI for possible vanadium extraction *Dr Johan Martinsson, Swerim AB, Sweden*
11:20am	Effect of MgO content on phase evolution during steelmaking slag cooling process *Wenfeng Gu, Tohoku University, China*	Improving industrial copper processing operations through the application of thermodynamic fundamentals and advanced predictive tools *Adj. Prof. Gerardo Alvear, PYROSEARCH, University of Queensland, Australia*	Quantitative studies on the microstructures of ternary CaO-Al2O3-SiO2 glasses, melts and correlation with their high-temperature viscosities *Prof. Jinglin You, SKLASS, Shanghai University, China*	Viscosity evaluation of hot metal containing vanadium and titanium via a novel measurement technology and the thermodynamic analysis method *Assoc. Prof. Wenzhou Yu, Chongqing University, China*

11:45am	On stability of CaS in liquid steel containing alumina or spinel inclusions *Sandeep Kumar, Indian Institute of Technology, Bombay, India*	Towards integration of pyro- and hydrometallurgical unit operations for efficient recovery of battery metals from waste lithium-ion batteries *Dr Anna Klemettinen, Aalto University, Finland*	Effect of solid particles on the viscosity of a secondary copper smelting slag *Dr Olivier Vergote, Ghent University, Belgium*	Smelting of different hydrogen reduced bauxite residue - Calcite pellets for iron and alumina recovery *Manish Kumar Kar, Norwegian University of Science and Technology (NTNU), Norway*
12:10pm	Lunch			Boulevard Foyer
	Session 14 - Steelmaking	***Session 17 - Non-Ferrous***	***Session 20 - Physicochem. Props.***	***Session 23 - Impurity Distributions***
	Boulevard Auditorium	**Boulevard B1**	**Boulevard B2**	**Boulevard B3**
Chairs:	***Prof. In-Ho Jung, Seoul National University, South Korea***	***Dr Svetlana Sineva, University of Queensland, Australia***	***Assoc. Prof. Masanori Suzuki, Osaka University, Japan***	***Dr Chunlin Chen, CSIRO, Australia***
1:10pm	Comparative study of oxide dissolution modelling in secondary steelmaking slags *Nikolaus Preisser, Christian Doppler Laboratory for Inclusion Metallurgy in Advanced Steelmaking, Austria*	A critical thermodynamic & sustainability assessment of PCB recycling through secondary Cu smelting process *Dr Ashok Kamaraj, Indian Institute of Technology, Hyderabad, India*	Methodology development of electrical conductivity measurements for non-ferrous slags *Pieter-jan Boeykens, Ghent University, Belgium*	Distribution behaviour of B and P in Si-slag system at 1500 °C *Prof. M. Akbar Rhamdhani, Swinburne University of Technology, Australia*
1:35pm	In-situ analysis of steelmaking slags and fluxes at elevated temperatures using a remote fiber optic Raman probe *Prof Ronald Omalley, Missouri University of Science and Technology, United States*	Pyrometallurgical treatment of nickel smelting slag with biochar *Desmond Attah-Kyei, Aalto University, Finland*	Machine learning - Enhanced modeling of thermal conductivity of SiO2-Al2O3-CaO slags *Dr Kai Tang, SINTEF, Norway*	Refining of Si-Ca-Al alloys using slag and vacuum treatments *Dr Elif Emil Kaya, Norwegian University of Science and Technology (NTNU), Norway*
2:00pm	Crystallization control of CaO-SiO2-Al2O3-MgO system inclusion *Dr Yong Wang, Wuhan University of Science and Technology, China*	Practicalities of the use of fayalite slags for recovery of metals from urban wastes *Dr Stuart Nicol MAusIMM(CP), Glencore Technology, Australia*	Effects of FeO/SiO2 ratio and optical basicity on viscosity and melt structure of FeO–SiO2–Al2O3–CaO–MgO–Cr2O3 melts *Dr Jenny Isaksson, Luleå University of Technology, Sweden*	Aluminothermic production of silicon using different raw materials Dr Katarina Jakovljevic, Norwegian University of Science and Technology (NTNU), Norway

2:25pm	Understanding zinc-containing species in BOS dust *Dr Raymond Longbottom, University of Wollongong, Australia*	Improvement of the Copper Flash Smelting Furnace (FSF) and the Slag Cleaning Furnace (SCF) process by advice-based control of silica and coke addition *Dr Victor Montenegro Gonzalez, Aurubis AG, Germany*	Determining the properties of CaO-Al2O3-SiO2 slags from molecular dynamics simulation *Dr Mengyi Zhu, Norwegian University of Science and Technology (NTNU), Norway*	
2:50pm	Afternoon Tea			Boulevard Foyer
	Session 15 - Steelmaking	***Session 18 - Non-Ferrous***	***Session 21 - CaO-Al2O3-SiO2 Slags***	***Session 24 - Ironmaking***
	Boulevard Auditorium	**Boulevard B1**	**Boulevard B2**	**Boulevard B3**
Chairs:	***Dr Jiang (Jeff) Chen, University of Queensland, Australia***	***Dr Svetlana Sineva, University of Queensland, Australia***	***Assoc. Prof. Masanori Suzuki, Osaka University, Japan***	***Prof. Baijun Yan, University of Science and Technology Beijing, China***
3:20pm	Solubility of Nitrogen and Inclusion Characteristics in High Aluminium Steels *Dr Mir Ishfaq, Indian Institute of Technology, Bombay, India*	Coupled phase diagram experiments and thermodynamic modeling of CaO-SiO2-Ga2O3 system for the recycling of Ga *Woon-oh Choe, Seoul National University, South Korea*	Molecular dynamics simulation of viscosity of selected pure oxide melts *Dr Alex Kondratiev, Lomonosov Moscow State University, Russian Federation*	Carburization and Melting of Hot Compacted Iron in a Coke Bed *Prof. Joonho Lee, Korea University, South Korea*
3:45pm	Effect of Al2O3/SiO2 ratio on structure and properties of mould flux for high-Al steel continuous casting *Prof. Oleg Ostrovskii, UNSW Sydney, Australia*	Increasing cobalt recovery during oxidative blast of copper-nickel matte *Roman Pakhomov, Gipronikel Institute LLC, Russian Federation*	Assessment of phase evolution in CaO–MgO–Al2O3–SiO2 system with varied Al2O3/SiO2 ratio using in-situ high-temperature Raman spectroscopy and X-ray scattering *Dr Francis Gyakwaa, University of Oulu, Finland*	Molten slag flow in an ironmaking blast furnace: A mesoscopic level investigation *Dr Xue Feng Dong, University of Wollongong, Australia*
4:10pm	Using novel methods to characterise slag films for continuously casting challenging and innovative steel grades *Prof. Zushu Li, University of Warwick, United Kingdom*	Distribution of Pb, Zn, Fe, Sn, Sb, Bi and Ni between oxide liquid and metal in the “CuO0.5”-CaO-AlO1.5 system in equilibrium with Cu metal *Georgii Khartcyzov AAusIMM, PYROSEARCH, University of Queensland, Australia*	Mixed alkali effect on structure of Al2O3-based slags *Sung-Hee Hyun, POSCO Steelmaking Research Group, South Korea*	Modelling of gas-slag flow behavior in the ironmaking blast furnace: A review *Dr Xue Feng Dong, University of Wollongong, Australia*

4:35pm	Effect of liquefaction controlling components in carbon free mould powders for the continuous casting of ultra-low carbon steels *Dr Nathalie Gruber, Montanuniversität Leoben, Austria*	Equilibrium distribution of Pb between copper metal and slags *Dr Tao Kan, CSIRO, Australia*	Boron removal through multistage refining treatment using $CaO-SiO_2-Al_2O_3$ slag *Andreas Diga Pratama Putera, Swinburne University of Technology, Australia*	Reduction and meliting behaviors of carbon-iron oxide composite using iron carbides and free carbon obtained by vapor deposition *Ryota Higashi, Tohoku University, Japan*
5:00pm	The effect of iron oxide on sulfide capacities of CaO-based molten slags *Dr Masakatsu Hasegawa, Kyoto University, Japan*		Slag chemistry on the Moon *Surya Pratap Singh, Swinburne University of Technology, Australia*	
5:25pm	Free time			
6:00pm - 10:00pm	Aussie Conference Dinner			Boulevard Ballroom

** Program subject to change

Wednesday 19 June - CONFERENCE DAY 3				
7:30am	Registration Opens, arrival T&C			Boulevard Foyer
8:30am	Wrap up from Day 2 *Emer. Prof. Peter Hayes FAusIMM(CP), PYROSEARCH, University of Queensland, Australia*			Boulevard Auditorium
8:35am	**Plenary Speaker 4:** University research on molten slags, matte, speiss and metal systems for high temperature processing – challenges, opportunities and solutions *Prof. Evgueni Jak, PYROSEARCH, University of Queensland, Australia*			Boulevard Auditorium
9:15am	*Move to next session*			
	Session 25 - Electroslag	***Session 28 - Process Simulation***	***Session 31 - Steelmaking***	***Session 34 - Si-Alloys***
	Boulevard Auditorium	**Boulevard B1**	**Boulevard B2**	**Boulevard B3**
Chairs:	***Prof. Youn-Bae Kang, Pohang University of Science and Technology (POSTECH), South Korea***	***Dr Stuart Nicol MAusIMM(CP), Glencore Technology, Australia***	***Joseph Hamuyuni, Mesto Metals Oy, Finland***	***Merete Tangstad, Norwegian University of Science and Technology, Norway***
9:25am	**Keynote:** State of the art of the electroslag refining and challenges of ingot cleanness control *Prof. Lev Medovar, E.O. Paton Welding Institute (PWI) & China First Heavy Industries (CFHI), China*	**Keynote:** Process modeling and high throughput thermochemical calculations using ChemApp for Python *Dr Stephan Petersen, GTT-Technologies, Germany*	**Keynote:** Sulfur distribution ratio in iron and steelmaking slags *Prof. Ramana Reddy, University of Alabama, United States of America*	**Keynote:** Efficient material descriptions for modelling high-temperature processes *Dr Johan Zietsman, Ex Mente Technologies, South Africa*
10:00am	Effect of SiO2 on crystallization and structure of CaF2-CaO-Al2O3 slag used in electroslag remelting *Midhun P M, Indian Institute of Technology, Bombay, India*	Combining the power of computational thermochemistry with the convenience of Python within the digital platforms of SMS Group *Dr Sabrine Khadhraoui, SMS Group GmbH, Germany*	Effect of solid-solved FeO and MnO on hydration of free MgO in steelmaking slag *Dr Ryo Inoue, Tohoku University, Japan*	Thermal phosphorus – It's a hot commodity with a hot process *Ewan Wingate FAusIMM(CP), Bechtel Mining & Metals, Australia*
10:25am	Genetic design of personalized slag for manufacturing die steel via electroslag remelting method and an industrial application case *Prof. Zhouhua Jiang, Northeastern University, China*	Understanding the side-blown furnace slag system at Glencore Nordenham's lead plant: From theory to industrial application *Dr Alejandro Abadias Llamas, Nordenham Metall GmbH, Germany*	A phenomena-based model to investigate the possibility of scrap melting in an Open Slag Bath Furnace (OSBF) for green ironmaking *Ali Emami, Tata Steel Technology B.v., Netherlands*	Manufacturing of FeSiB high-temperature phase change material by silicothermic reduction *Dr Jianmeng Jiao, Norwegian University of Science and Technology (NTNU), Norway*
10:50am	Morning Tea			Boulevard Foyer
	Session 26 - Steelmaking	***Session 29 - Refractory***	***Session 32 - DRI and EAF***	***Session 35 - Mn and Ti Production***
	Boulevard Auditorium	**Boulevard B1**	**Boulevard B2**	**Boulevard B3**

Chairs:	***Prof. Youn-Bae Kang, Pohang University of Science and Technology (POSTECH), South Korea***	***Dr Denis Shishin AAusIMM, PYROSEARCH, University of Queensland, Australia***	***Prof. Ramana Reddy, University of Alabama, United States***	***Dr Johan Zietsman, Ex Mente Technologies, South Africa***
11:20am	An investigation of potential wear occurring on refractory lining and coating formation - A remedy of wear in a basic oxygen steelmaking furnace using CFD modelling *Dr Subhasish Mitra MAusIMM, The University of Newcastle, Australia*	Corrosion behavior of ferrite and aluminate refractories in cryolite-aluminium melts *Prof. M. Akbar Rhamdhani, Swinburne University of Technology, Australia*	Molybdenum disilicide production using a silicon-containing molten bath via the hot dipping method *Dr Jonah Gamutan, Curtin University, Australia*	Dissolution of quartz in Mn-slags during production of SiMn alloy *Dr Vincent Canaguier, SINTEF AS, Norway*
11:45am	Activities of components in Ca2SiO4-Ca3P2O8 solid solution at 1573 K *Keijiro Saito, Kyoto University, Japan*	The interaction between slag and MgO refractory at conditions relevant to nickel laterite ore smelting *Dr Taufiq Hidayat, Institut Teknologi Bandung, Indonesia*	A study of heat and material balances in direct reduction plant with various conditions *MinJu Sun, Hyundai Steel, South Korea*	Flow investigation of multiphase manganese slags *Vishal Rimal, Norwegian University of Science and Technology (NTNU), Norway*
12:10pm	A machine learning model to predict non-metallic inclusion dissolution in the metallurgical slag *Assoc. Prof. Wangzhong Mu, KTH Royal Instutute of Technology, Sweden*	Radical involved reaction and weak magnetic effect between alumina refractory and high alumina slags *Dr Shenghao Li, The State Key Laboratory of Refractories and Metallurgy, China*	Slag volume effects on DRI-based electric furnace steelmaking *Dr P. Chris Pistorius, Carnegie Mellon University, United States*	Increasing the deportment of titanium species to, and the stability field of pseudobrookite phase for valorisation of titaniferous slags *Dr Xolisa Goso, Mintek, South Africa*
12:35pm	Lunch			Boulevard Foyer
	Session 27 - Steelmaking	***Session 30 - Phase Analysis***	***Session 33 - Ironmaking***	***Session 36 - CO2 Reduction***
	Boulevard Auditorium	**Boulevard B1**	**Boulevard B2**	**Boulevard B3**
Chairs:	***Prof. Lev Medovar, E.O. Paton Welding Institute (PWI) & China First Heavy Industries (CFHI), China***	***Dr Denis Shishin AAusIMM, PYROSEARCH, University of Queensland, Australia***	***Prof. Ramana Reddy, University of Alabama, United States***	***Dr Johan Zietsman, Ex Mente Technologies, South Africa***
1:35pm	Effect of CeO2 content on the fluidity of continuous casting mold slag *Zhang Chen, University of Science and Technology Beijing, China*	**Keynote:** Chemical- and micro-analytical techniques for molten slags, mattes, speisses and alloys *Dr Jiang (Jeff) Chen, PYROSEARCH, University of Queensland, Australia*	An investigative study on the interfacial behavior of waste graphite resource with liquid iron *Dr Smitirupa Biswal, UNSW Sydney, Australia*	Measuring circular economy through Life Cycle Assessment: challenges and recommendations based on a study on recycling of Al dross, bottom ash and shavings *Elisa Pastor-Vallés, Norwegian University of Science and Technology (NTNU), Norway*

2:00pm	Effect of C/A ratio on the crystallization behavior and structure of calcium-aluminate based alternative mould fluxes for casting medium and high Mn/Al steels *Prof. Rahul Sarkar, Indian Institute of Technology, Kanpur, India*		Effect of alumina on microstructures of iron ore sinters from the perspective of the phase equilibria of the CaO-SiO2-Fe2O3-Al2O3 system *Prof. Miyuki Hayashi, Tokyo Institute of Technology, Japan*	Lessons learned from attempts at minimizing CO2 emissions in process metallurgy: Pyrolyzed secondary raw materials, bio-coke, and hydrogen as alternative reducing agents *Dr Fabian Diaz, RWTH Aachen University, Germany*
2:10pm		Visualisation of calculated thermodynamic properties by integration of FactSage with SEM-EDS element maps *Nathan Barrett AAusIMM, Centre for Ironmaking Materials Research, Australia*		
2:25pm	A fundamental investigation on welding flux tunability geared towards high heat input submerged arc welding for shipbuilding applications *Prof. Cong Wang, Northeastern University, China*		In-situ Observation of Phase Transition of Silico-Ferrite of Calcium and Aluminum *Haeun Kim, Korea University, South Korea*	The possibility of using an autogenous hydrogen-DRI slag as a raw material for vanadium extraction *Dr Johan Martinsson, Swerim AB, Sweden*
2:40pm		Thermodynamic modeling of the Fe-Al-Ti-O system and evolution of Al-Ti complex inclusions during Ti-added ultra low carbon steel production *Young-Joon Park, Pohang University of Science and Technology (POSTECH), South Korea*		
2:50pm	Effect of mill-scale and calcined dolomite on high Al2O3 sinter and its reduction behavior *Seong-jin Kim, Pohang University of Science and Technology (POSTECH), South Korea*		Fluxing options and slag operating window for Metso's DRI smelting furnace *Joseph Hamuyuni, Mesto, Finland*	
3:15pm	Glencore Technology Presentation | Poster Winners *Emer. Prof. Peter Hayes FAusIMM(CP), PYROSEARCH, University of Queensland, Australia*			Boulevard Auditorium
3:45pm	Thanks | Molten 2028 *Emer. Prof. Peter Hayes FAusIMM(CP), PYROSEARCH, University of Queensland, Australia*			Boulevard Auditorium

** Program subject to change