



ICSTI2025

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Technical Program

Organized by

The Chinese Society for Metals (CSM)

Co-organized by

University of Science & Technology Beijing (USTB)

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		Session B2: Blast Furnace Ironmaking-Maintenance and Performance		
Aug. 28 Morning	Session A3: Automation and digitalization	Session B3: Blast Furnace Ironmaking-Maintenance and Campaign Life	Session C3: Blast Furnace Ironmaking-Production and Operation	Session D3: Hydrogen (H ₂)-based Ironmaking
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Plenary Session P1

Tuesday, 26 August 2025, GMT+8 (Beijing) 8:30-11:55		Speaker
8:30-8:50	Opening Address	
8:45-9:20	Innovation and Advances in the preparation of ironmaking burdens in China Tao Jiang Central South University, China	Tao Jiang 姜涛
9:20-9:55	Japanese Steel Industry's Challenge toward Carbon Neutral Steelmaking Yutaka Ujisawa Nippon Steel Corporation, Japan	Yutaka Ujisawa
9:55-10:30	Progress and Innovations in the Chinese Ironmaking Industry Jianliang Zhang University of Science and Technology Beijing, China	Jianliang Zhang 张建良
10:30-10:45 Tea Break		
10:45-11:20	Update on the development of POSCO's hydrogen-based Ironmaking process, HyREX® Myoung Gyun Shin POSCO, Korea	Myoung Gyun Shin
11:20-11:55	Practice and Prospect of Carbon Reduction in Shougang Long Process Steel Production Gele Qing Shougang Group, China	Gele Qing 青格勒

Plenary Session P2

Tuesday, 26 August 2025, GMT+8 (Beijing) 14:00-17:10		Speaker
14:00-14:35	The Green Transition of the steel industry in Sweden – state of the art Pontus Sjöberg Swerim AB, Sweden	Pontus Sjöberg
14:35-15:10	Exploration of Green and Intelligent Technologies in Ironmaking at Baosteel Daihua Zhang China BaoWu Steel Group Corporation Limited, China	Daihua Zhang 张代华

15:10-15:45	Innovation and Technological Transformation in Ironmaking at ArcelorMittal Dennis D. Lu ArcelorMittal Global RDEC & RDSF, United States	Dennis D. Lu
15:45-16:00 Tea Break		
16:00-16:35	Blast Furnace Modelling and Application: How to Optimise Design and Control for Best Energy Efficiency Aibing Yu JITRI Institute for Process Modelling and Control, China Great Bay University, China	Aibing Yu 余艾冰
16:35-17:10	Reimagining Ironmaking through Blast Furnace in the coming years S. S. Mohanty Essar Minmet Limited, India	S. S. Mohanty

Session A1-Sintering and Pelletizing

Wednesday, 27 August 2025, GMT+8 (Beijing) 8:30-12:05 Room A		Speaker
8:30-8:55	<i>Keynote Sinter Return, Sintering Performance and Decarbonisation</i> <i>Liming Lu¹, Tim Evans², Kenta Takahara³</i> <i>1. CSIRO Mineral Resources, Brisbane, Australia;</i> <i>2. Rio Tinto Technological Resources, Perth, Australia;</i> <i>3. JFE Steel Research Centre, Fukuyama, Japan</i>	Liming Lu
8:55-9:20	<i>Keynote Advanced Agglomeration Technology for Low-carbon Ironmaking in China</i> <i>Rui Deng^{1,2}, Deqing Zhu¹, Ziluo Chen²</i> <i>1. School of Minerals Processing and Bioengineering, Central South University, Changsha 410083, Hunan, China;</i> <i>2. Sinosteel Equipment and Engineering Co., Ltd., Beijing 100080, China</i>	Deqing Zhu 朱德庆
9:20-9:40	<i>Development of iron ore agglomeration process for low-carbon ironmaking</i> <i>SangHan Son, Minkyu Wang¹, Byungjun Chung¹</i> <i>1. POSCO Ironmaking Research Group, Pohang, South Korea</i>	SangHan Son
9:40-10:00	<i>Research on the Preparation Techniques for Flux Pellets of Chromium-Bearing Vanadium Titanomagnetite</i> <i>Xiangbiao Yu^{1,2,3,4}; Tianyuan Li^{1,4}; Gongjin Cheng^{1,2,3,4}; Xiangxin Xue^{1,2,3,4,*}; He Yang^{1,4}</i> <i>1. School of Metallurgy, Northeastern University, China</i> <i>2. Liaoning Key Laboratory of Recycling Science for Metallurgical Resources, PR China</i> <i>3. Northeastern University Innovation Research Institute of Vanadium and Titanium Resource Industry Technology, China</i> <i>4. Innovation Research Institute of Comprehensive Utilization Technology for Vanadium-Titanium Magnetite Resources in Liaoxi District, China</i>	Xiangbiao Yu 喻相标
10:00-10:20	<i>Effect of FeCr₂O₄ on the Formation and Mechanical Properties of Calcium Ferrite</i> <i>Ju Xu^{1,2,3}, Guojun Ma^{1,2,3,*}, Mengke Liu^{1,2,3}, Xiang Zhang^{1,2,3}, Dingli Zheng^{1,2,3}, Yunjie Li^{1,2,3}</i> <i>1. Key Laboratory for Ferrous Metallurgy and Resources Utilization of Ministry of Education, Wuhan University of Science and Technology, Wuhan 430081, China;</i> <i>2. Hubei Provincial Key Laboratory for New Processes of Ironmaking and Steelmaking, Wuhan University of Science and Technology, Wuhan 430081, China;</i> <i>3. Hubei Provincial Engineering Technology Research Center of Metallurgical Secondary Resources, Wuhan University of Science and Technology, Wuhan 430081, China.</i>	Ju Xu 徐菊
10:20-10:35 Tea Break		

10:35-11:00	Keynote Progressive increase of BRBF+IOCJ in the iron ore mixture: effects on sintering performance and sinter pores microstructure investigated by XCT <u>Alei Domingues</u>¹, Marcus Emrich¹, Wei Wang², Qingshi Song², Hao Zhou³ 1. Ferrous Technology Center (CTF), VALE S.A., Alameda Oscar Niemeyer 132, Vale do Sereno, Nova Lima MG Brasil; 2. VALE Metals (Shanghai) Co., Ltd., 52F BM Intercontinental Business center, 100 Yu Tong Road, Shanghai, China 3. Institute of Thermal Energy Engineering, Zhejiang university, 38 Zheda Road, Hangzhou, China	Alei Domingues
11:00-11:25	Keynote DEM Simulation of Iron Ore Mixing Behavior in Compound Driven High Shear Mixer <u>Dongcai Luo</u>¹, Renhao Tian¹, <u>Yang You</u>^{1*}, Xuwei Lv¹ 1. College of Materials Science and Engineering, Chongqing University, Chongqing 400044, China	Xuwei Lv 吕学伟
11:25-11:45	Study on low silicon sintering production in Ansteel Group <u>Jie Liu</u>^{1,2}, Libing Xu^{1,2}, Qiang Zhong^{3,*}, Simin Xiang³, Hui Zhang^{1,2}, Xun Jin^{1,2} 1. Iron and Steel Research Institute of Angang Group, Anshan 114009, Liaoning, China 2. State Key Laboratory of Metal Material for Marine Equipment and Application, Anshan 114009, Liaoning, China 3. School of Minerals Processing and Bioengineering, Central South University, Changsha 410083, Hunan, China	Jie Liu 刘杰

Session A2-Sintering and Pelletizing

Wednesday, 27 August 2025, GMT+8 (Beijing) 13:30-17:15 Room A		Speaker
13:30-13:55	Keynote Progress of Shougang Pelletizing Technology and Its Application in Low-Carbon Metallurgy <u>Weidong Zhang</u>¹, <u>Yunqing Tian</u>^{2,*}, Gele Qing², Jinglin Song², Li Zhu² Li Ma² 1. Shougang Group Co., Ltd., China; 2. Research Institute of Technology, Shougang Group Co., Ltd., China	Weidong Zhang, Yunqing Tian 张卫东, 田筠清
13:55-14:20	Keynote Fluxed pellet laboratory research and industrial application in Ansteel <u>Ming shun ZHOU</u>^{1,2}, En jian HOU³, Guang YANG³, Rui DENG⁴, Ziluo CHEN⁴, Wei REN^{1,2}, Xian chun LI⁵, Li ming LU⁶ 1. State Key Laboratory of Metallic Material for Marine Equipment and Applications, China; 2. Iron and Steel Research Institute of Angang Group, China; 3. Anshan Iron & Steel Group Co. LTD. Donganshan Sintering plant, China; 4. Sinosteel Equipment and Engineering Co., Ltd., China; 5. School of Chemical Engineering, University of Science and Technology Liaoning, China; 6. CSIRO Mineral Resources, 1 Technology Court, Australia	Mingshun Zhou 周明顺

14:20-14:40	Review and outlook on the progress of Shougang's sintering technology in recent years <u>Yapeng Zhang</u>^{1,2}, Wen Pan^{1,2}, Zhixing Zhao^{1,2}, Huaiying Ma^{1,2}, Dongqing Wang^{1,2}, Jingjun Zhao³, Shuhai Ou⁴, Yongjun Liu³, Wang Zhu⁴, Peicheng Gao⁴ 1. Shougang Group Co., LTD Research Institute of Technology, Beijing 100043, P. R. China; 2. Beijing Key Laboratory of Green Recyclable Process for Iron & Steel Production Technology, Beijing 100043, P. R. China; 3. Shougang Jingtang United Iron & Steel Co., Ltd, Tangshan 063200, P. R. China. 4. Shougang Qian'an Iron and Steel Company, Tangshan 063200, P. R. China	Yapeng Zhang 张亚鹏
14:40-15:00	Metallurgical Properties of High-Titanium-Vanadium Magnetite Concentrate for Gas-Based Shaft Furnace <u>Yixi Zhang</u>¹, <u>Shuai Wang</u>¹, Feng Chen¹, Mao Chen^{2, 3}, Lingzhi Yang¹, Yufeng Guo^{1*}, Tao Jiang¹ 1. School of Minerals Processing and Bioengineering, Central South University, Changsha 410083, Hunan, China; 2. Pangang Group Research Institute Co., Ltd, Panzhihua 617000, Sichuan, China; 3. State Key Laboratory of Comprehensive Utilization of Vanadium and Titanium Resources, Panzhihua 617000, Sichuan, China	Shuai Wang 王帅
15:00-15:20	An Investigation on Deep-Bed Sintering with Hydrogen-Rich Gas Injection: Synergistic Roles of Steam and Oxygen-Enriched Conditions <u>Rui Wang</u>^{1,2}, Junjie Zeng^{1,2}, Chao Fang^{1,2}, Wangping Wu^{1,2}, YuXiao Xue^{1,2}, Xuwei Lv^{1,2*}, Jian Xu^{1,2} 1. College of Materials Science and Engineering, Chongqing University, Chongqing, 400044, China.; 2. Chongqing Key Laboratory of Vanadium–Titanium Metallurgy and New Materials, Chongqing University, Chongqing 400044, China	Rui Wang 王锐
15:20-15:35 Tea Break		
15:35-15:55	Keynote Development and Application of Cascaded Utilization of Low and Medium Temperature Flue Gas in Circular Cooler <u>Wen Pan</u>^{1,2}, Zhixing Zhao^{1,2}, Yapeng Zhang^{1,2}, Jianwei Yin³, Yangsheng Song³ 1. Research Institute of Iron & Steel, Shougang Group Co., LTD Research Institute of Technology, Beijing 100043, P. R. China; 2. Beijing Key Laboratory of Green Recyclable Process for Iron & Steel Production Technology, Beijing 100043, P. R. China; 3. Rio Tinto Group, Level 23, 152 St Georges Terrace, Perth, WA 6000, Australia	Wen Pan 潘文
15:55-16:15	Keynote Numerical Analysis of Hydrogen Injection in Fuel Layer Distribution Sintering Process <u>Xiaobo Yang</u>^{1,2}, Jinhu Zhang^{1,2}, Jin Xu^{1,2}, Sida Liu^{1,2}, <u>Zongyan Zhou</u>^{1,2,*} 1. Jiangxi Provincial Key Laboratory of Particle Technology, Jiangxi University of Science and Technology, Nanchang, 330013 2. Center for Intelligent Research on Mining and Metallurgical Processes, International Innovation Institute, Jiangxi University of Science and Technology, Nanchang, 330013	Zongyan Zhou 周宗彦

16:15-16:35	Understanding the metallurgical performance of cold-agglomerated pellets in blast furnace conditions <u>Matthew Bennett</u> , Richard Joyce, Peter Warren Binding Solutions Limited, Cyan Building, MPI, Eston Road, Middlesbrough, TS6 6US, United Kingdom	Matthew Bennett
16:35-16:55	Softening and melting properties of vanadium titanomagnetite burden for increasing TiO₂ content in slag <u>Kaihui Ma</u> ¹ , Lingling Liu ¹ , Peng Hu ¹ , Wenbo Tang ¹ , Linhe Tao ² , Xiaoliang Jia ² , Shuxing Qiu ¹ , Mao Chen ^{1*} 1. State Key Laboratory of Vanadium and Titanium Resources Comprehensive Utilization, Pangang Group Research Institute Co., Ltd., Chengdu 610031, Sichuan, China 2. Pangang Group Xichang Steel&Vanadium Co., Ltd., Xichang 615000, Sichuan, China	Kaihui Ma 马凯辉
16:55-17:15	Effect of the amount of magnetic concentrate addition on the sintering process <u>Huaiying Ma</u> ^{1,2} , Jianfeng Zhou ³ , Xiaolei Li ³ , Peicheng Gao ³ , Wen Pan ^{1,2} , Yapeng Zhang ^{1,2} 1. Research Institute of Technology, Shougang Group Corporation, China 2. Beijing key Lab of Green Recyclable Process for Iron & steel Production Tech., China 3. Beijing Shougang Co., Ltd., China	Huaiying Ma 马怀营

Session A3-Automation and digitalization

Thursday, 28 August 2025, GMT+8 (Beijing) 8:30-11:45 Room A		Speaker
8:30-8:55	Keynote Online calculation and monitoring system of blast furnace operation furnace profile based on data and mechanism dual drive <u>Zhen Zhang</u> ¹ , Jue Tang ^{1,2 *} , <u>Quan Shi</u> ¹ , <u>Mansheng Chu</u> ^{1,3} 1. School of Metallurgy, Northeastern University, Shenyang, 110819, Liaoning, China; 2. Engineering Research Center of Frontier Technologies for Low-Carbon Steelmaking (Ministry of Education), Shenyang, 110819, Liaoning, China; 3. Liaoning Low-Carbon Steelmaking Technology Engineering Research Center, Northeastern University, Shenyang, 110819, Liaoning, China	Mansheng Chu 储满生
8:55-9:20	Keynote Research on Integrated Ore Blending Technology Based on Multi-objective System Optimization <u>Gang Wang</u> ¹ , Muming Li ¹ , Maocheng He ¹ , Feifei Lai ¹ , Zhibin Hong ¹ , Xuwen Xiao ¹ 1. CISDI Engineering Co. Ltd., Chongqing 401122, China	Gang Wang 王刚
9:20-9:40	Integrating Mechanistic Modeling with Attention-Enhanced GRU Networks to Predict Molten Iron and Slag Quality Indices of Blast Furnaces <u>Guanwei Zhou</u> , Henrik Saxén Process and Systems Engineering Lab, Åbo Akademi University, Finland	Guanwei Zhou 周冠伟

9:40-10:00	Practice and Consideration on Intelligent Construction of Angang Coking Production Line <u>Chao Wang</u>^{1,2}, <u>Feng Zhao</u>³, <u>Haidan Wang</u>⁴, <u>Xiushi Gan</u>^{1,2}, <u>Fuxin Li</u>^{1,2}, <u>Daichao Hu</u>^{1,2} 1. State Key Laboratory of Metal Material for Marine Equipment and Application, Anshan 114009, Liaoning, China; 2. Ansteel Iron & Steel Research Institutes, Anshan 114009, Liaoning, China; 3. General Coking Plant of Angang Steel Co., Ltd., Anshan 114021, Liaoning, China; 4. Angang Steel Co., Ltd., Anshan 114021, Liaoning, China	Chao Wang 王超
10:00-10:20	Development and application of digital twin model for blast furnace tuyere based on online CFD simulation <u>Wenxuan Xu</u>^{1,3}, <u>Fuming Zhang</u>^{2,3}, <u>Gele Qing</u>^{1,3}, <u>Yanglong Li</u>^{1,3}, <u>Jianlong Wu</u>^{1,3} 1. Research Institute of Technology, Shougang Group Co., Ltd., No. 69, Yangzhuang Road, Shijingshan District, Beijing, 100043, P. R. China; 2. Chief Engineering Office, Shougang Group Co., Ltd., No. 69, Yangzhuang Road, Shijingshan District, Beijing, 100043, P. R. China; 3. Beijing Key Laboratory of Green Recyclable Process for Iron and Steel Production Technology, No. 69, Yangzhuang Road, Shijingshan District, Beijing, 100043, P.R. China	Wenxuan Xu 徐文轩
10:20-10:35 Tea Break		
10:35-11:00	Keynote Prediction of blast furnace gas utilization rate based on data governance and intelligent driving <u>Lei Fang</u>¹, <u>Yonghui Liu</u>¹, <u>Jue Tang</u>^{2,3,*}, <u>Zhifeng Zhang</u>², <u>Mansheng Chu</u>^{2,3} 1. Nanjing Iron and Steel Group Co., Ltd., Nanjing, 211800, Jiangsu, China; 2. School of Metallurgy, Northeastern University, Shenyang, 110819, Liaoning, China; 3. Engineering Research Center of Advanced Technology of Low Carbon Steel, Ministry of Education, Shenyang, 110819, Liaoning, China	Lei Fang 方磊
11:00-11:25	Keynote Intelligent Diagnosis and Analysis of Taphole Status Based on Intelligent Sensing of Opening Depth and Mud - injection Quantity Information <u>Yang Zhang</u>¹, <u>Hongwei Guo</u>¹, <u>Dong Chen</u>¹, <u>Bingji Yan</u>¹, <u>Helan Liang</u>¹, <u>Hao Xu</u>¹ 1. Shagang School of Iron and Steel Technology, Soochow University, Suzhou 215021, Jiangsu, China	Hongwei Guo 国宏伟
11:25-11:45	Modeling and Estimation of Operational Time Delay for Hearth Thermal Response in Blast Furnace Ironmaking <u>Zenghao Liu</u>^{1,2}, <u>Jiansheng He</u>³, <u>Qingyun Huang</u>³, <u>Xuwei Lv</u>^{1,2} 1. State Key Laboratory of Mechanical Transmissions, Chongqing University, No. 174 Shazheng Street, Shapingba District, Chongqing 400044, China 2. College of Materials Science and Engineering, Chongqing University, No. 174 Shazheng Street, Shapingba District, Chongqing 400044, China 3. School of Metallurgy and Materials Engineering, Chongqing University of Science and Technology, No. 20 University Town East Road, Shapingba District, Chongqing 401331, China	Zenghao Liu 刘增昊
11:45-12:05	3D Numerical Modelling of Heat and Mass Transfer for Sustainable Ironmaking in the Blast Furnace <u>Ayush Badaya</u>^{1,*} and <u>Govind S Gupta</u>¹ 1. Department of Materials Engineering Indian Institute of Science (IISc), India	Ayush Badaya

Session A4 - CO2 reduction and energy saving + Graduate Student Presentation

Thursday, 28 August 2025, GMT+8 (Beijing) 13:30-17:10 Room A		Speaker
13:30-13:55	Keynote Enhancing Ironmaking Performance and Reducing Emissions through Tecnored Briquetting Technologies <u>Anderson Agra</u>¹, Christian Manera², Manoel Vítor Borel Gonçalves¹, Clarissa Figueiró¹, Lucas Fialho³, Guilherme Gonçalves⁴, Ronald Oliveira⁵, Stephen Potter⁶ 1. R&D Expert, Tecnored SA, Brazil; 2. R&D Analyst, Tecnored SA, Brazil; 3. Process Coordinator, Tecnored SA, Brazil; 4. R&D Manager, Tecnored SA, Brazil; 5. COO, Tecnored SA, Brazil; 6. CEO, Tecnored SA, Brazil	Anderson Agra
13:55-14:20	Keynote Experimental study on roasting of carbon-containing iron ore pellets with externally added waste wood in rotary kiln <u>Chuan Wang</u>^{1,2}, Junyi Wu³, Andrey Karasev², Xiaojun Ning³, Guangwei Wang³ 1 Swerim AB, Process Metallurgy, 97125, Luleå, Sweden 2 Material Science and Engineering, KTH Royal Institute of Technology, SE-100 44 Stockholm, Sweden 3 School of Metallurgical and Ecological Engineering, University of Science and Technology Beijing, Beijing 100083, China	Chuan Wang
14:20-14:40	Co-production of steel and chemicals to benefit both sectors' carbon emissions <u>Yunling Cao</u>^{1*}, Yankui Li¹, Dongfang Tian¹, Yu Tan¹ 1. Beijing Peking University Pioneer Technology Corporation Ltd., China;	Yunling Cao 曹允玲
14:40-15:00	Preparation and flame retardant mechanism of steel slag based flame retardant film <u>Junxiang Guo</u>^{1, 2*}, Jianlong Wu^{1, 2}, Mingyuan Gu^{1, 2}, Youhao Yin^{1, 2}, Jirigele Qinggele^{1, 2}, Tongbin Wang³ 1. Shougang Group Research Institute of Technology, Beijing, China; 2. Beijing Key Laboratory of Green Recyclable Process for Iron & Steel Production Technology, China; 3. Shougang Jingtang Limited Iron & Steel Co., LTD, China	Junxiang Guo 郭俊祥
15:00-15:20	Experimental Study on Biochar Gasification by Carbon Dioxide to Produce Reducing Gas for Smelting <u>Wei Wang</u>¹, Gele Qing, Xiaoran Song 1. Research Institute of Technology, Shougang Group Corporation, China	Wei Wang 王伟
15:20-15:35 Tea Break		
15:35-15:55	Carburization kinetics of the Fe by CO – H₂ Gas Mixture at 1073K <u>Dahan Jo</u>¹, Youngjae Kim¹, Hyuk Kim²	Dahan Jo

	1. Department of Material Science & Engineering, Inha University, Michuhol-gu, Incheon, Korea 22212 2. R&D strategy planning group, Hyundai steel, Songak-Eup, Dangjin, Korea 31719	
15:55-16:15	Induction Heating-Assisted Hydrogen Direct Reduction: Kinetic Analysis and Process Energy Evaluation Zeng Liang¹, Kejiang Li¹, *, Jianliang Zhang¹, Alberto N. Conejo¹ 1. School of Metallurgical and Ecological Engineering, University of Science and Technology Beijing, Beijing 100083, P.R. China	Zeng Liang 梁曾
16:15-16:35	Effect of MgO, FeO and basicity on dissolution kinetic of CaO in blast furnace slag systems Jasung Lee¹*, Sunghee Lee², Youngjae Kim¹ 1. Department of Material Science & Engineering, Inha University, Korea¹ 2. Low Carbon Iron and Steel Making R&D Center, POSCO, Pohang, Korea	Jasung Lee
16:35-16:55	An XGBoost-Based Model for Temperature Prediction in Rotary Hearth Furnaces: Incorporating Mechanistic and Temporal Factors Qingxuan Luo¹, Shenglong Jiang², Yang You¹, Zhixiong You¹, Yuanling Zhang³ 1. College of material science and engineering, Chongqing University, China 2. School of automation, Chongqing University, China 3. Baowu Group Environmental Resources Technology Co., Ltd., China	Qingxuan Luo 罗庆暄
16:55-17:15	A novel technology of co-injecting hydrogen and biomass (CoHB) in blast furnaces for a sustainable carbon-neutral ironmaking Ming Jiang Gan, Yiran Liu and Yansong Shen* School of Chemical Engineering, University of New South Wales, Sydney, NSW 2052, Australia	Ming Jiang Gan

Session B1- Cokemaking

Wednesday, 27 August 2025, GMT+8 (Beijing) 8:30-12:05 Room B		Speaker
8:30-8:55	Keynote Development of High Strength Coke from Non-or-slightly Caking Coal by Pulverization and Compaction Sara Arakawa¹, *, Takashi Matsui², Yusuke Dohi², Tetsuya Yamamoto² 1. JFE Steel Corp., 1, Kawasaki-cho, Chuo-ku, Chiba, Japan; 2. JFE Steel Corp., 1, Kokan-cho, Fukuyama, Hiroshima, Japan	Sara Arakawa
8:55-9:20	Keynote Effect of coke quality on tuyere coke of 5500m³ blast furnace Dongtao Li^{1,2}*, Yang Liu^{1,2}, Xin Dai^{1,2}, Deying Guo^{1,2}, Weichun Zhu^{1,2} 1. Shougang Research institute of technology, Beijing 100043, China; 2. Beijing Key Laboratory of Green Recyclable Process for Iron and Steel Production Technology, Beijing 100043, China	Dongtao Li 李东涛
9:20-9:45	Keynote Multi-scale characterization of coal macerals in pyrolysis process Shengfu Zhang^{1,2}*, Yucen Kuang^{1,2}, Chenguang Bai^{1,2} 1. College of Materials Science & Engineering, Chongqing University, Chongqing 400044, China; 2. Chongqing Key Laboratory of Vanadium-Titanium Metallurgy & Advanced Materials, Chongqing University, Chongqing 400044, China	Shengfu Zhang 张生富

9:45-10:05	Reaction mechanism of coke loss in coke dry quenching system <u>Rongguang Xu</u> ^{1,2 *} , Yuanbo Song ³ , Wenbin Wang ³ , Shaokui Guan ⁴ , Hailong Huang ⁴ 1. Beijing Key Laboratory of Green Recyclable Process for Iron & Steel Production Technology, Beijing 100043, China; 2. Research Institute of Technology, Shougang Group Co., Ltd., Beijing 100043, China; 3. Tangshan Shougang Jingtang Xishan Coking Co., Ltd., Tangshan 063200, Hebei, China; 4. Qian'an Zhonghua Coal Chemical Co., Ltd., Qian'an 064404, Hebei, China	Rongguang Xu 徐荣广
10:05-10:25	Prediction model of coke quality based on coal-forming factors <u>Yue Wang</u> ^{1,*} , Keliang Pang ¹ , Wei Xia ² , Haotian Wu ¹ , Zhiyuan Gu ¹ , Hua Zhao ³ 1. Ansteel Beijing Research Institute Co. LTD, Beijing 102200, China; 2. Bayuquan Branch of Angang Steel Co., Ltd., Yingkou 115007, Liaoning, China; 3. Ansteel Iron & Steel Research Institutes, Anshan 114009, Liaoning, China	Yue Wang 王越
10:25-10:40 Tea Break		
10:40-11:05	Keynote Reactivity and degradation mechanism of coke in simulated H2 blast furnace reaction conditions <i>Behnaz Rahmatmand¹, Salman Khoshk Rish¹, Hannah Lomas¹, Lauren North², Arash Tahmasebi^{1,*}</i> 1. BHP Centre for Sustainable Steelmaking Research, Newcastle Institute for Energy and Resources (NIER), University of Newcastle, Callaghan, NSW 2308, Australia; 2. BHP, Brisbane, QLD 4000, Australia	Arash Tahmasebi
11:05-11:30	Keynote Key Structural and Property Differences Between Stamping-Charged and Top-Charged Coke <u>Kejiang Li</u> ^{1,*} , Feng Zhou ¹ , Jianliang Zhang ^{1,2} 1. School of Metallurgical and Ecological Engineering, University of Science and Technology Beijing, Beijing 100083, P.R. China; 2. School of Chemical Engineering, The University of Queensland, St Lucia, QLD 4072, Australia.	Kejiang Li 李克江
11:30-11:50	Analysis and Consideration on Quality and Efficiency Optimization of CDQ Based on Full Lifecycle Management Xiushi Gan ^{1,2*} , Jian Wang ³ , Haidan Wang ⁴ , <u>Chao Wang</u> ^{1,2} , Shibin Hou ³ , Daichao Hu ^{1,2} 1. Electro-Mechanics & Materials College, Dalian Maritime University, Dalian 116026, Liaoning, China; 2. Research Centre on Tools, Materials and Processes, 81013 Albi CT cedex 09, France	Chao Wang 王超
11:50-12:10	The Development Direction of Chinese Coking Industry Under the New Situation Lie Xu ¹ , <u>Jian Kang</u> ^{2, *} 1. Huatai Yongchuang (Beijing) Tech. Co., Ltd., Beijing 101111, China; 2. Anshan Huatai Environmental Energy Engineering Technology Co., Ltd., Anshan 114001, Liao Ning, China	Jian Kang 康健

Session B2- Cokemaking +Blast Furnace Ironmaking-Maintenance and Performance

Wednesday, 27 August 2025, GMT+8 (Beijing) 13:30-17:05 Room B		Speaker
13:30-13:55	Keynote Quantifying biochar interactions with coal for coke making <u>Lauren Williamson</u> ^{1*} , Richard Sakurovs ¹ & Aedita Crouch ¹ 1.CSIRO Mineral Resources, Queensland Centre for Advanced Technologies, Brisbane; QLD 4069 Australia	Lauren Williamson
13:55-14:20	Keynote Quantitative Analysis and Optimisation of Coke Microstructure <u>Edward Bissaker</u> ^{1,*} , David Jenkins ¹ , Arash Tahmesebi ¹ , Bishnu Lamichhane ² , Merrick Mahoney ¹ 1. BHP Centre for Sustainable Steelmaking, The University of Newcastle, Australia 2. School of Information and Physical Sciences, The University of Newcastle, Australia	Edward Bissaker
14:20-14:45	Keynote Coal Blending and Coke Quality Characteristics in Top-charging, Stamp-Charging, and Heat Recovery Coke Ovens and Their Technical Measures for Blast Furnace Ironmaking <u>Meng Qingbo</u> ^{1,2,*} , Zhang Zhiyong ² , Xu Xiuli ¹ , Gao Lidong ² , Jiang Yu ¹ 1. Sinosteel Anshan Research Institute of Thermo-Energy Co., Ltd., China 2. Henan Iron and Steel Group Co., Ltd., China	Qingbo Meng 孟庆波
14:45-15:05	Coal coking correlation performance and coal blending coking Qi Wang ^{1,*} , Wenlin Xue ² , Huan Cheng ³ , Wenjia Hu ³ , <u>Weibo Tie</u> ¹ , Pei Wang ¹ 1.College of Materials and Metallurgy, University of Science and Technology Liaoning, Liaoning Anshan 114051, China 2.Today Think Tank Energy Limited, Shanxi Taiyuan 030024, China 3.College of Chemical Engineering, North China University of Science and Technology, Hebei Tangshan 063210, China	Weibo Tie 铁维博
15:05-15:25	Properly optimizing the 1/3 coke coal ratio is the key to achieving economic and efficient coke production Luying Xiao ^{1, 2} , Qingbin Yang ³ , <u>Huan Cheng</u> ^{4*} , Fei Liao ⁴ , Yinghua Liang ⁴ , Yuting Hao ⁴ 1. College of Metallurgy and Energy, North China University of Science and Technology, Tangshan 063210, Hebei, China; 2. College of Science, North China University of Science and Technology, Tangshan 063210, Hebei, China; 3. Hebei Coal & Coking Technology Innovation Center, Tangshan Shougang Jingtang Xishan Coking Co., Ltd., Tangshan 063200, Hebei, China; 4. College of Chemical Engineering, North China University of Science and Technology, Tangshan 063210, Hebei, China	Huan Cheng 程欢

15:35-16:00	<i>Keynote</i> Analysis of Solid Flow and Stress Field in Hydrogen-Enriched Blast Furnace Operation Dereje Degefa Geleta¹, Joonho Lee^{1*} 1. Department of Materials Science and Engineering, Korea University, 145 Anam-ro, Seongbuk-gu, Seoul 02841, Korea	Dereje Degefa Geleta
16:00-16:25	<i>Keynote</i> Theory and key technology for hearth self-repair of blast furnace Guangxiang Feng, Yanbing Zong, Xiaoyue Fan, <u>Kexin Jiao</u>[*] School of Metallurgical and Ecological Engineering, University of Science and Technology Beijing, Beijing, 100083, China	Kexin Jiao 焦克新
16:25-16:45	Blast Furnace Longevity and Low-Carbon Energy-Saving Technology <u>Zhifeng Hao</u>¹ 1. Baotou Andexinai New Material Co., Ltd.	Zhifeng Hao 郝志峰
16:45-17:05	Improvement of production index of Baosteel No. 4 BF after mid-term maintenance <u>Yulong Song</u>¹ 1. Ironmaking Plant, Baoshan Iron & Steel Co., Ltd.	Yulong Song 宋玉龙
17:05-17:25	Investigation of the damaged hot blast furnace shell in 5500m³ blast furnace <u>Jian Sun</u>^{1*,3}, Fuming Zhang², Kai Wang², Yong Zhang^{1,3}, Jianlong Wu^{1,3}, Wei Wang^{1,3} 1. Research Institute of Technology, Shougang Group Co., Ltd., Beijing 100043, China; 2. Shougang Group Co., Ltd., Beijing 100043, China; 3. Beijing Key Laboratory of Green Recyclable Process for Iron & Steel Production Technology, Beijing 100043, China	Jian Sun 孙健

Session B3 - Blast Furnace Ironmaking-Maintenance and Campaign Life

Thursday, 28 August 2025, GMT+8 (Beijing) 8:30-12:10 Room B		Speaker
8:30-8:55	<i>keynote</i> Mechanical properties and reduction behavior of self-reducing briquettes with biomass treated in different temperatures Paula Maria Gomes Cunha Leão^{1*}, Taís Birchall Zicker¹, Nicolas Henrique Alves Ferreira¹, Augusta Cerceau Isaac Neta¹, José Domingos Ardisson², <u>Maurício Covcevich Bagatini</u>¹ 1. Laboratory of Ironmaking Processes, Department of Metallurgical and Materials Engineering, Federal University of Minas Gerais (UFMG), Belo Horizonte, Brazil; 2. Laboratory of Mössbauer Spectroscopy, Department of Nanotechnology, Nuclear Technology Development Center (CDTN/CNEN), Belo Horizonte, Brazil	Maurício Covcevich Bagatini

8:55-9:20	Keynote Typical Problems and Countermeasures Faced by the Application of Biomass in Blast Furnace Ironmaking Dalong Guo¹, Kangzheng Meng², Rufei Wei², *, Hongming Long² <i>1. Beijing Beike Guowei Manufacturing Technology Co., Ltd, China;</i> <i>2. School of Metallurgical Engineering, Anhui University of Technology, China</i>	Hongming Long, Rufei Wei 龙红明, 魏汝飞
9:20-9:40	TRIZ Innovation Method Helps Ironmaking Field to Solve Key Technical Problems Degang Wang, Hao Guo, Mingshan Geng, Yanbo Feng, Wenjie Wei, Yingjie Cao Capital engineering & research incorporation Ltd., BEIJING 100176	Degang Wang 王得刚
9:40-10:00	The application of Carbon Composite Bricks in the blast furnace hearth and bottom Minghuan Li¹, Yifei Wang² <i>1. Gongyi Fifth Refractories Co. LTD</i> <i>2. School of Metallurgical and Ecological Engineering, University of Science and Technology Beijing, Beijing 100083, China;</i>	Yifei Wang 王漪霏
10:00-10:20	Development of mathematical optimization models of blast furnace system Yan Zhang^{1,2}, Haiyan Zheng^{1,2}, Zhen Wang^{1,2}, Weiling Zhang², Xin Jiang^{1,2}, Qiangjian Gao^{1,2}, Fengman Shen^{1,2} <i>1. Key Laboratory for Ecological Metallurgy of Multimetallurgical Mineral (Ministry of Education), Northeastern University, No.3-11, Wenhua Road, Heping District, Shenyang, Liaoning, 110819, P. R. China</i> <i>2. School of Metallurgy, Northeastern University, No.3-11, Wenhua Road, Heping District, Shenyang, Liaoning, 110819, P. R. China</i>	Yan Zhang 张严
10:20-10:35 Tea Break		
10:35-11:00	keynote Application of High-MgO Pellets as Blast Furnace Iron-containing Burden Leonardo Tomas da Rocha¹, Seongkyu Cho^{1,3}, Dohyeon Kim¹, Hwanjae Kim², Jung Ah Kim³, Sunghee Lee³, Sung-Mo Jung^{1*} <i>1. Graduate Institute of Ferrous & Eco Materials Technology (GIFT), POSTECH, South Korea;</i> <i>2. POSCO Ironmaking Department, Pohang, South Korea;</i> <i>3. POSCO Ironmaking Research Group - Technical Research Laboratories, Pohang, South Korea</i>	Leonardo Tomas da Rocha
11:00-11:20	Research and Application of Intelligent Precast Linings for main trough of Blast Furnace Shengli Tong¹, Peilin Li¹, Minghui Li², Haining Jia³, Bing Chang¹ <i>1. Jiangsu Baoyirui New Materials Co., Ltd.</i> <i>2. Anhui University of Technology</i> <i>3. Baosteel Zhanjiang Iron & Steel Co., Ltd.</i>	Peilin Li 李佩霖

11:20-11:40	The Relationship Between Tuyere Materials and Blast Furnace Conditions Yuansheng Wang^{1,*}, Qingxi Zhang²,Junfang Bao³,Huawei Zheng²,Zhao Song²,Chen Gong² 1. R&D Center of Wuhan Iron&Steel Co., LTD., Baosteel Central Research Institute, Wuhan 430083, Hubei, China; 2. Iron Plant, Wuhan Iron &Steel Co., Ltd., Wuhan 430083, Hubei, China; 3. Research Institute of Baoshan Iron and Steel Co., Ltd., China.	Yuansheng Wang 王元生
11:40-12:00	Research and Application of Repairing Technology of Large Blast Furnace Hearth Lining Fuming¹ Zhang[*], Guoli Jia², Yong Zhang³, Manxiang Zhao², Kexin Jiao⁴ 1. Shougang Group Co., Ltd. Beijing 100041; 2. Beijing Shougang Co., Ltd, Hebei Qian'an 064400; 3. Research Institute of Technology of Shougang Group Co., Ltd., Beijing 100041; 4. School of Metallurgical and Ecological Engineering, University of Science and Technology Beijing, Beijing 100083	Manxiang Zhao 赵满祥

Session B4 - CO₂ reduction and energy saving + Graduate Student Presentation

Thursday, 28 August 2025, GMT+8 (Beijing) 13:30-17:25 Room B		Speaker
13:30-13:55	Keynote Construction of the carbon-loop metallurgy technical route for iron&steel making process Hengdi Ye¹, Feng Yang¹ 1. ZHONGYE CHANGTIAN INTERNATIONAL ENGINEERING CO. LTD	Hengdi Ye, Feng Yang 叶恒棣, 杨峰
13:55-14:20	Keynote Resource utilization of steel slag of Sha Steel based on carbon sequestration Zuoqiao Zhu^{1*}, Junjie Ma¹, Haiwei Yao¹, Rui Mao² 1. Shagang Iron & Steel Research Institute of Jiangsu Province, Zhangjiagang 215625, China; 2. Shagang Steel of Jiangsu Province, Zhangjiagang 215625, China	Zuoqiao Zhu 朱祚峭
14:20-14:40	Study of alternative generation of energy in belt conveyors (chute) for iron ore Alfredo Sarkis¹ 1. Mineral Development Center, VALE SA – Santa Luzia/MG – Estrada BR-381, Brasil	Alfredo Sarkis

14:40-15:00	Recovering Na₂B₄O₇ and Na₂CO₃ hydrates via CO₂ Carbonation from Borate-Sodium-Rich Leachate <u>Jing Wang</u> , Shaoyang Chang, Boqi wang, Xinyue Wu, Jinliang Xiong, Mingjun Rao* School of Minerals Processing & Bioengineering, Central South University, Changsha, Hunan 410083, China	Jing Wang 王静
15:00-15:20	Application of Energy-saving Technical Standard of Oxygen-enriched Combustion in Iron-making <u>Guanjun Chen</u> 1, SUN Maolin ² , CHU Shiliang ³ , JI Pengfei ³ , DUAN Weibin ² 1.SHOUGANG Research Institute of Technology, China 2.Beijing Shougang Co., Ltd., China 3.Shougang Jingtang United Iron & Steel Limited Corp., China	Guan jun Chen 陈冠军
15:20-15:35 Tea Break		
15:35-15:55	How Hydrogen Injection Impacts Raceway Reacting Flow in An Ironmaking Blast Furnace: An Industrial-scale CFD-DEM Study <u>Panxing Kang</u> , Dan Xu, Yansong Shen* 1.School of Chemical Engineering, University of New South Wales, Sydney, NSW 2052, Australia	Panxing Kang
15:55-16:15	Transient-state three-dimensional CFD modelling of an industrial-scale ironmaking blast furnace <u>Jin Xie</u> , Xiaobing Yu and Yansong Shen* School of Chemical Engineering University of New South Wales, Australia	Jin Xie
16:15-16:35	Impact of Fuel Combustion Reactivity on CO Emissions and Combustion Efficiency in Sintering: A Numerical Simulation Study <u>LI Zhen</u> ¹ , Liu Zhengjian ¹ , Zhang Jianliang ¹ , Wang Yaozu ^{2, 3} 1. School of Metallurgical and Ecological Engineering, University of Science and Technology Beijing, Beijing 100083, China; 2. School of Intelligence Science and Technology, University of Science and Technology Beijing, Beijing 100083, China; 3. Institute of Artificial Intelligence, University of Science and Technology Beijing, Beijing 100083, China	Zhen Li 李震
16:35-16:55	Progress of hydrogen based direct reduction process <u>Qianqian Duan</u> ¹ , Guanghui Li ¹ , Jun Luo ² 1. School of Minerals Processing & Bioengineering, Central South University, Changsha, Hunan 410083, China; 2. College of Chemistry and Chemical Engineering, Central South University, Changsha, Hunan 410083, China	Qianqian Duan 段倩倩
16:55-17:15	A New Methodology for Multi- criteria Assessment of Coke's Metallurgical Behavior <u>Feng Zhou</u> ¹ , Xiangyu He ¹ , Kejiang Li ¹ , Jianliang Zhang ^{1,2,*} 1. School of Metallurgical and Ecological Engineering, University of Science and Technology Beijing, Beijing 100083, P.R. China; 2. School of Chemical Engineering, The University of Queensland, St Lucia, QLD 4072, Australia.	Feng Zhou 周峰

Session C1-Blast Furnace Ironmaking-Process and Performance

Wednesday, 27 August 2025, GMT+8 (Beijing) 8:30-12:05 Room C		Speaker
8:30-8:55	Keynote A Method for Determining the Blast Furnace Minimum Coke Rate D. (Frank) Huang, Marcelo Andrade, and Dave White ArcelorMittal USA Research LLC, 3001 East Columbus Drive, East Chicago IN USA	Frank Huang
8:55-9:20	Keynote Research and Application of Clean, High-Efficiency and High Blast Temperature Zhang Fuming^{1,*}, Li Fuchao², Li Naiyao³, Sun Jian⁴, Li Guanpeng², Yin Kunbao² <i>1. Shougang Group Co., Ltd.; 2. Zhengzhou Anec Industrial Co., Ltd.; 3. Beijing Shougang International Engineering Technology Co., Ltd.; 4. Technical Research Institute of Shougang Group Co., Ltd.</i>	Fuming ZHANG 张福明
9:20-9:40	Spotlight on Na₂O and K₂O behaviour in blast furnace operation Maarten Geerdes¹, Peter Warren^{2*} 1. Geerdes Advies, 1901AB 3B, Castricum, The Netherlands 2. Binding Solutions ltd, Middlesbrough, TS6 6US UK	Maarten Geerdes
9:40-10:00	Overview on the behavior of Sodium silicate compound in blast furnace process environment Marcus Botelho¹, Fábio Silva¹, Augusto de Sa¹, Vinícius Oliveira¹, Qingshi Song², Honggang Wang², Haibin Zuo³, Wenguo Liu³ 1. Ferrous technology Center (CTF), VALE S.A., Alameda Oscar Niemeyer 132, Vale do Sereno, Nova Lima MG Brasil; 2. VALE Metals Co., Ltd., 52F BM Intercontinental Business center, 100 Yu Tong Road, Shanghai, China 3. State Key Laboratory of Advanced Metallurgy, University of Science of Technology Beijing, Beijing, China	Vinícius Oliveira
10:00-10:20	Development and application of high-performance molded carbon blocks for large blast furnace Tongsheng Wang¹ 1. Wisdri Wupeng (Handan) New Lining Material Co.,Ltd., China	Tongsheng Wang 王同生
10:20-10:35 Tea Break		
10:35-11:00	Keynote INFLUENCE OF HYDROGEN INJECTION ON BASIC IRON ORE SINTER REDUCTION AT BLAST FURNACE WALL CONDITIONS Ahmed Abdelrahim¹, Aki Koskela¹, Mikko Iljana¹, Carmen van der Kroon², and Timo Fabritius¹ <i>1. Process Metallurgy Research Unit, University of Oulu, Pentti Kaiteran katu 1, 90014 Oulu, Finland;</i> <i>2. Tata Steel Europe, P.O. Box 10.000, 1970 CA IJmuiden, The Netherlands</i>	Ahmed Abdelrahim

11:00-11:25	Keynote Theory and Practice of High Lump Ratio Operation in Blast Furnace Yangsheng Song¹ * , Qi Wang ² 1. <i>Technical Marketing and R&D, Iron Ore, Rio Tinto, Perth 6000, Western Australia, Australia;</i> 2. <i>School of Materials and Metallurgy, University of Science and Technology Liaoning, Anshan 114051, Liaoning, China</i>	Yangsheng Song 宋阳升
11:25-11:45	Influence of Harmful Elements on the Metallurgical Properties of V-Ti Burden for Blast Furnace Xiaosen Dong^{1,2,*}, Kui Zheng¹, Peng Hu^{1,2}, Jian Xu², Hongen Xie¹ 1. <i>State Key Laboratory of Vanadium and Titanium Resources Comprehensive Utilization, Pangang Group Research Institute Co., Ltd., Panzhihua 617000, Sichuan, China;</i> 2. <i>College of materials science and engineering, Chongqing University, Chongqing 400044, China</i>	Xiaosen Dong 董晓森
11:45-12:05	Research and Application of Longevity Technology in High Heat Load Areas of Blast Furnace Yingjie Cao ^{1,*}, Siqing Qi¹, Chun-long Wang¹, 1. <i>Capital Engineering & Research Incorporation Ltd., China</i>	Yingjie Cao 曹英杰

Session C2 - Blast Furnace Ironmaking-Process and Performance

Wednesday, 27 August 2025, GMT+8 (Beijing) 13:30-17:25 Room C		Speaker
13:30-13:55	Keynote Towards lower coke rates in blast furnaces Maarten Geerdes ¹ , Ron Molenaar ² and Dimas Andrade³ 1. <i>Geerdes Advies, 1901AB 3B, Castricum, The Netherlands</i> 2. <i>Rolino, 1965AC 9, Heemskerk, The Netherlands</i> 3. <i>Danieli-Corus, Velsen, 1951ME 10000, The Netherlands</i>	Dimas Andrade
13:55-14:20	Keynote Shagang 5800 m3 blast furnace optimization with plate cooling system Du Ping¹, Wei Hongchaol, Lei Ming¹, Maarten Geerdes², Dimas Andrade² 1. <i>Jiangsu Shagang Group, Jiangsu, China,</i> 2. <i>Danieli-Corus, Velsen, The Netherlands.</i>	Du ping 杜屏
14:20-14:45	Keynote Consideration on Carbon Saturation R in Hot Metal of Blast Furnace Xiaohan Xu¹ 1. <i>Beijing Real Nonmetallic Materials Co. Ltd., China</i>	Xiaohan Xu 徐潇晗

14:45-15:05	Blast Furnace Pressure Variability: Cohesive Zone Effects and Gas Flow Dynamics Roberto Abreu^{1*}, Dimas Andrade¹ and Maarten Geerdes² 1. Danieli-Corus, POBox 10.000, 1970CA IJmuiden, Netherlands; 2. Geerdes Advies, 1901AB 3B, Castricum, The Netherlands	Maarten Geerdes
15:05-15:25	Study on the Metallurgical Performance Coupling of Coke and Ore and the Optimization of Comprehensive Raw Materials for Blast Furnace Xinyang Meng^{1,*}, Keliang Pang¹, Fujun Liu², Minmin Sun¹, Youzhi Zheng¹, Zhiyuan Gu¹, Haotian Wu¹, Chaoran Wan¹ 1. ANSTEEL BEIJING RESEARCH INSTITUTE CO., LTD, Beijing 116026, Beijing, China; 2. ANSTEEL IRON & STEEL RESEARCH INSTITUTE, Anshan 114009, Liaoning, China	Xinyang Meng
15:25-15:40 Tea Break		
15:40-16:05	Keynote Academic – industry cooperation in fundamental research on ironmaking for the Dutch steelmaking industry in the 21st century Yongxiang Yang^{1*}, Neslihan Dogan¹, Jan van der Stel² 1. Department of Materials Science and Engineering, Delft University of Technology, 2628 CD Delft, The Netherlands 2. Research and Development, Tata Steel, 1970 CA IJmuiden, The Netherlands	Yongxiang Yang
16:05-16:30	Keynote Qisunny Methodology: A Powerful Tool of Evaluating Ore-Coke Coupling Metallurgical Performance and Linking up with BF Process Qi Wang¹, Yangsheng Song², Tingle Li¹, Tim Evans² 1. School of Materials and Metallurgy, University of Science and Technology Liaoning, Anshan 114051, Liaoning, China; 2. Technical Marketing, Rio Tinto Iron Ore, Perth 6000 West Australia, Australia	Qi Wang 汪琦
16:30-16:50	Behavior of Iron Species During Reductive Soda-Ash Roasting of Bayan Obo Tailings Zhong Ai¹, Guanghui Li¹, Mingjun Rao^{1*}, Zhao Yang^{1,2}, Guoying Yan², Dan Wu², Zhongshuai Jia² 1. School of Minerals Processing & Bioengineering, Central South University, Changsha 410083, China; 2. Mining Research Institute of Baotou Steel (Group) corp., Baotou 014033, China	AI Zhong 艾忠
16:50-17:10	Raceway variation in low carbon emission blast furnace Mengmeng Ren[*], Jieyun Ma, Wenwen Liu, Zheng Xue, Ruimeng Shi, Junxue Zhao School of Metallurgical Engineering, Xi'an University of Architecture and Technology, Xi'an 710055, China	Mengmeng Ren 任萌萌
17:10-17:30	Blast furnace smelting with injection of coal gasification products Oleksii Merkulov^{1, 2} 1. Suzhou SITRI Welding Technology Research Institute Co., Ltd, Zhangjiagang, 215615, Jiangsu, China; 2. Iron and Steel Institute National Academy of Sciences of Ukraine, 49107, Dnipro, Ukraine	Oleksii Merkulov

Session C3 - Blast Furnace Ironmaking-Production and Operation + Direct Reduction and Smelting Reduction

Thursday, 28 August 2025, GMT+8 (Beijing) 8:30-12:05 Room C		Speaker
8:30-8:55	Keynote Iron Ore-Petcoke Briquettes Development for Blast Furnace Application <u>Beatriz Fausta Gandra</u> ^{1,*} ; Arthur Felipe Lino Oliveira ¹ ; Gerson Evaristo de Paula Junior ¹ ; Maurício Covcevich Bagatini ² ; Eduardo Osório ³ 1. Usinas Siderúrgicas de Minas Gerais S/A - Usiminas, Ironmaking Research and Development Team, Research and Development Center, Brazil 2. Federal University of Minas Gerais (UFMG), Laboratory of Ironmaking Processes, Department of Metallurgical and Materials Engineering, Brazil 3. Federal University of Rio Grande do Sul (UFRGS), Iron and Steel Making Laboratory (Lasid/PPGE3M), Brazil	Beatriz Fausta Gandra
8:55-9:20	Keynote Prediction of Real-time Visualization of Cohesive Zone in Blast Furnace with Operation Parameters Yufei Huang ¹ , Kui Zheng ² , Weicong Tu ¹ , Zhehan Liao ¹ , Qinghui Wu ¹ , Fuchuan Zhang ¹ , Jiating Rao ² , Cheng Pan ² , <u>Jian Xu</u> ^{1, *} 1. College of Materials Science and Engineering, Chongqing University, Chongqing 400044, P.R. China; 2. Pangang Group Research Institute Co., Ltd., Panzhihua, Sichuan 617000, P.R. China	Jian Xu 徐健
9:20-9:40	Solutions for Blast Furnace Refractory Materials under High productivity <u>Yang Xiao</u> , Libing Jiang, Yu Liu, Liang Zhang, Chaodong Wang, Xiaowei Zhang Dalian Comon Engineering Materials Co.,LTD, Dalian 116085, Liaoning, China	Yang Xiao 肖阳
9:40-10:00	The Reaction Behavior and Mineral Phase Transformation of Coke in a Blast Furnace <u>Ji Wu</u> ^{1*} , 2, Chunfeng Mu ³ , Zejian Xiao ⁴ , Xiushi Gan ^{1,2} , Zhe Jiang ^{1, 2} , Chao Wang ^{1,2} 1. State Key Laboratory of Metal Material for Marine Equipment and Application, China; 2. Ansteel Iron & Steel Research Institutes, Liaoning, China; 3. Coking Plant of Angang Steel Co., Ltd., Liaoning, China; 4. Manufacturing Management Department of Angang Steel Co., Ltd, China	Ji Wu 武吉
10:00-10:20	Numerical Simulation of Carbon Solution Loss in Ansteel No.2 Blast Furnace Keliang Pang ¹ , Kejiang Li ² , Youzhi Zheng ¹ , Xinyang Meng ¹ , <u>Minmin Sun</u> ^{1, *} , Jianliang Zhang ² 1. Ansteel Beijing Research Institute Co., Ltd., Beijing 102209, China 2. School of Metallurgy and Ecological Engineering, University of Science and Technology Beijing, Beijing 100083, China	Minmin Sun 孙敏敏
10:20-10:35 Tea Break		

10:35-11:00	Keynote Electrical Conductivity Measurement Relevant to DRI Smelting Slags Xuefan Zhou ¹ , Zhiming Shi ¹ , Ruwan Brell ² , Sheng Chew ² , Tim Evans ¹ , <u>Xiaodong Ma</u> ¹ 1. Julius Kruttschnitt Mineral Research Centre, Sustainable Minerals Institute, The University of Queensland, QLD 4068, Australia; 2. Future Technologies, BlueScope, Melbourne, Vic 3000, Australia	Xiaodong Ma
11:00-11:25	Keynote Bottlenecks and solutions for gas-based direct reduction development in China <u>Yonglong JIN</u> Institute of Strategy Research, HBIS	Yong long Jin 金永龙
11:25-11:45	Tecnored – A Sustainable Low-Carbon Technology for the Steelmaking Industry <u>Manoel Vítor Borel Gonçalves</u> ¹ , Anderson Agra ¹ , Clarissa Figueiró ¹ , Christian Manera ² , Lucas Fialho ³ , Guilherme Gonçalves ⁴ , Ronald Oliveira ⁵ , Stephen Potter ⁶ 1. R&D Expert, Tecnored SA, Brazil; 2. R&D Analyst, Tecnored SA, Brazil; 3. Process Coordinator, Tecnored SA, Brazil; 4. R&D Manager, Tecnored SA, Brazil; 5. COO, Tecnored SA, Brazil; 6. CEO, Tecnored SA, Brazil	Manoel Vítor Borel Gonçalves
11:45-12:05	Preparation of Ni, Cr, and Fe-bearing master alloy by smelting reduction a mixture of nickel laterite and chromite ore Deyang Xiao, Yue Li, Yuxiao Xue, <u>Zhixiong You</u> College of Materials Science and Engineering, Chongqing University, Chongqing 400044, China	Zhixiong You 游志雄

Session C4 - Direct Reduction and Smelting Reduction + Graduate Student Presentation

Thursday, 28 August 2025, GMT+8 (Beijing) 13:30-17:25 Room C		Speaker
13:30-13:55	Keynote Computational study of a direct reduction furnace with hydrogen-rich feed gas <u>Henrik Saxén</u> ¹ , Yandong Zhai ¹ , Carl Haikarainen ¹ , Marwa Mortadi ¹ , Lei Shao ² 1. Process and Systems Engineering, Åbo Akademi University, 20500 Turku, Finland; 2. School of Metallurgy, Northeastern University, Shenyang 110819, China	Henrik Saxén
13:55-14:20	Keynote Phase Transformations in the Reduction on Sillico-Ferrite of Calcium and Aluminum Haiwei An ¹ , Hao Guo ¹ , <u>Xin Jiang</u> ² , Yanbo Feng ¹ , Degang Wang ¹ , Fengman Shen ² 1. Capital Engineering & Research Incorporation Limited, Beijing 102600, China; 2. Northeastern University, Shen Yang 110819, Liaoning China	Xin Jiang 姜鑫

14:20-14:40	Assessment of Hydrogen and Pulverized Charcoal Injection as a Strategy for Partial Decarbonization in Large-Scale Blast Furnaces Giulio Antunes de Medeiros^{1,2}, Jose Adilson de Castro² 1. Companhia Siderúrgica Nacional (CSN), Volta Redonda 27269-900, Brazil; 2. Graduate Program on Metallurgical Engineering, Federal Fluminense University, Volta Redonda 27255-125, Brazil	Giulio Medeiros
14:40-15:00	A Three-interface Shrinking Core Model for Reduction of Hematite by Hydrogen at Moderate Temperature Devendra Nama¹, Sujan Hazra², Samik Nag², and Rahul Sarkar^{1*} 1. Department of Materials Science and Engineering, Indian Institute of Technology Kanpur, Kanpur, India 2. Ironmaking Research Group, Tata Steel Limited, Jamshedpur, India	Devendra Nama
15:00-15:20	Study on the sticking phenomenon in fluidized ironmaking and gas-based shaft furnace ironmaking processes Lei Guo¹, Kaidi Mu¹, Haojie Zheng¹, Zhancheng Guo¹ 1. State Key Laboratory of Advanced Metallurgy, University of Science and Technology Beijing, Beijing 100083, Beijing, China	Lei Guo 郭磊
15:35-15:55	Production Practice of Adding Scrap Steel to No.6 Blast Furnace in WISCO Shanshan Yu, Zhao Shuai, Lingkun Chen Baosteel Central Research Institute (Qingshan), China	Shanshan Yu 余珊珊
15:55-16:15	Numerical Analysis of Particle Distribution Continuity and the Impact of Particle Shape in Bell-Less Blast Furnace Charging Meng Li ^{1,*}, Yaowei Yu ², Henrik Saxén ¹ 1. Process and Systems Engineering Laboratory, Faculty of Science and Engineering, Åbo Akademi University, Åbo /Turku 20500, Finland; 2. State Key Laboratory of Advanced Special Steel, Shanghai Key Laboratory of Advanced Ferrometallurgy, School of Materials Science and Engineering, Shanghai University, Shanghai 200444, China	Meng Li
16:15-16:35	Numerical study on the injection of pre-reduced iron ore fines into a blast furnace Ting Shi¹, Yuting Zhuo¹, Yansong shen¹ 1.School of Chemical Engineering, University of New South Wales, Sydney, NSW 2052, Australia	Ting Shi
16:35-16:55	Molecular Insights into Bituminous Coal Pyrolysis: Bridging TG-MS Experiments and ReaxFF MD Simulations Zhen Sun¹, Kejiang Li¹, Jianliang Zhang^{1, 2*} 1. School of Metallurgical and Ecological Engineering, University of Science and Technology Beijing, 30th Xueyuan Road, Haidian District, Beijing 100083, China; 2. School of Chemical Engineering, The University of Queensland, St Lucia, QLD 4072, Australia	Zhen Sun 孙圳
16:55-17:15	Reaction mechanism of enhanced reduction of iron-bearing minerals in Bayan Obo mine by microwave pyrolysis of biomass Yuxia Hou¹, Yongli Jin¹, Jie Kang¹ 1.College of Rare Earth Industry,Inner Mongolia University of Science and Technology,Baotou 014010,China	Yuxia Hou 侯玉霞

Session D1 - Hydrogen (H₂)-based Ironmaking

Wednesday, 27 August 2025, GMT+8 (Beijing) 8:30-12:10 Room D		Speaker
8:30-8:55	Keynote Effect of H₂ mixed gas on the swelling behavior of iron ore pellets <u>Ko-ichiro Ohno</u> ¹ , Tatsuya Kon ¹ , Keisuke Fujihara ¹ , Yoshiko Nakahara ² , Kota Moriya ² , Sumito Ozawa ² 1. Dept. of Materials, Graduate School of Eng., Kyushu University, Motoooka 744, Nishiku, Fukuoka 819-0395, Japan; 2. Research Dept. of Carbon Neutral Process, JFE Steel Corporation, 1 Kawasakicho, Chuoku, Chiba 260-0835, Japan	Ko-ichiro OHNO
8:55-9:20	Keynote Practice Analysis of COG-based Shaft Furnace Process <u>Fengman Shen</u> ^{1,2} , Yan Zhang ¹ , Shuo Wang ¹ , Xiangyang Pan ¹ , Weiling Zhang ¹ , Haiyan Zheng ^{1,2} , Xin Jiang ^{1,2} , Jianqiang Gao ^{1,2} 1. Key Laboratory for Ecological Metallurgy of Multimetallc Mineral (Ministry of Education), Northeastern University, No.3-11, Wenhua Road, Heping District, Shenyang, Liaoning 110819, China; 2. School of Metallurgy, Northeastern University, No.3-11, Wenhua Road, Heping District, Shenyang, Liaoning 110819, China	Fengman Shen 沈峰满
9:20-9:40	Anglo American Premium Iron Ore Characterizations for High-efficiency Blast Furnace and DRI Operations <u>David Lin</u> ¹ , Italian Mashego ² , Jacques Muller ² , Phindile Mbele ² 1. Anglo American, Marketing, Collyer Quay, Singapore; 2. Anglo American, Technical Solutions - Value in Use, Roger Dyason Road, Pretoria, South Africa	Liquan Lin
9:40-10:00	Low Temperature Reduction Disintegration Mechanism of Self-fluxing Pellets in a Hydrogen Reduction Shaft Furnace <u>Koki Momma</u> ¹ , Taichi Murakami ¹ 1. Graduate School of Environmental Studies, Tohoku University 6-6-02, Aoba, Aramaki, Aoba-ku, Sendai, Miyagi, 980-8579, Japan	Koki Momma
10:00-10:20	Study on Characteristics and Kinetic Analysis of Direct Reduction of Pellet Powder with Ammonia <u>Li Li</u> ¹ , Hongwu Li ¹ , Yuejun Liu ¹ , Jianting Lin ¹ , Xianchun Li ¹ 1. School of Chemical Engineering, University of Science and Technology Liaoning	Li Li 李丽
10:20-10:35 Tea Break		
10:35-11:00	Keynote GOD control in multi-stage hydrogen reduction of limonite ore <u>Seong-Jin Kim</u> ¹ , Dohyeon Kim ¹ , Seongkyu Cho ² , Leonardo Tomas da Rocha ¹ and Sung-Mo Jung ¹ 1. Graduate Institute of Ferrous and Eco Materials Technology (GIFT), Pohang University of Science & Technology (POSTECH), Cheongam-ro 77, Pohang, South Korea; 2. Ironmaking Research Group, POSCO Technical Research Labs, Pokposarang-gil 8, Gwangyang, South Korea	Seong-Jin Kim

11:00-11:25	Keynote Hydrogen-based shaft furnace pellets preparation and high-efficiency reduction technology <i>Chenmei Tang¹, <u>Jian Pan</u>¹, Deqing Zhu¹, Zhengqi Guo¹, Congcong Yang¹, Siwei Li¹</i> <i>1. School of Minerals Processing and Bioengineering, Central South University, Changsha 410083, China</i>	Jian Pan 潘建
11:25-11:50	Keynote Digital Twin Comparison of CO and Hydrogen for Direct Reduced Iron Production <i><u>Pasquale Cavaliere</u></i> <i>University of Salento, Italy</i>	Pasquale Cavaliere
11:50-12:10	Hydrogen-rich Fuels Injection Effects on Furnace Pressure Drop in 5500 m³ Blast Furnace <i><u>Xiangfeng Cheng</u>¹, Gele Qing¹, Fuming Zhang², Guilin Wang¹, Chong Shao¹</i> <i>1. ShouGang Research Institute of Technology, Beijing 100043, China;</i> <i>2. Chief Engineer Office of Shougang Group Co., Ltd., Beijing 100041, China</i>	Xiangfeng Cheng 程相锋

Session D2 - Hydrogen (H₂)-based Ironmaking

Wednesday, 27 August 2025, GMT+8 (Beijing) 13:30-17:30 Room D		Speaker
13:30-13:55	Keynote Findings from Laboratory-scale Electric Smelting Furnace Experiments <i><u>Tom Honeyands</u>¹, Craig Garlick¹, Tejbir Singh¹, Khadijeh Paymooni¹, Nathan Barrett¹, Tuyen Nguyen¹, Damien O'Dea²</i> <i>1. BHP Centre for Sustainable Steelmaking Research, The University of Newcastle, Callaghan, NSW, 2308, Australia;</i> <i>2. BHP Marketing Sustainability, 480 Queen St, Brisbane, QLD, 4000, Australia</i>	Tom Honeyands
13:55-14:20	Keynote Fundamental and practical aspects of hydrogen reduction of iron ore <i><u>Liming Lu</u></i> <i>CSIRO Mineral Resources, Australia</i>	Liming Lu
14:20-14:40	Vale's Technological Innovations: Sustainability and Operational Efficiency in Iron Ore Beneficiation <i><u>Michelle Marques</u>¹, Klaydison Silva², Tatiane Gonçalves³, Ivan Pena³, Victor Padula⁴</i> <i>1. Vale S/A, Iron Ore Technical Manager of Mineral Technology;</i> <i>2. Vale S/A, Iron Ore Mineral Processing Department Team;</i> <i>3. Vale S/A, Iron Ore General Management of Development of Technical Solutions for Mineral Processing;</i> <i>4. Vale S/A, Iron Ore Mineral Processing Department Director</i>	Michelle Marques
14:40-15:00	UNSW Shen Lab Blast Furnace Modelling: Advanced CFD Blast Furnace Model and Platform Application - High Ratio of Pellet Operation <i><u>Ziguang Zhao</u>¹, Xiaobing Yu¹, Yansong Shen^{1*}</i> <i>1. Process Modelling and Optimisation of Reacting Flow, School of Chemical Engineering, University of New South Wales, Australia</i>	Ziguang Zhao

15:00-15:20	Effects of hydrogen-rich gas injection on blast furnace smelting and existing problems discussion <u>Shuhui Zhang*</u>, Qing Lyu , Ran Liu , Chenchen Lan , Yana Qie , Jianpeng Li College of Metallurgy and Energy, North China University of Science and Technology, China	Shuhui Zhang 张淑会
15:20-15:35 Tea Break		
15:35-16:00	Keynote Hydrogen Plasma Smelting Reduction: A Fast and Carbon-Free Pathway for Iron, Ferroalloy, and Stainless Steel Production <u>Baihaqi Hakim, Izzul Islam, Dale Tandersen, Abrar Taimullah, Yopi Hendrawan, Taufiq Hidayat, Zulfiadi Zulhan</u> Metallurgical Engineering, Faculty of Mining and Petroleum Engineering, Institut Teknologi Bandung, Indonesia	Zulfiadi Zulhan
16:00-16:25	Keynote DRI Carbon content control measures for hydrogen-based shaft furnace based on experiment and numerical simulation <u>Shaofeng Lu1, Yaozu Wang2,3, Jianliang Zhang1, Qiang Cheng1, Jiaqi Li4, Zhengjian Liu1</u> 1. School of Metallurgical and Ecological Engineering, University of Science and Technology Beijing, Beijing 100083, China; 2. School of Intelligence Science and Technology, University of Science and Technology Beijing, 100083 Beijing, China; 3. Institute of Artificial Intelligence, University of Science and Technology Beijing, 100083 Beijing, China; 4. School of Advanced Engineering, University of Science and Technology Beijing, 100083 Beijing, China	Zhengjian Liu 刘征建
16:25-16:50	Keynote Hydrogen-based shaft furnace technology is an important path for China's iron and steel industry to achieve green and low-carbon development <u>Xindong Wang, Xing Han</u> HBIS Group Co., Ltd., China	Xindong Wang, Xing Han 王新东, 韩星
16:50-17:10	Effect of Agglomeration structure on the Direct Reduction of Iron oxides <u>Pasquale Cavaliere1</u> 1. University of Salento, Italy	Pasquale Cavaliere
17:10-17:30	Ab Initio Molecular Dynamics with Enhanced Sampling for Reduction Mechanism of FeO Surfaces <u>Chunhe Jiang1, Kejiang Li2, Jianliang Zhang2,3</u> 1. Technical Support Center for Prevention and Control of Disastrous Accidents in Metal Smelting, University of Science and Technology Beijing, Beijing 100083, China 2. School of Metallurgical and Ecological Engineering, University of Science and Technology Beijing, Beijing 100083, China. 3. School of Chemical Engineering, The University of Queensland, St Lucia, QLD 4072, Australia.	Chunhe Jiang 姜春鹤

Session D3 - Hydrogen (H₂)-based Ironmaking

Thursday, 28 August 2025, GMT+8 (Beijing) 8:30-12:10 Room D		Speaker
8:30-8:55	Keynote Modelling and Design of Green Ironmaking Processes: Review and Challenges <u>Yansong Shen</u> ¹ <i>1. School of Chemical Engineering, University of New South Wales, Australia</i>	Yansong Shen 沈岩松
8:55-9:20	keynote Hydrogen-based direct reduction of industrial hematite pellets: An experimental investigation and reaction modeling <u>Leili Tafaghodi</u> <i>McMaster University, Canada</i>	Leili Tafaghodi
9:20-9:45	Keynote Comprehensive Utilization Strategies and Research Progress of Nickeliferous Laterite Resources <i>Jing Chen</i> ¹ , <i>Yuqi Zhong</i> ¹ , <i>Jing Wang</i> ¹ , <i>Jinliang Xiong</i> ¹ , <i>Xinyue Wu</i> ¹ , <u>Mingjun Rao</u> ^{1*} <i>1. School of Minerals Processing & Bioengineering, Central South University, China</i>	Mingjun Rao 饶明军
9:45-10:05	Improving Carburization Efficiency Using Biomass Gasification <u>Yubin Lee</u> ¹ , <i>Dongsoo Lee</i> ¹ , <i>Jisoo Lim</i> ¹ , <i>Dahan Cho</i> ² , <i>Youngjae Kim</i> ² , <i>Jong Oh Jo</i> ¹ <i>1. Hydrogen Reduction Technology Department team, R&D Center, Hyundai Steel, Republic of Korea</i> <i>2. Inha University, Materials Science & Engineering, Republic of Korea</i>	YUBIN LEE
10:05-10:25	H₂ Reducibility and Sticking Behaviour of Australian Ores in H₂ Fluidized Bed Reduction <u>Rou Wang</u> ¹ , <i>Matt Cole</i> ² , <i>Priscilla Tremain</i> ² , <u>Tom Honeyands</u> ¹ <i>1. BHP Centre for Sustainable Steelmaking Research, School of Engineering, The University of Newcastle, Callaghan, NSW, 2308, Australia;</i> <i>2. Priority Research Centre for Frontier Energy Technologies & Utilisation, The University of Newcastle, Callaghan, NSW, 2308, Australia.</i>	Tom Honeyands Rou Wang
10:25-10:40 Tea Break		
10:40-11:05	Keynote Softening and Melting Behaviour of Ferrous Burdens in Gas Compositions Representative of Hydrogen Enriched Blast Furnace Operation <u>Nathan Barrett</u> ¹ , <i>Evan Copland</i> ¹ , <i>Damien O'Dea</i> ² , <i>Tom Honeyands</i> ^{1,*} <i>1. BHP Centre for Sustainable Steelmaking Research, School of Engineering, The University of Newcastle, Callaghan, NSW, 2308, Australia;</i> <i>2. BHP, 480 Queen St, Brisbane, QLD, 4000, Australia</i>	Nathan Barrett
11:05-11:30	Keynote Emission Abatement Potential of DRI Shaft Furnace Integrated with ESF-BOF Process Route <i>Khadijeh Paymooni</i> ¹ , <i>Craig Garlick</i> ¹ , <i>Damien O'Dea</i> ² , <i>Andrew Gadd</i> ² , <u>Tom Honeyands</u> ¹ <i>1. BHP Centre for Sustainable Steelmaking Research, The University of Newcastle, Callaghan, NSW 2308, Australia</i> <i>2. BHP Marketing Sustainability, 480 Queen St, Brisbane Qld 4000 Australia</i>	Tom Honeyands

11:30-11:50	Blast Furnace Operation with Oxygen Pulse Injection and First Developments for Hydrogen Pulse Injection into the Blast Furnace Shaft <u>William Ross Edmond</u> ^{1*} , Rainer Klock ² , Hauke Bartusch ³ , Bartosz Smaha ⁴ 1. Primetals Technologies Ltd, 7 Fudan Way, Thornaby, Stockton-on-Tees, TS17 6ER, United Kingdom 2. thyssenkrupp AT.PRO tec GmbH, thyssenkrupp Allee 1, 45143 Essen, Germany 3. VDEh-Betriebsforschungsinstitut GmbH, Sohnstraße 69, 40237 Düsseldorf, Germany 4. thyssenkrupp Steel Europe AG, Kaiser-Wilhelm-Straße 100, 47166 Duisburg, Germany	William Ross Edmond
11:50-12:10	CFD study of hydrogen injection through tuyeres into ironmaking blast furnaces <u>Yuting Zhuo</u> University of New South Wales	Yuting Zhuo

Session D4-Graduate Student Presentation

Thursday, 28 August 2025, GMT+8 (Beijing) 13:30-17:25 Room D		Speaker
13:30-13:50	Process simulation of direct reduced iron production with carbon dioxide capture via calcium looping <u>Chuanbao Luan</u> ¹ , Haichuan Xu ² , Pengjun Cui ¹ , Liang Zeng ¹ 1. School of Chemical Engineering and Technology, Tianjin University, Tianjin 300072, China; 2. Linyi steel industry collaborative innovation center, Linyi 276004, Shandong, China	Chuanbao Luan 栾传宝
13:50-14:10	A CFD-DEM Model for Simulating Direct Reduction of Iron Ore <u>Haotian Liao</u> ¹ , Kejiang Li ^{1, *} , Jianliang Zhang ^{1, 2} 1. School of Metallurgical and Ecological Engineering, University of Science and Technology Beijing, 100083, Beijing, China; 2. School of Chemical Engineering, The University of Queensland, 4072 St Lucia, QLD, Australia	Haotian Liao 廖昊添
14:10-14:30	Study of mass flow and carbon reduction potential in low-carbon blast furnace with biomass -CO₂ syngas injection Jianliang Zhang, <u>Lian Ye</u> , Runsheng Xu [*] 1. School of Metallurgical and Ecological Engineering, University of Science and Technology Beijing, 100083, China	Lian Ye 叶涟
14:30-14:50	How Defect Evolution in Iron Oxides Modulates Iron Morphology <u>Qinghui Wu</u> ¹ , Shuai Wang ¹ , Jian Xu ^{1*} 1. College of Materials Science and Engineering, Chongqing University, Chongqing 400044, China	Qinghui Wu 武庆慧

14:50-15:10	Hydrogen-based reduction and magnetic separation of Bayan Obo Fe-Nb complex ore <u>Boqi Wang</u> ¹ , Jing Wang ¹ , Shaoyang Chang ¹ , Zhong Ai ¹ , Zhao Yang ^{1,2} , Guoying Yan ² , Dan Wu ² , Zhongshuai Jia ² , Mingjun Rao ¹ 1. School of Minerals Processing & Bioengineering, Central South University, Changsha 410083, Hunan, China; 2. Mining Research Institute of Baotou Steel (Group) Corp., Baotou 014003, China	Boqi Wang 王博琪
15:10-15:25 Tea Break		
15:25-15:45	Interfacial Behavior in the Reduction Process of Iron Ore Pellet by CH₄-H₂ <u>Yushan Bu</u> ¹ , Kejiang Li ¹ , Jianliang Zhang ^{1, 2,*} 1. School of Metallurgical and Ecological Engineering, University of Science and Technology Beijing, 100083, Beijing, China; 2. School of Chemical Engineering, The University of Queensland, 4072 St Lucia, QLD, Australia	Yushan Bu 卜雨杉
15:45-16:05	Meso-Scale Analysis and Crystal Phase Characterization of H₂/CO Reduced Iron Bonding Mechanisms in Fluidized Bed System <u>Zhang Jiehan</u> ¹ , Wang Linwei ¹ , Wang Shulin ¹ , Li Lize ² , Li Shiyuan ^{1,3,*} 1. School of Energy and Environmental Engineering, University of Science and Technology Beijing, Beijing 100083, China; 2. School of Materials Science and Engineering, University of Science and Technology Beijing, Beijing 100083, China; 3. State Key Laboratory of Iron and Steel Industry Environmental Protection, Beijing 102600, China	Jiehan Zhang 张洁涵
16:15-16:35	Development and application of key technology of copper-steel composite cooling stove <u>Songjian Shan</u> ¹ , Jianliang Zhang ¹ , Yanbing Zong ^{1*} , Ziping Guo ² , Dongdong Liu ² , Xiaodong Ji ² 1. School of Metallurgical and Ecological Engineering, University of Science and Technology Beijing, Beijing 100083, China; 2. Hebei Wanfeng Metallurgical Equipment Co., Ltd., Hebei 076250, China	Songjian Shan 单松建
16:35-17:05	Effect of air flow rates on CO emission in iron ore sintering process LIU Zhen ¹ , DAI Yushan ¹ , LIU Zhengjian ² , WANG Yaozu ³ , LI Sida ² 1. Sansteel Minguang Co., Ltd. Fujian, Fujian 365000, P. R. China; 2. School of Metallurgical and Ecological Engineering, University of Science and Technology Beijing, Beijing 100083, China; 3. Institute of Artificial Intelligence, University of Science and Technology Beijing, Beijing 100083, China	Sida Li 李思达