

Plenary Session 15th Dec. (Wed.) 08:00-12:30

大会特邀报告 12月15日(周三) 08:00-12:30

Chair 主持人 : Zhiling TIAN 田志凌

8:00-8:20	开幕致辞 Opening Ceremony		
8:20-8:40	合影 Photograph		
Schedule 日程	Presenter 报告人	Affiliation 单位	Title of Presentation 报告题目
8:40-9:10	Xinhua WANG 王新华	Steelmaking Committee of CSM, China 中国金属学会炼钢分会	Progress in enhancing the steelmaking production efficiency recently in China 近年来国内钢厂在提高炼钢生产效率方面的科技进步
9:10-9:40	Tetsuya NAGASAKA	Tohoku Univ., Japan 日 本东北大学	Solving the base metal crisis with novel technology for refining scrap 利用废钢精炼新工艺新技术解决基础金属材料面临的危机
9:40-10:10	Dong Joon MIN	Yonsei Univ., Korea 韩国延世大学	Technological approach to carbon neutrality in Korea's steel industry 韩国钢铁工业碳中和路径
10:10-10:30	茶歇 Tea Break		

Chair 主持人 : Xinhua WANG 王新华

Schedule 日程	Presenter 报告人	Affiliation 单位	Title of Presentation 报告题目
10:30-11:00	Hans Bodo LUENGEN	Steel Institute VDEh, Germany 德国钢铁协会	Challenges for the transformation of steel production to climate neutrality 钢铁生产向气候中和转型中的挑战
11:00-11:30	Dongyeop SHIN	POSCO, Korea 韩国浦项制铁	Experience of K-OBM for increase scrap ratio in POSCO 浦项制铁 K-OBM 转炉废钢使用现状
11:30-12:00	Jianliang ZHANG 张建良	Ironmaking Committee of CSM, China 中国金属学会炼铁分会	Low-carbon ironmaking & hydrogen metallurgy to achieve carbon neutrality 以碳中和为目的的低碳炼铁和氢冶金
12:00-12:30	Jianming HUA 华建明	China BaoWu Steel Group Corporation Limited, China 宝山钢铁 股份有限公司炼铁厂	Exploration and reflection on economic operation of iron-making under the constraint of "dual carbon" goals “双碳”约束条件下铁前工序“经济运行”的探索与思考

Raw materials/Ironmaking session 15th Dec (Wed.) 14:00-17:50

分会场：铁前及炼铁 12月15日(周三) 14:00-17:50

Theme:Hydrogen/low carbon ironmaking

Chairs :Zhenjian LIU Jian HOU

主题：氢气/低碳冶金

主持人：刘征建 侯健

Schedule 日程	Presenter 报告人	Affiliation 单位	Title of Presentation 报告题目
14:00-14:25	Eiki KASAI	Tohoku Univ., Japan 日本东北大学	*Toward Zero-Carbon Ironmaking Technology 向零碳炼铁技术迈进
14:25-14:50	Haifa XU 许海法	Baosteel Research Institute 宝钢中央研究院	*The Project Introduction of hydrogen rich carbon-recycling blast furnace of China Baowu 中国宝武富氢碳循环高炉项目介绍
14:50-15:15	Hiroshi NOGAMI	Tohoku Univ., Japan 日本东北大学	*Thermodynamic Analysis of Carbon Requirement of Ironmaking
15:15-15:40	Xuwei LYU 吕学伟	Chongqing Univ. 重庆大学	*Digital model for Iron Ore Sintering Process and Application 铁矿烧结过程数学模型及其应用
15:40-16:00	Guanpeng LI 李贯朋	Zhengzhou Anec Industrial Co., Ltd 郑州安耐克实业有限公司	Application of cone-column rotary cutting top burner for hot blast stove technology 锥柱旋切顶燃式热风炉技术应用

*为分会邀请报告 Keynote

Theme:low carbon technique

Chairs :Hongming LONG Jialong YANG

主题：降碳技术

主持人：龙红明 杨佳龙

Schedule 日程	Presenter 报告人	Affiliation 单位	Title of Presentation 报告题目
16:20-16:45	Johannes SCHENK	Montanuniversität Leoben, Austria 奥地利莱奥本矿业大学	*Decarbonisation of steel production in Europe - Status of hydrogen-based ironmaking 欧洲减碳钢铁生产—氢基炼铁工艺现状
16:45-17:10	Yansong SHEN	Univ. of New South Wales (UNSW), Australia 澳大利亚新南威尔士大学	*Process modelling of reacting flows and industry applications: Recent work of hydrogen injection processes in ironmaking blast furnaces 反应流过程建模及其工业应用：炼铁高炉中喷氢过程最新工作
17:10-17:30	Wei LUO 罗威	Wuhan Dinyeah Environ. Protection Engin. Techn. Co., LTD. 武汉鼎业环保工程技术有限公司	Quiet repair technology help safety production 不动火修复技术助力安全生产
17:30-17:50	Fanshuang MENG 孟凡双	General Ironmaking Plant, Angang Steel Co., Ltd. 鞍钢股份有限公司炼铁总厂	Development and application of low carbon hot blast stove technology

*为分会邀请报告 Keynote

Raw materials/Ironmaking session 16th Dec (Thu.) 8:30-17:45

分会场：铁前及炼铁 12月16日(周四) 8:30-17:45

Theme:low carbon technique

Chairs :Xuewei LYU Xiushi GAN

主题：降碳技术

主持人：吕学伟 甘秀石

Schedule 日程	Presenter 报告人	Affiliation 单位	Title of Presentation 报告题目
8:30-8:55	Hengli YE 叶恒棣	CIE International Engineering Co., Ltd. 中冶长天	*Low-carbon and Low-cost Technology for Integrated Remediation of Sintering Flue Gas 烧结烟气低碳低成本协同治理技术
8:55-9:20	Shigeru UEDA	Tohoku Univ., Japan 日本东北大学	*Property control of burden for low carbon operation of the blast furnace 低碳高炉操作中炉料的性能控制
9:20-9:45	Jian LI 李建	Baosteel Research Institute 宝钢中央研究院	*Research on microwave sintering technology of iron ore 铁矿石微波烧结技术探索
9:45-10:05	Shiyong XIAO 肖士永	Paul Wurth Metal Technology (Beijing) Co., Ltd. 西马克集团保尔沃特冶金技术(北京)有限公司	Turning Metals Green 向绿色金属转变

*为分会邀请报告 Keynote

Theme:long-life blast furnace and low emission

Chairs : Jianning CAO Hengli YE

主题：高炉长寿命及减排技术

主持人：曹建宁 叶恒棣

Schedule 日程	Presenter 报告人	Affiliation 单位	Title of Presentation 报告题目
10:30-10:55	Zhixin XIAO 肖志新	Baosteel Research Institute 宝钢中央研究院	*Study on damage process and mechanism of blast furnace cooling stove in late service 炉役后期高炉冷却壁损坏过程和机理研究
10:55-11:15	Yang XIAO 肖阳	Dalian Kemeng Engineering Materials Co., Ltd.大连科萌工程材料有限公司	New integration technology for BF maintenance from Dalian COMON 大连科萌高炉检修一体化新技术
11:15-11:35	Xi JIANG 姜曦	Chinese Society for Metals 中国金属学会	Brief analysis of 4000m ³ ultra-large blast furnace operation in China during 2020 2020年我国4000m ³ 特大型高炉运行情况浅析
11:35-12:00	Xiushi GAN 甘秀石	Iron & Steel Research Institutes of Ansteel Group Corp. 鞍钢钢铁研究院	*Theory and Practice of Longevity Technology of Large-scale Coke Dry Quenching System 大型干熄焦装置长寿化关键技术理论与实践
12:00-12:25	Liangyuan HAO 郝良元	Hesteel Group Central Iron & Steel Res. Ins. 河钢钢研	*Research on Big Data Intelligent Ironmaking Technology in HBIS Blast Furnace 河钢高炉大数据智能炼铁技术研究

*为分会邀请报告 Keynote

Theme:long-life blast furnace and low emission

Chairs : Jian LI Zhixin XIAO

主题：高炉长寿命及减排技术

主持人：李建 肖志新

Schedule 日程	Presenter 报告人	Affiliation 单位	Title of Presentation 报告题目
14:00-14:25	Jian Hou 侯健	Produ. & manuf. Depart. of HBIS Group Hansteel Comp. / Chongqing Univ. 河钢邯钢生产制造部铁前保障中心 / 重庆大学	* Industrial practice of increasing proportion of high Al ₂ O ₃ iron ores in blast furnace ironmaking process 高炉炼铁过程提升高铝铁矿配比的工业实践
14:25-14:50	Gele QING 青格勒	Shougang Research Institute of Technology 首钢技术研究院	*Preparation of high-quality iron ore pellet for low carbon operation of blast furnace 低碳冶炼用优质球团矿制备及应用技术研究
14:50-15:15	Fuming ZHANG 张福明	Shougang Group Co., Ltd. 首钢总工程师室	* Research on Theory and Practice of High Blast Temperature Technology for Modern Blast Furnace 高炉高温技术理论与实践

Technical Program
会议技术日程

15:15-15:35	Donghui HUANG 黄东辉	Shougang Research Institute of Technology 首钢技术研究院	Study on High Efficiency Less Coke and Stability of Blast Furnace Iron-steel Making Production
15:35-15:55	Wangsheng CHENG 程旺生	Anhui Univ. of Tech. / Maanshan Iron and Steel Co., Ltd. 安徽工业大学 / 马鞍山钢铁股份有限公司	Application of pulverized coal and natural gas mixed injection into blast furnace

*为分会邀请报告 Keynote

Theme:low carbon technique

Chairs : Xuewei LYU Jianming HUA

主题 :降碳技术

主持人 :吕学伟 华建明

Schedule 日程	Presenter 报告人	Affiliation 单位	Title of Presentation 报告题目
16:10-16:35	Martin PEI	SSAB AB, Sweden 瑞典 SSAB 集团	*Fossil Free Steelmaking with HYBRIT – SSAB's Transformation of Iron and Steelmaking Technology in Sweden and Finland 无化石能源炼钢 HYBRIT 项目—SSAB 在瑞典和芬兰对炼铁和炼钢技术的改造
16:35-17:00	Zushu LI	Warwick Univ., UK 英国华威大学	*Research and development for decarbonisation of the UK steel industry - Current Status.
17:00-17:25	Maarten Geerdes	Geerdes Advies, Netherlands 荷兰	*The Blast Furnace and net Zero, how far can we go? 高炉炼铁与净零排放，我们还能走多远？
17:25-17:45	Chaozhen CAO 曹朝真	Beijing Shougang International Engineering Technology 首钢国际工程公司	Status and development direction of Hismelt process

*为分会邀请报告 Keynote

Raw materials/Ironmaking session 17th Dec (Fri.) 8:55-11:40

分会场：铁前及炼铁 12月17日(周五) 8:55-11:40

Theme:New technologies for sintered pellets

Chairs : Gele QING Jian HOU

主题 :烧结球团新技术

主持人 :青格勒 侯健

Schedule 日程	Presenter 报告人	Affiliation 单位	Title of Presentation 报告题目
8:55-9:20	Zhilong ZHAO 赵志龙	MCC Capital Engin. & Rese. Incorp. Ltd. 中冶京诚工程技术有限公司	*Study on Hydrogen Metallurgical Engineering Technologies Based on Coke Oven Gas 基于焦炉煤气的氢冶金工程技术研究
9:20-9:45	Mingshun ZHOU 周明顺	Iron & Steel Research Institutes of Ansteel Group Corp. 鞍钢集团钢铁研究院	*Reducing Carbon oxides and Nitrogen oxides Emission of Iron Ore sintering By Double Layers Pre-sintering New Process 双层预烧新工艺减少铁矿石烧结过程中碳氧化物与氮氧化物排放
9:45-10:10	Jialong YANG 杨佳龙	Anhui Univ. of Technology 安徽工业大学	*Study on the effect of flux type and its ratio on the properties of alkaline pellets 熔剂种类与配比对碱性球团性能影响的试验研究

*为分会邀请报告 Keynote

Technical Program
会议技术日程

Theme: New technologies for sintered pellets

Chairs: Mingshun ZHOU Jialong YANG

主题: 烧结球团新技术

主持人: 周明顺 杨佳龙

Schedule 日程	Presenter 报告人	Affiliation 单位	Title of Presentation 报告题目
10:30-10:50	Weiling ZHANG 章苇玲	Baosteel Zhanjiang Iron and Steel Co., Ltd. 宝钢湛江钢铁有限公司	Smelting Practice of Adding Metallized Pellets into Blast Furnace
10:50-11:20	Kai WANG 王凯	Shougang Jingtang United Iron Steel Co., Ltd. 首钢京唐钢铁联合有限责任公司	The technological progress of ironmaking in Shougang Jingtang
11:20-11:40	Ji WU 武吉	Iron & Steel Research Institutes of Ansteel Group Corp. 鞍钢集团钢铁研究院	Microstructure analysis and mineral phase transformation of coke in blast furnace

Steelmaking/Refining session 15th Dec (Thu.) 14:00-17:50

分会场：炼钢及精炼 12月15日(周三) 14:00-17:50

Theme: Clean steel

Chairs : Zhouhua JIANG Dong CHEN

主题：洁净钢

主持人：姜周华 陈东

Schedule 日程	Presenter 报告人	Affiliation 单位	Title of Presentation 报告题目
14:00-14:25	Lifeng ZHANG 张立峰	Yanshan Univ. 燕山大学	*Prediction on the Three Dimensional Distribution of the Number Density, Size and Composition of Non-metallic Inclusions in Continuous Casting Products 非金属夹杂物数量、尺寸、成分在连铸坯中三维分布的预报模型
14:25-14:50	Guangwei YANG 杨光维	Steelmaking Plant of Baosteel Group 宝钢股份炼钢厂	*Research and Development in Secondary Refining Technology of Clean Steel at Baosteel 宝钢洁净钢精炼技术的研究与进步
14:50-15:15	Joo Hyun PARK	Hanyang Univ., Korea 韩国汉阳大学	*Grain refinement of advanced high strength steels and stainless steels by controlling non-metallic inclusions during refining, casting and reheating processes 先进高强度钢及不锈钢冶金过程中非金属夹杂物细化晶粒机制
15:15-15:40	Chenxi JI 季晨曦	Shougang Research Institute of Technology 首钢技术研究院	*Study on Cleanliness Control Technology of High Efficiency Steelmaking Process in Shougang 首钢高效炼钢流程洁净度控制技术研究
15:40-16:00	Nicholas GRUNDY	Thermo-Calc, Sweden 瑞典	Thermodynamic and kinetic simulation of the iron- and steelmaking process using Thermo-Calc and CALPHAD type database: towards a digital twin of the melt shop 通过 Thermo-Calc 软件对冶金过程进行热动力学模拟：冶金过程的数字化应用

*为分会邀请报告 Keynote

Theme: EAF steelmaking

Chairs : Lifeng ZHANG Chenxi JI

主题：电炉炼钢

主持人：张立峰 季晨曦

Schedule 日程	Presenter 报告人	Affiliation 单位	Title of Presentation 报告题目
16:20-16:45	Youn-bae KANG	POSTECH, Korea 韩国浦项科技大学	*Fundamental Studies on Tramp Elements during Scrap Melting for Low C Steelmaking Process 超低碳含钛钢连铸过程中初期水口堵塞的新机理
16:45-17:10	Zhouhua JIANG 姜周华	Northeastern Univ. 东北大学	*Development and Application of High Efficiency EAF Steelmaking Technology with Only Scrap Continuous Charging
17:10-17:30	Ningchuan YANG 杨宁川	Iron & Steel Business Division, CISDI 中冶赛迪	Advanced Electric Arc Furnace Technology- CISDI SuperARC 中冶赛迪超级电弧炉技术
17:30-17:50	Tao SUN 孙涛	Sarralle Group, Spain 西班牙萨拉冶集团	Excelsior Steel Process Intelligence for EAF 电弧炉精益炼钢智能工艺

*为分会邀请报告 Keynote

Steelmaking/Refining session 16th Dec (Thu.) 8:30-17:50

分会场：炼钢及精炼 12月16日(周四) 8:30-17:50

Theme: Low carbon steelmaking

Chairs: Jian YANG Chang SHEN

主题：低碳

主持人：杨健 沈昶

Schedule 日程	Presenter 报告人	Affiliation 单位	Title of Presentation 报告题目
8:30-8:55	Rong ZHU 朱荣	USTB 北京科技大学	*Fundamental research and application of powder bottom ejection-based low carbon steel making technology in BOF 转炉底喷粉低碳炼钢基础研究及实践
8:55-9:20	Bryan WEBLER	Carnegie Mellon Univ., USA 美国卡耐基梅隆大学	*Advances in Analysis of Non-Metallic Inclusion Populations 夹杂物数量分析技术的进步
9:20-9:45	Tadeu CARNEIRO	Boston Metal, USA 美国波士顿钢铁	*Decarbonizing steel production: Molten Oxide Electrolysis as a viable, commercial solution 脱碳钢生产：熔融氧化物电解可行的商业解决方案
9:45-10:10	Anjun XU 徐安军	USTB 北京科技大学	*Calculation Method of Energy Saving in Process Engineering: A Case Study of Iron and Steel Production Process 钢铁生产流程工序匹配及系统节能的效果评估
10:10-10:30	Feijie ZHANG 张杰斐	China Academy of Industrial Internet 中国工业互联网研究院	Deepen the integrated application of industrial Internet and promote the green and low-carbon transformation of iron and steel industry 深入工业互联网融合应用，推动钢铁工业绿色低碳转型

*为分会邀请报告 Keynote

Theme: Inclusions

Chairs: Rong ZHU Xiaoxuan DENG

主题：夹杂物

主持人：朱荣 邓小旋

Schedule 日程	Presenter 报告人	Affiliation 单位	Title of Presentation 报告题目
10:30-10:55	Hideki ONO	Univ. of Toyama, Japan 日本富山大学	*Formation and Evolution of Inclusions in High Chromium Steel 高铬钢中夹杂物的形成及演变
10:55-11:20	Young-jok KANG	Dong-A Univ., Korea 韩国东亚大学	*Thermodynamic influences of metallic solutes in solid Fe on the formation of non-metallic precipitates 固体铁中金属溶质对非金属夹杂物形成的热力学影响
11:20-11:40	Chaojun GUO 郭朝军	Hansteel Comp., HBIS Group 河钢集团邯钢公司	Research on inclusion control technology for 350km/h high-speed rail
11:40-12:00	Zhiyin DENG 邓志银	Northeastern Univ. 东北大学	Consideration on Zircon Filler Sand Grains for Casting of High Mn-High Al Steel Grades

*为分会邀请报告 Keynote

Theme: Smart steelmaking

Chairs: Cong WANG Anjun XU

主题：智能炼钢

主持人：王聪 徐安军

Schedule 日程	Presenter 报告人	Affiliation 单位	Title of Presentation 报告题目
14:00-14:25	In-ho JUNG	Seoul National Univ., Korea 韩国首尔大学	*From CALPHAD Thermodynamic database to Smart Factory 从 CALPHAD 热力学数据库到智能工厂
14:25-14:50	Dong CHEN 陈东	Technology Center, AnSteel Co., Ltd. 鞍钢股份有限公司技术中心	*Effect of Mg-treatment on the Distribution and Polymerization of Inclusions in Steel 镁处理对夹杂物分布特点及聚合行为的影响

Technical Program
会议技术日程

14:50-15:15	Geoffrey Brooks	Swinburne Univ. of Technology, Australia 澳大利亚斯威本科技大学	*The Future of Oxygen Steelmaking in a Carbon Restrained World 碳减排背景下氧气炼钢的未来
15:15-15:40	Zhibin ZHU 朱志斌	MCC Capital Engin. & Rese. Incorp. Ltd. 中冶京诚工程技术有限公司	*Digital technology of iron and steel engineering enables intelligent twin factory 数字孪生技术在钢铁工程设计领域的应用
15:40-16:00	Hailong LI 李海龙	Steelmaking Plant, Xinjiang Bayi Iron & Steel Cooperation 新疆八一钢铁股份有限公司炼钢厂	Intelligent manufacturing and upgrading of iron and steel enterprises

*为分会邀请报告 Keynote

Theme: Inclusions

Chairs: Xu GAO Min JIANG

主题：夹杂物

主持人：高旭 姜敏

Schedule 日程	Presenter 报告人	Affiliation 单位	Title of Presentation 报告题目
16:20-16:45	Hiroyuki MATSUURA	The Univ. of Tokyo, Japan 日本东京大学	*Stability of oxides in Fe-Mn-Al melt at steelmaking to casting temperature range 炼钢及铸造温区内 Fe-Mn-Al 融体中氧化物的稳定性
16:45-17:10	Sun-joong KIM	Chosun Univ., Korea 韩国朝鲜大学	*Kinetic assessment of decarburization of stainless steelmaking process by coupled reaction model
17:10-17:30	Alberto CONEJO	USTB 北京科技大学	State of the art on EAF stirring
17:30-17:50	Jianwei WANG 王健伟	Shougang Shuicheng Iron & Steel Co. Ltd 首钢水城钢铁(集团)有限责任公司	Steelmaking Practice to Reduce Nitrogen Content in SWRH82B Steel

*为分会邀请报告 Keynote

Steelmaking/Refining session 17th Dec (Fri.) 8:30-11:45

分会场：炼钢及精炼 12月17日(周四) 8:30-11:45

Theme: Converter steelmaking

Chairs: Yingjian XUE Xu GAO

主题：转炉炼钢

主持人：薛颖健 高旭

Schedule 日程	Presenter 报告人	Affiliation 单位	Title of Presentation 报告题目
8:30-8:50	Shuguo ZHENG 郑淑国	Northeastern Univ. 东北大学	Research on Single Flow Post Combustion Oxygen Lance Technology of 250 t Converter
8:50-9:10	Hongwei PAN 潘宏伟	HBIS Tangsteel R&D 河钢唐钢技术中心	Industrial Experiment Study of KR Highly Efficient Desulfurization at TangSteel New District
9:10-9:30	Chao CHEN 陈超	Taiyuan Univ. of technology 太原理工大学	Cold Model Studies on the Motion and Melting of Scrap in BOF and Gas-Stirred Ladle
9:30-9:50	Qingming WAN 万庆明	MCC Capital Engin. & Rese. Incorp. Ltd. 中冶京诚工程技术有限公司	Analysis on the explosion phenomenon of converter gas

*为分会邀请报告 Keynote

Theme: Inclusions

Chairs: Jia WANG Ying REN

主题：夹杂物

主持人：王佳 任英

Schedule 日程	Presenter 报告人	Affiliation 单位	Title of Presentation 报告题目
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Technical Program
会议技术日程

10:30-10:55	Min JIANG 姜敏	USTB 北京科技大学	*Study and Development of Heavy Reduction Technology for Continuous Casting Thick Slab to Produce Thick Steel Plate with High Performances 连铸板坯大压下生产高性能厚板
10:55-11:20	Chang SHEN 沈昶	Maanshan Iron and Steel Co., Ltd. 马鞍山钢铁股份有限公司	*Development and application of plastic inclusion technology for wheel steel 车轮钢塑性夹杂物工艺的开发和应用
11:20-11:45	Jia WANG 王佳	MCC Capital Engin. & Rese. Incorp. Ltd. 中冶京诚工程技术有限公司	*Technical analysis of the direct reduction iron application in steelmaking process 直接还原铁在炼钢过程中应用的技术分析

*为分会邀请报告 Keynote

Continuous casting / Solidification session 15th Dec (Wed.) 14:00-18:10

分会场：连铸及凝固过程 12月15日(周三) 14:00-18:10

Theme: New theory/methods for continuous casting / Solidification

Chairs: Wanlin WANG Zuotai ZHANG

主题：连铸/凝固新理论与新方法

主持人：王万林、张作泰

Schedule 日程	Presenter 报告人	Affiliation 单位	Title of Presentation 报告题目
14:00-14:25	Miaoyong ZHU 朱苗勇	Northeastern Univ. 东北大学	*Formation Mechanism and Control Strategy for Wide Face Longitudinal Off-corner Depressions During Thick Slab Continuous Casting of Micro-alloyed Steel 微合金钢厚板坯宽面偏离角凹陷形成机理及其控制策略
14:25-14:50	Hideyuki YASUDA	Kyoto Univ., Japan 日本京都大学	*Time-resolved and in-situ observation of steel solidification - transmission imaging (2D) and tomography (3D) 钢材凝固过程的原位观察和时间分辨解析-透射成像(2D)与断层扫描(3D)
14:50-15:15	Zhongming REN 任忠鸣	Shanghai Univ. 上海大学	*Study on microstructure segregation of bearing steel in continuous casting 轴承钢连铸组织偏析研究
15:15-15:40	Wenhao ZHOU 周文浩	Xiangtan Iron & Steel Co., Ltd. of Hunan Valin 湘钢技术质量部	*Development and practice of the innovative energy-saving technology for heat treatment 热处理节能新工艺开发实践
15:40-16:00	Yong WANG 王勇	Shanghai Meishan Iron & Steel Co., Ltd. 宝钢股份上海梅山钢铁公司	Application of Graphite Electrode Plasma Heating Technology in Continuous Casting

*为分会邀请报告 Keynote

Theme: Key technologies for continuous casting of clean steel

Chairs: Zhongming REN Jian YANG

主题：洁净钢连铸关键技术

主持人：任忠鸣、杨健

Schedule 日程	Presenter 报告人	Affiliation 单位	Title of Presentation 报告题目
16:20-16:45	Wanlin WANG 王万林	Central South Univ. 中南大学	*Key Issues in High Speed Casting Technology 近终型快速连铸关键技术
16:45-17:10	Yunbo ZHONG 钟云波	Shanghai Univ. 上海大学	*Progress and considerations on hyper-normal metallurgy and fabrication of magnet-controlled electroslag remelting 磁控电渣重熔超常冶金与制备的进展及思考
17:10-17:30	Chunyang LIU 刘春阳	Beijing Shougang Co., Ltd. 北京首钢股份有限公司	The Study on the Mechanism of Nozzle Clogging by Different Types of Inclusion
17:30-17:50	Zhidong QU 屈志东	Zenith Steel Group Company Limited 中天钢铁集团	The penetration of low melting point inclusions at SEN and its effect on the cleanliness of molten steel
17:50-18:10	Peisheng LYU 吕培生	Central South Univ. 中南大学	Effect of Sub-rapid Solidification and Secondary Cooling on Microstructure and Properties of Micro-alloyed High-strength Steel 亚快速凝固和二冷对微合金高强度钢微观组织和力学性能的影响

*为分会邀请报告 Keynote

Continuous casting / Solidification session 16th Dec (Thu.) 8:30-18:00

分会场：连铸及凝固过程 12月16日(周四) 8:30-18:00

Theme :New technologies for continuous casting & defects control

Chairs: Miaoyong ZHU Lejun ZHOU

主题：新连铸技术与铸坯缺陷控制

主持人：朱苗勇 周乐君

Schedule 日程	Presenter 报告人	Affiliation 单位	Title of Presentation 报告题目
8:30-8:55	Guosen ZHU 朱国森	Shougang Research Institute of Technology 首钢技术研究院	*Research on Key Casting Technology of Multi-mode Continuous Casting & Rolling Line 多模式连铸连轧 (MCCR) 产线连铸技术研究
8:55-9:20	Baokuan LI 李宝宽	Northeastern Univ. 东北大学	*The Challenge of Fundamental Research on Optimal Flow Field in Mold of Continuous Casting of Steel
9:20-9:45	Liang LIANG 梁亮	Hunan Valin Steel Co., Ltd. 湖南华菱钢铁股份有限公司	*High Strength Steel Research and Lightweight Application in Valin LY Steel
9:45-10:10	Bing BAI 白冰	MCC Capital Engin. & Rese. Incorp. Ltd. 中冶京诚工程技术有限公司	*Practice and application of high precision angle rolling technology in modern plate mill 高精度角轧技术在现代厚板轧机上的实践和应用

***为分会邀请报告 Keynote**

Theme: New technologies for continuous casting & defects control

Chairs: Guosen ZHU Baokuan LI

主题：新连铸技术与铸坯缺陷控制

主持人：朱国森 李宝宽

Schedule 日程	Presenter 报告人	Affiliation 单位	Title of Presentation 报告题目
10:30-10:55	Jian YANG 杨健	Shanghai Univ. 上海大学	*Steelmaking Technology for Surface Defect Control of Hot-dip Galvanized Automobile Exposed Panel 热镀锌汽车外板表面缺陷控制炼钢技术
10:55-11:20	Wei KANG 康伟	Iron & Steel Research Institutes of Ansteel Group Corp. 鞍钢钢铁研究院	*Research on High Efficiency and Energy Saving Direct Charging of Low Alloy Steel 低合金钢宽厚铸坯高效节能直送工艺研究
11:20-11:40	Huilin LUO 罗辉林	Ramon Science and Technology Co. Ltd, Hunan 湖南镗目科技有限公司	Application and Practice of Intelligent Centralized Control Center for Continuous Casting Based on Intelligent Analysis and Decision 基于智能分析与决策的连铸智慧集控中心应用实践
11:40-12:00	Yanqiang LIU 刘延强	Shougang Jingtang United Iron & Steel Co. LTD 首钢京唐	Study on the heredity of steel defects in the whole process

***为分会邀请报告 Keynote**

Theme: Rolling

Chairs:Guanghua WEN Wenhao ZHOU

主题：轧制技术

主持人：文光华 周文浩

Schedule 日程	Presenter 报告人	Affiliation 单位	Title of Presentation 报告题目
14:00-14:25	Xiaoxuan DENG 邓小旋	Shougang Research Institute of Technology 首钢技术研究院	*Control of Pin-like Defects in Ultra-low Carbon Steel Sheets Under High Efficiency Steelmaking Process 高效炼钢背景下超低碳钢针孔状缺陷的控制
14:25-14:50	Cunyou WU 吴存有	Baosteel Research Institute 宝钢中央研究院	*Research progress of induct heating technologies at Baosteel 感应加热技术在宝钢的研究进展
14:50-15:10	Wen XIONG 熊雯	Baosteel Research Institute 宝钢研究院	A new dust removal technology used in hot rolling mills: Atomized spray with higher dedusting efficiency
15:10-15:30	Guannan LI 李冠楠	Handan Iron and Steel Group Co., Ltd. 邯鄲钢铁集团有限责任公司	Study on the Influence of Laminar Cooling Process on the Microstructure and Properties of NM300TP Hot-rolled Wear-resistant Steel

Technical Program
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15:30-15:50	Jie ZENG 曾杰	Central South Univ. 中南大学	Development of High-efficient and Energy-saving Final Permanent Magnet Stirring during Billet Continuous Casting 高效节能方坯凝固末端永磁搅拌器的开发与应用研究
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*为分会邀请报告 Keynote

Theme: Mold Flux

Chairs: Wanlin WANG Liang LIANG

主题: 保护渣

主持人: 王万林、梁亮

Schedule 日程	Presenter 报告人	Affiliation 单位	Title of Presentation 报告题目
16:20-16:45	Jung-Wook CHO	POSTECH, Korea 韩国浦项科技大学	*Mixed Alkali Effect and its application to mold flux design 混合碱效应及其在保护渣设计中的应用
16:45-17:10	Guanghua WEN 文光华	Chongqing Univ. 重庆大学	*Some considerations on "black magic" mold powders—Al-smart mold powders proposed 对黑色魔术保护渣的思考—氧化铝-自适应保护渣概念
17:10-17:35	Noritaka SAITO	Kyushu Univ., Japan 日本九州大学	*Crystallization of Mold Flux characterized under AC Field 交流磁场中保护渣结晶行为特征
17:35-18:00	Lejun ZHOU 周乐君	Central South Univ. 中南大学	*Crystallization and Structure of CaO-SiO ₂ -B ₂ O ₃ -based Environment Friendly Fluorine-free Mold Flux

*为分会邀请报告 Keynote

Continuous casting / Solidification session 17th Dec (Fri.) 8:50-11:30

分会场: 连铸及凝固过程 12月17日(周五) 8:50-11:30

Theme : Flow field Control of continuous casting

Chairs: Baokuan LI Xiaoxuan DENG

主题: 连铸流场控制技术

主持人: 李宝宽 邓小旋

Schedule 日程	Presenter 报告人	Affiliation 单位	Title of Presentation 报告题目
8:50-9:10	Hongfu SHU 舒宏富	Maanshan Iron & Steel Co., Ltd. 马鞍山钢铁股份有限公司	Green practice in metallurgical process of Gpa-grade hot rolled plate for mechanical mixing tank truck
9:10-9:30	Xufeng QIN 秦绪锋	Wuhan Univ. of Sci. and Tech. 武汉科技大学	Bubble Behavior under A New Process Coupled with Annular Gas Curtain and Swirl Flow Technology at Tundish Upper Nozzle
9:30-9:50	Dongwei GUO 郭东伟	Chongqing Univ. 重庆大学	Maximum prediction of carbon element content in continuous casting billets based on the statistics of extreme values method
9:50-10:10	Sen LUO 罗森	Northeastern Univ. 东北大学	Volume Average Modelling of Macrosegregation in Continuously Cast Round Bloom

Theme : New technologies for continuous casting & Rolling

Chairs: Bing BAI Wei KANG

主题: 连铸/轧制新技术

主持人: 白冰 康伟

Schedule 日程	Presenter 报告人	Affiliation 单位	Title of Presentation 报告题目
10:30-10:50	Kun DOU 窦坤	Central South Univ. 中南大学	Development of a Framework for Twin Roll Strip Casting Process Based on Integrated Computational Materials Engineering (ICME)
10:50-11:10	Chenyang ZHU 朱晨阳	Central South Univ. 中南大学	MnS Precipitation Behavior of High-Sulfur Microalloyed Steel Under Sub-rapid Solidification Process
11:10-11:30	Yichang GAO 高长益	Shougang Shuicheng Iron and Steel (Group) Co., Ltd. 首钢水城钢铁(集团)有限责任公司	Productive Practice of Hot-Rolled ϕ 36-40 mm HRB500E Rebar

Recycling / Contamination Control session 15th Dec (Wed.) 14:00-17:30

分会场：资源循环、污染防治 12月15日(周三) 14:00-17:30

Theme: Recycling and reuse of steel slag

Chairs: Qingyun SHA Xiuping LI

主题：钢渣回收

主持人：沙庆云 邴秀萍

Schedule 日程	Presenter 报告人	Affiliation 单位	Title of Presentation 报告题目
14:00-14:25	Guangqiang LI 李光强	Wuhan Univ. of Sci. and Tech. 武汉科技大学	*Recycling of Ironmaking and Steelmaking Slags in China 高炉渣及钢渣在中国的循环利用现状
14:25-14:50	Il SOHN	Yonsei Univ., Korea 韩国延世大学	*Perspectives on pyrometallurgical recycling of ferrous slags
14:50-15:15	Zuotai ZHANG 张作泰	Southern Univ. of Sci. and Tech. 南方科技大学	*Chemical activation of steel-making slag for the applicatoin of wastewater treatment 基于化学活化法的钢渣废水治理研究
15:15-15:40	Cong WANG 王聪	Northeastern Univ. 东北大学	*Application of Welding Slag in High Heat Input Welding Process 焊接渣在大线能焊接中的应用
15:40-16:00	Shengqiang SONG 宋生强	Wuhan Univ. of Sci. and Tech. 武汉科技大学	Recycling of chromium-containing waste oxide as alloying addition in ladle metallurgy

*为分会邀请报告 Keynote

Theme: New technologies for reusing solid wastes

Chairs: Guangqiang LI Xu GAO

主题：钢铁固废应用新技术

主持人：李光强 高旭

Schedule 日程	Presenter 报告人	Affiliation 单位	Title of Presentation 报告题目
16:20-16:45	Hiroyuki SHIBATA	Tohoku Univ., Japan 日本东北大学	*Calcium elution mechanism from silicate-based minerals into water
16:45-17:10	Xu GAO 高旭	Central South Univ. 中南大学	*Efficient extraction and utilization of phosphorus from steel slag through mineral structure control 应用矿物结构调控高效提取及利用钢渣中磷资源
17:10-17:30	Jun WU 吴军	Steelmaking Plant , Xinjiang Bayi Iron & Steel Cooperation 新疆八一钢铁股份有限公司炼钢厂	Application of solid waste recycling technology in steelmaking plant

*为分会邀请报告 Keynote

Recycling / Contamination Control session 16th Dec (Thu.) 8:30-18:10

分会场：资源循环、污染防治 12月16日(周四) 8:30-18:10

Theme: Low carbon process

Chairs: Hongming LONG Lijie GUO

主题：低碳冶金

主持人：龙红明 郭利杰

Schedule 日程	Presenter 报告人	Affiliation 单位	Title of Presentation 报告题目
8:30-8:55	Shin-ya KITAMURA	Tohoku Univ., Japan 日本东北大学	*Slag recycling of steelmaking process
8:55-9:20	Yinghao LIU 刘颖昊	Baosteel Research Institute 宝钢中央研究院	*Application of life cycle assessment in low-carbon planning of steel company 生命周期评价方法在钢铁企业低碳发展规划中的应用

Technical Program
会议技术日程

9:20-9:45	Xiuping LI 郦秀萍	Central Iron & Steel Research Institute 钢铁研究总院	*Pathway and key technology for carbon reduction in Chinese iron and steel industry 钢铁工业减碳技术与路径分析
9:45-10:10	Yapeng ZHANG 张亚鹏	Shougang Research Institute of Technology 首钢技术研究院	*Research on Key Technologies for Ultra-low Emissions in Whole Process of Steel Production 钢铁生产全流程超低排放技术研究

*为分会邀请报告 Keynote

Theme: Treatment of waste/tail gas

Chairs: Cong WANG Yinghao LIU

主题：废/尾气处理及减排

主持人：王聪 刘颖昊

Schedule 日程	Presenter 报告人	Affiliation 单位	Title of Presentation 报告题目
10:30-10:55	Hongming LONG 龙红明	Anhui Univ. of Technology 安徽工业大学	*Research Progress on resource utilization of waste SCR denitration catalyst 废弃 SCR 脱硝催化剂资源化利用研究进展
10:55-11:20	Lin WANG 王林	MCC Capital Engin. & Rese. Incorp. Ltd. 中冶京诚工程技术有限公司	*Research and Application of Longevity-Efficient Converter Flue Gas Heat Recovery Technology 转炉烟气长寿高效热回收技术研究与应
11:20-11:40	Shuo ZHANG 张烁	MCC Capital Engin. & Rese. Incorp. Ltd. 中冶京诚工程技术有限公司	Investigation on gas-solid mixed enhancement for simultaneous removal of multiple pollutants by reaction process simulation
11:40-12:00	Hongliang WU 吴宏亮	Anhui Univ. of Technology 安徽工业大学	Investigation on A# BF operational practice for reducing fuel rate during lining protection campaign in Masteel of BAOWU

*为分会邀请报告 Keynote

Theme :Treatment of steel slag

Chairs: Yanpeng ZHANG Liangliang ZHANG

主题：转炉渣处理技术

主持人：张亚鹏、张亮亮

Schedule 日程	Presenter 报告人	Affiliation 单位	Title of Presentation 报告题目
14:00-14:25	Xiangfeng WANG 王向锋	Iron & Steel Research Institutes of Ansteel Group Corp. 鞍钢集团钢铁研究院	*Application Practice of Steel Slag Treatment Technology in Ansteel 鞍钢钢渣处理技术应用实践
14:25-14:50	Yujia SUN 孙宇佳	Hesteel Group Central Iron & Steel Res. Ins. 河钢钢研	*Coordinated optimization and resource utilization of solid waste disposal in HBIS Group 河钢集团固废协同优化处置及资源化利用
14:50-15:15	Yidang HAO 郝以党	Central Research Institute of Building and Construction Co., Ltd., MCC Group 中冶建筑研究总院有限公司	*High efficient power generation technology and equipment through tank pressurized heat from molten steel slag 熔融钢渣高效罐式有压热闷及发电技术与装备
15:15-15:40	Fubin GAO 高福彬	Hesteel Group Central Iron & Steel Res. Ins. 河钢邯钢	*Experiment on high efficient conditioning treatment of ladle slag in production of ULC automobile sheet steels 超低碳汽车板钢钢包渣高效改质工艺的试验研究
15:40-16:00	Chuanming DU 杜传明	Northeastern Univ. 东北大学	Phosphorus recovery from dephosphorization slag by acid leaching and molten salt electrolysis

*为分会邀请报告 Keynote

Theme :Treatment of steel slag

Chairs: Yinhao LIU Zhiwei PENG

主题：转炉渣处理技术

主持人：刘颖昊、彭志伟

Schedule 日程	Presenter 报告人	Affiliation 单位	Title of Presentation 报告题目
16:20-16:45	Anrin BHATTACHARYA YA	RECYRON Engineering & Consulting Co. Austria 奥地利	*Waste to Cash: Disruptive Technologies for Solid Waste Recycling in Steel Industry 废物变金钱：钢铁工业固废回收中的颠覆性技术

Technical Program
会议技术日程

16:45-17:10	Liangliang ZHANG 张亮亮	State Key Lab of Iron and Steel Industry Environ. Protection 钢铁工业环境保护国家重点实验室	*Current status of slag treatment and recycling in Chinese iron and steel industry 我国钢铁渣处理与资源化利用进展
17:10-17:30	Wenfeng GU 谷文凤	Chongqing Univ. 重庆大学	Research on Flight Dynamics of Molten Steel Slag in Air Quenching Granulation Process
17:30-17:50	Huining ZHANG 张慧宁	Jiangxi Univ. of Sci. and Tech. 江西理工大学	Future Trend of Terminal Energy Conservation in Steelmaking Plant: Integration of Molten Slag Heat Recovery-Combustible Gas Preparation from Waste Plastics and CO ₂ Emission Reduction
17:50-18:10	Yinbatee SAI 赛音巴特尔	Shougang Research Institute of Technology 首钢技术研究院	Progress of steel slag treatment process and resource utilization technology in Shougang

*为分会邀请报告 Keynote

Recycling / Contamination Control session 17th Dec (Fri.) 8:30-10:25

分会场：资源循环、污染防治 12月17日(周五) 8:30-10:25

Theme :Utilization of steel wastes

Chairs: Xiangfeng WANG Yujia SUN

主题：钢铁固废应用新技术

主持人：王向锋 孙宇佳

Schedule 日程	Presenter 报告人	Affiliation 单位	Title of Presentation 报告题目
8:30-8:55	Qiang ZHANG 张强	MCC Capital Engin. & Rese. Incorp. Ltd. 中冶京诚工程技术有限公司	*Research and application of power grid intelligent control platform based on CPS architecture in integrated iron and steel works 基于 CPS 架构的钢铁联合企业电网智能管控平台研究与应用
8:55-9:20	Zhiwei PENG 彭志伟	Central South Univ. 中南大学	*Recovery of Valuable Metals from Electric Arc Furnace Dust using Microwave Energy: A Focus on Reduction of Spinel-Structured Phases
9:20-9:45	Lijie GUO 郭利杰	BGRIMM Technology Group 矿冶科技集团有限公司	*Progress and Prospects of the Preparation of Low-carbon Cementitious Materials Based on Metallurgical Slags 基于冶金渣的低碳胶凝材料研究进展和展望
9:45-10:05	Sha LYU 吕沙	Southern Univ. of Sci. and Tech. 南方科技大学	Enhanced looping biomass/vapour gasification utilizing waste heat from molten copper slags
10:05-10:25	Lian CHEN 陈炼	Pangang Group Research Institute Incorporation Ltd. 攀钢集团钢铁研究院有限公司	Reducing carbon loss during vanadium-extraction process in converter

*为分会邀请报告 Keynote