

# 3<sup>rd</sup> circular of 14<sup>th</sup> Korea–China Joint Symposium on Advanced Steel Technology



August 21–23, 2024, Shinhwa World Resort, Jeju, Korea

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## Objective

The symposium is intended to bring together scientists and engineers from Korea and China to have an insight into the latest developments in steel science and technologies, and provides a forum for the exchange of ideas and opinions in the area of innovative, creative, and challenging processes.

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## THEME

The theme of the symposium covers a broad spectrum about

- High-temperature physical chemistry
- Ironmaking
- Steelmaking and casting
- Hot/cold rolling and products

As the symposium emphasizes the exchange of ideas and cross-fertilization among participants, it is encouraged not only to present completed work, but also to bring up ideas that are not proven, but challenging, ongoing works that seek peer advice, and technical or theoretical difficulties encountered during particular research in progress.

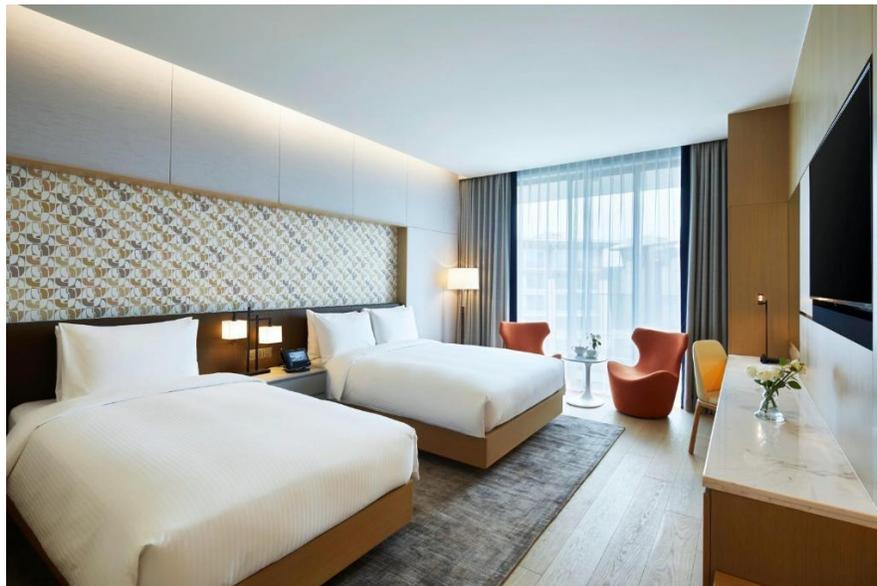
## VENUE and ACCOMMODATION

### JEJU SHINHWA WORLD LANDING RESORT

- Address: 38 Sinhwayeoksa-ro 304 beon-gil, Andeok-myeon Seogwipo-si, Jeju, Korea
- Tel: +82-64-908-8888
- Jeju Shinhwa World Landing Resort
- Room rate for Superior (2 Twin or 1 King bed for 2 persons): 135,000 KRW (weekdays) and 154,000 KRW (weekends), Deluxe King rate is 30,000 KRW higher than the Superior.



Shinhwa world and resort



Guest room

## **TRANSPORTATION from/to JEJU INTERNATIONAL AIRPORT**

All participants are asked to move to the symposium venue individually. No shuttle service is provided.

- Taxi: There are taxi stands at Jeju International Airport. It costs approximately 30,000 KRW from the airport to Shinhwa World (about 40 minutes)
- Limousine bus: No. 151 bus leaves at Jeju International Airport and stops at the gate of Shinhwa World. It costs approximately 3,000 KRW from the airport to Shinhwa World (about 60 minutes)
- Rent a car: You can rent a car at Jeju International Airport. Please inquire of the tourist information center about details.

## **SYMPOSIUM SCHEDULE AND KEY DATES**

- Wednesday, August 21, 2024
  - Registration (Shinhwa World, Landing Convention Center, Conference Room C)
  - ) – Welcome reception (Shinhwa World, Tempo)
- Thursday, August 22, 2024
  - Technical session
  - Symposium official banquet
- Friday, August 23, 2024
  - Technical session
  - Post-symposium tour
- Key Dates
  - Abstract submission due: 3 May 2024
  - Manuscript submission due: 28 June 2024
  - Attendance forms due: 28 June 2024
  - Abstract, manuscript, and attendance form should be sent to Ms. Sohee Kim, Korea Institute of Metals and Materials, Korea (eml@kim.or.kr)
  - Registration: 21 August 2024 (onsite registration only)

## **PRESENTATION**

Only invited lectures will be given.

- Invited lecture: 25 minutes
- Equipment: A multi-media beam projector with a computer will be available

## **REGISTRATION FEE**

- Regular Participant: 550,000 KRW
- Student: 250,000 KRW
- Accompanying attendees: 150,000 KRW

## **ORGANIZING COMMITTEE**

### **• Chairs**

- Prof. Yongsug CHUNG (Technical University of Korea)
- Prof. Min JIANG (University of Science and Technology Beijing)

### **• Advisors**

- Prof. Em. Jong-Jin PAK (Hanyang University)
- Prof. Em. Xinhua WANG (University of Science and Technology Beijing)

### **• Members**

- Prof. Youn-Bae KANG (Pohang University of Science and Technology)
- Prof. Youngjo KANG (Dong-A University)
- Prof. Joo Hyun PARK (Hanyang University)
- Prof. Sunjoong KIM (Chosun University)

## **CORRESPONDENCE**

- Prof. Yongsug CHUNG (Technical University of Korea), (ychung@tukorea.ac.kr)
- Ms. Sohee Kim (Korean Institute of Metals and Materials), (eml@kim.or.kr)

## POST SYMPOSIUM TOUR

- **Mara-do**

- Mara-do was originally uninhabited until the late 19<sup>th</sup> century. It was initially called as Keumdo (禁島), which means forbidden island. Mara Island is an island 8 km off the south coast of Jeju, in southernmost South Korea, having an area of 0.3 km<sup>2</sup>. It is home to about 139 people and has long been known for its population being composed of strong women and docile men. It's becoming a popular tourist destination, thanks to the many unusual rock formations, and is connected to the mainland by several regular ferries and numerous excursion boats. Because of its subtropical marine habitat, the island is a natural reserve. It was designated as National Monument No. 423 on July 18, 2000.



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## TENTATIVE SCHEDULE

Date	Time	Title	Speaker	Affiliation	
21- Aug Wed.	15:00- 18:00	Registration (Landing Convention Center, Ground Floor)	-		
	18:00- 21:00	Welcome dinner (Landing Convention Center, Grand Ballroom C)	-		
22- Aug Thu.	08:00- 08:10	Welcoming address	Yongsug CHUNG	TU Korea	
	08:10- 08:20	Congratulatory speech	Sedon CHOO Zhiling TIAN	KIM President CSM VP	
	Session 1 (Chairs: Sang Ho YI, POSTECH, Zhouhua JIANG, Northeastern University)				
	08:20- 08:40	Research on Sintering Technology under the Background of Carbon Neutrality	Wen PAN	Shougang	
	08:40- 09:00	KR Efficiency Optimization Technology Using Real-Time Image Analysis	Min-Ho SONG	POSCO	
	09:00- 09:20	Development and Latest Progress of Vanadium Extraction Technology from Hot Metal in Pangang Group	Lian CHEN	Ansteel-Panzhuhua	
	09:20- 09:40	Development of Technology for Using Alternative Iron Sources in Blast Furnace for Carbon Reduction	Joon-Beom PARK	Hyundai steel	
	09:40- 10:00	State-of-the-Art of Steelmaking Technology Based on Hydrogen Metallurgy	Zhouhua JIANG	Northeastern University	
	10:00- 10:20	Coffee break			
	Session 2 (Chairs: Youngjo KANG, Dong-a Univ., Chengjia SHANG, USTB)				
	10:20- 10:40	Toward Property Optimization of Low Temperature Phase Transformed Microstructures of GIGASTEEL Welds	Gyuyeol BAE	POSCO	
	10:40- 11:00	Influence of Rare Earth Addition on the Microstructure Evolution and Property Improvement in Ultra-High Strength Shipbuilding Steel	Jiuhan Xiao	Ansteel	
	11:00-11:20	Development of a Camera Module and Digital Image Correlation (DIC) for the Reliability Assessment of Cryogenic Welded Joints for Hydrogen Embrittlement and Liquid Hydrogen Storage Alloys	Nokeun PARK	Yeungnam University	
	11:20-11:40	Strengthening Mechanism Investigation of Micro-alloyed High Strength Steel by Strip Casting Process	Hualong LI	Shasteel	
	11:40-12:00	Soft Rolling Control for Weld-Point in Tandem Cold Mill	Young-Hyeun CHA	Hyundai steel	
	12:00-12:10	Group photo			
	12:10-13:30	Lunch			
	Session 3 (Chairs: Min-Kyu PAEK, Hanyang Univ., Chunyang LIU, Shougang Quan'an Iron and Steel Co.)				
	13:30-13:50	Development and Application of the Key Technologies for Intelligent Converter Steelmaking	Fei ZHANG	HBIS	
	13:50-14:10	Research on the Development of an AI-based Model for Scrap Classification and Detection of Foreign Substances in Scrap using Video Data	Hyungsic UM	Dongkuk Steel	
	14:10-14:30	Formation of Inclusions in Al-killed Steel Melts Refined by CaO-MgO-Al <sub>2</sub> O <sub>3</sub> Slag and the Influences of Refractory Choice	Min JIANG	USTB	
	14:30- 14:50	Numerical Simulation to Optimize Post-combustion Conditions on RH Process for Molten Steel Temperature Control	Ji-A LEE	Hyundai steel	
14:50-15:10	Effect of Ce on the As-cast Structure and TiN Inclusions of Low Carbon Titanium-alloyed Steel	Guangwei YANG	Baosteel		

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	15:10-15:30	Coffee break		
	Session 4 (Chairs: Sung-Mo JUNG, POSTECH., Jian YANG, Shanghai University)			
	15:30-15:50	Development of Multiphysics Models for Hydrogen Steelmaking	Hyunjin YANG	Inha University
	15:50-16:10	Development and Perspective of Blast Furnace Low-carbon Ironmaking Technologies in China	Zhengjian LIU	USTB
	16:10-16:30	Development of Vacuum Tank Degasser (VTD) Simulation Model	Min-Kyu PAEK	Hanyang University
	16:30-16:50	Application of Machine Learning in Steelmaking Process	Jian YANG	Shanghai University
	16:50-17:10	Effect of TiO <sub>2</sub> Addition in Ladle Slag on Cleanliness of Ti-bearing Al-killed Steel	Zhiyin DENG	Northeastern University
	18:00-21:00	Banquet Speech and banquet		Seong-yeon KIM Bo-Ryong Lee
	Session 5 (Chairs: Seung-Joon LEE, TU Korea, Wanlin WANG, CSU )			
	08:40-09:00	Finite Element Simulation of Steel Plate Deformation after Hot Rolling and Cooling	Sung-Chul LEE	Hyundai steel
	09:00-09:20	The New Insights of Precipitation Behavior in Nb-bearing VN Strengthening High Grade Anti-Earthquake Rebar	Chengjia SHANG	USTB
	09:20-09:40	Effects of Alloying Elements on the Seismic Performance of Reinforcing Bars in Cryogenic Environments	Hyangjun LEE	Dongkuk Steel
	09:40-10:00	Improving Material Hit Rates through Yield Strength Prediction of Cold-Rolled Steel Sheets for Automotive Door Frames	Sang-Kyu LIM	Hyundai steel
	10:00-10:20	Coffee break		
	Session 6 (Chairs: Sun-Joong KIM, Chosun Univ., Min Jiang, USTB)			
	10:20-10:40	High-Temperature Simulation of Strip Casting of Advanced Steel Materials	Wanlin WANG	Central South University
	10:40-11:00	Development of Oxygen Top & Bottom Blown Converter for decrease Hot Metal Ratio	Jung-Mock JANG	POSCO
	11:00-11:20	Control Technology of Ultra-low Concentration Product of Carbon and Oxygen for 300T Converter and its Metallurgical Effect	Hongfu SHU	Maanshan Steel
	11:20-11:30	Closing remarks; Jong Jin PAK		
	11:30-11:40	Announcement of 15th Korea-China Symposium; Min JIANG, USTB		
	12:00-18:00	Post-Symposium Tour		
<b>23-Aug Fri.</b>				

## Sponsors

