



Second Announcement



# 2023 International Symposium on Hydrogen Metallurgy (ISHM2023)

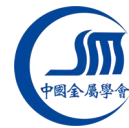
September 5-7, 2023

Chongli, Hebei Province, China

Organized by



HBIS Group



The Chinese Society for Metals

Co-organized by



中国五矿



MCC Capital Engineering & Research Incorporation



University of Science and  
Technology Beijing



冶金工业信息标准研究院  
CHINA METALLURGICAL INFORMATION AND STANDARD RESEARCH INSTITUTE

China Metallurgical Information and  
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Supported by



World Steel Association



世界钢铁发展研究院  
World Steel Development Research Institute

World Steel Development Research  
Institute

Conference Website: [www.ishm2023.com](http://www.ishm2023.com)

## Invitation to ISHM2023

2023 International Symposium on Hydrogen Metallurgy (ISHM2023) will be held on September 5-7, 2023 in Chongli, Hebei Province, China, a well-known beautiful and Olympic city in China. It is our pleasure to share with you that the conference has received a highly positive response since the first announcement. The exhibition preparations have also started and received a warm response. We believe that ISHM2023 will be a successful meeting.

Many popular experts from domestic and abroad are invited to give keynote presentations at this event. We cordially invite you to participate in this upcoming conference and look forward to meeting you in the golden autumn in Chongli, China.

## Organizing Structure

### Organized by

HBIS Group

The Chinese Society for Metals

### Co-organized by

MCC Capital Engineering & Research Incorporation

University of Science and Technology Beijing

China Metallurgical Information and Standardization Institute

### Supported by

World Steel Association

World Steel Development Research Institute

### Symposium Chairman

Yong Yu (HBIS Group), China

### Symposium Secretary-General

Jianliang Zhang (University of Science and Technology Beijing), China

## Conference Outline

**Date:** September 5-7, 2023

**Venue:** Genting Grand Hotel

**Address:** Wutong Avenue, Close Chongli South Highway, Chongli, Zhangjiakou, China, 076350

**Official Language:** English



## Technical Sessions

- Fundamental theory of hydrogen metallurgy
- Hydrogen utilization in raw materials preparing
- Hydrogen utilization in blast furnace ironmaking
- Hydrogen utilization in novel ironmaking process
- Life cycle evaluation of ironmaking process using hydrogen
- Low-cost hydrogen production process for metallurgical industry: grey hydrogen, blue hydrogen, green hydrogen preparation technology
- Any theoretical and technical research about the safe and high-efficient utilization of hydrogen in any unit process in the whole iron and steelmaking process, and other theoretical and technical research on hydrogen metallurgy
- Hydrogen utilization in transportation, steel chemical co-production and the hydrogen metallurgy standards.

## Keynote Speakers (Updated on June 20, 2023)

### 1. Yiren Li, HBIS Group, China

Presentation title: Innovation Practice and Strategic Consideration of Hydrogen Energy Application in the Steel Industry

### 2. Paulo Santos Assis, UFOP, Brazil

Presentation title: Use of biogas to reduce the emission of GHG for Steel production

### 3. Mansheng Chu, Northeastern University, China

Presentation title: Analysis and optimization of the smelting process in hydrogen-based shaft furnace

### 4. Peimin Guo, China Central Iron and Steel Research Group, China

Presentation title: Progress in Theoretical Research and Technological Development of Hydrogen Reduction Processes by Central Iron and Steel Research Institute

**5. Tao Jiang, Central South University, China**

Presentation title: To be determined

**6. Muxina Konarova, University of Queensland, Australia**

Presentation title: Enabling Hydrogen Storage and Transport: Unleashing Cost-Effective Potential through Liquid Organic Hydrogen Carriers

**7. Zushu Li, The University of Warwick, UK**

Presentation title: Reduction behaviour of hydrogen with FeO in synthetic molten Hlsarna slag

**8. Kejiang Li, University of Science and Technology Beijing, China**

Presentation title: To be determined

**9. Xionggang Lu, Shanghai University, China**

Presentation title: Research on Hydrogen-Rich Smelting in Blast Furnace

**10. Hans Bodo Lungen, VDEh Institute, Germany**

Presentation title: Ways and projects to climate neutral iron and steelmaking in Europe

**11. Yan Ma, Max-Planck-Institut für Eisenforschung GmbH, Germany**

Presentation title: Basic Science Behind Sustainable Metallurgy

**12. Martin Pei, SSAB AB (Hybrit process), Sweden**

Presentation title: SSAB's transformation to a fossil free company with the HYBRIT technology

**13. Andrew Purvis, The World Steel Association**

Presentation title: Hydrogen, an essential element of the steel industry's transformation

**14. Gele Qing, Shougang Group Co., Ltd., China**

Presentation title: Research and Analysis on the Impact of Hydrogen Energy Utilization on Iron Ore Raw Materials under the Background of "Hydrogen Inspires the Future"

**15. Johannes Schenk, Montanuniversitaet Leoben, Austria**

Presentation title: To be determined

**16. Fengman Shen, Northeastern University, China**

Presentation title: Fundamental theoretical study on preparation of hydrogen-rich reduction gas and process of direct reduction iron

**17. Myoung-Kyun Shin, POSCO, Korea**

Presentation title: An overview and development of POSCO's HyREX process for hydrogen-based ironmaking

**18. Nigel Tame, BHP, Australia**

Presentation title: Decarbonisation to Green End State: BHP's Steel Decarbonisation Program

**19. Geoff Wang, University of Queensland, Australia**

Presentation title: Key technical challenges of hydrogen shaft furnace ironmaking and the countermeasures

**20. Charles Xu, Western University, Canada**

Presentation title: Production of renewable hydrogen from biomass - a green path towards net zero carbon emission in metallurgical industry

**21. Aibing Yu, Monash University, Australia**

Presentation title: To be determined

**22. Fuming Zhang, Shougang Group Co., Ltd., China**

Presentation title: Research on Hydrocarbon Coupling Metallurgical Technology in Blast Furnace Ironmaking

**23. Jianliang Zhang, University of Science and Technology Beijing, China**

Presentation title: To be determined

**24. Zhilong Zhao, MCC Capital Engineering & Research Incorporation Limited (CERI), China**

Presentation title: Innovation and Engineering Practice of Green Low-carbon Hydrogen Metallurgy Technologies Oriented towards Carbon Neutrality

**25. Deqing Zhu, Central South University, China**

Presentation title: Hydrogen rich gas based direct reduction behaviours of iron ore pellets

**26. Qingshan Zhu, Institute of Process Engineering (IPE), Chinese Academy of Sciences (CAS), China**

Presentation title: Reduction behaviour of hydrogen with FeO in synthetic molten Hlsarna slag

**27. Aijun Zheng, HBIS Group, China**

Presentation title: Green Transformation and Low-Carbon Development -- Innovative Practice of HBIS Group's 1.2 Million ton Hydrogen Metallurgy Demonstration Project (HYMEX™)

**28. Haibin Zuo, University of Science and Technology Beijing, China**

Presentation title: Progress and prospects of hydrogen application in low-carbon ironmaking in China

**29. BMW Brilliance, Germany**

Presentation title: To be determined

**30. JFE Steel Corporation, Japan**

Presentation title: To be determined

## Technical Program Book

The accepted abstracts will be published in the technical program book which will be issued to attendees at the conference.

## Presentation

- ✧ Authors could choose the type of presentation (oral or poster) in the online abstract submission. The final result will be given to the author after the paper is reviewed by experts.
- ✧ Each presentation could be arranged in the technical program only if at least one author's registration fee is paid **before August 15, 2023**.

## Conference Schedule

| Date   | Activity   |                   |                |
|--|--|-------------------|----------------|
|  | <i>Morning</i>   | <i>Afternoon</i>  | <i>Evening</i> |
| September 4, 2023<br>(Monday)                | —  | Registration      | Registration   |
| September 5, 2023<br>(Tuesday)               | Opening Ceremony<br>Plenary Session                    | Parallel Sessions | Banquet        |
| September 6, 2023<br>(Wednesday)             | Parallel Sessions                                      | Parallel Sessions | —              |
| September 7, 2023<br>(Thursday)              | Post Technical-Visits: HBIS Group Zhangxuan High Tech. |                   |                |
| <b>Conference Venue:</b> Genting Grand Hotel |  |                   |                |

## Official Language

Official language for the symposium is English. Simultaneous interpretation will be provided at the plenary session.

## Post Technical-Visit

**Date:** Thursday, September 7, 2023

**Visiting Company:** HBIS Group Zhangxuan High Tech.

### Introduction:

Zhangxuan High Tech (formerly Xuansteel), is a backbone subsidiary of HBIS Group. It is located in Zhangjiakou, one of the venues where the 2022 Winter Olympics was held. Zhangxuan High Tech is one

of the earliest steel plants in China, with a history of 104 years. In recent years, with the goal of building a successful model of green and low-carbon transformation in the steel industry, HBIS Zhangxuan High Tech has built "three bases" of key materials manufacturing for high-end equipment, strategic emerging industries and modern service industries. Zhangxuan High Tech has constructed the world's first shaft furnace direct reduction hydrogen metallurgy project using hydrogen-rich gas (coke oven gas) zero reforming technique.



## Registration Fee

✧ **USD 400 (Regular)**

✧ **USD 200 (Student)**

**Note:** The accepted papers will be published in the Conference Proceedings only if the registration fee is paid before August 15, 2023.

## Entitlement

### **Registration fee for regular participants covers:**

Conference fee, Technical program book, Banquet, Tea/Coffee Break, Lunch and supper buffet during the conference, Name badge

### **Registration fee for students covers:**

Conference fee, Technical program book, Tea/Coffee Break, Lunch and supper buffet during the conference, Name badge

## Method of Payment

### **1. Online Payment**

Through the conference online payment , all payments could be made by credit card.

### **2. Bank Transfer**

Please transfer the registration fee to the following bank account, and specify with "ISHM2023,

Registration No.”. A copy of remittance certificate is requested to send to the conference secretariat or submit to the conference website.

|                                |   |
|--------------------------------|---|
| Name of Bank                   | INDUSTRIAL AND COMMERCIAL BANK OF CHINA<br>BEIJING MUNICIPAL BRANCH<br>WANG FU JING SUB-BRANCH OFFICE |
| Beneficiary and Account Holder | The Chinese Society for Metals  |
| Address                        | NO.237 WANG FU JING STREET, DONG CHENG<br>DISTRICT, BEIJING 100006 P.R.CHINA                          |
| SWIFT ADDRESS                  | ICBKCNBJBJM   |
| Account Number                 | 0200000709089116848   |

**\*Notes:** 1) The Check will not be accepted, 2) The registration fee doesn't include the bank charge, 3) The receipt will be provided at the registration desk during the conference.

### 3. Payment in CNY at the Registration Desk

Attendees are requested to pay by credit card on the registration day.

#### Cancellation

Refunds cannot be given if cancellations received after September 1, 2023. Substitutions can be accepted at any time.

Please indicate the bank, branch and account number clearly to which the refund should be sent, and the refund will be made after the conference.

| Cancellation             | Refund  |
|--------------------------|---|
| Before September 1, 2023 | 80%   |
| After September 1, 2023  | No refund (Conference proceedings will be sent to the authors after the conference) |

#### **Visa Application**

People from most countries will be required to obtain a visa to enter the People's Republic of China. ISHM2023 participants who are required to apply for visa to enter China can apply for a Chinese visa at the nearest Embassy or Consulate of China in your countries. For some visa applications, the process could take some time to complete, depending on your country of origin and certain visa restrictions so we would like to suggest you start the visa application as early as possible.



As conference hosts, we can issue you an invitation letter for your visa with the necessary signature and official stamp. If you need, please log in your account and download it in “My Page” after paying for your registration.

Tips: Local organizers could NOT provide conference invitation letter to accompanying personnel according to related regulations. We suggest that accompanying personnel apply for tourism type visa, which will be much easier and require less paperwork.

**Notes:**

1. You should guarantee that all information provided is true and correct.
2. In the letter for visa, we can only guarantee your stay in Chongli during conference period.
3. General visa information should be obtained from your local Embassy or Consulate of China.

## Conference Venue / Hotel Reservation

The conference will be held in banquet hall of Genting Grand hotel Chongli on September 5<sup>th</sup> to 7<sup>th</sup>, 2023. Genting Grand Hotel (★★★★★) is a Mountain sport theme hotel. It has 265 rooms and 83 Youth travel rooms. All rooms are equipped with Wet and dry separation toilets and kitchen facilities. Some family rooms can accommodate 4-6 family members to live together. It also has 21 thematic rooms for parents with their children, with bathrobes specially prepared for kids. The rooms are designed to cater to the needs of parents and children, allowing a whole family enjoy a quality time together.

For the participants of ISHM2023, the special rates will be effective on September 5<sup>th</sup> to 7<sup>th</sup>, 2023. The room rate is

- ✧ **King Bed Room** CNY 389 / night (breakfast included and only for ISHM2023)
- ✧ **Twin Beds Room** CNY 375 / night (breakfast included and only for ISHM2023)

If you want to reserve the accommodation that recommended by the conference secretariat, please indicate your order of preference with us. Contact: Ms. Fang Liu, Mr. Xin Zhao, The Chinese Society for Metals, Tel: +86-10-65211205, Fax: +86-10-65124122, Email: [ishm2023@csm.org.cn](mailto:ishm2023@csm.org.cn)

**Conference Venue:** Genting Grand Hotel

**Address:** Wutong Avenue, Close Taizi Cheng Highway, Chongli, Zhangjiakou, China, 076350



## General Information

### Climate and Clothing

During September, the average temperature in Chongli is 11-23°C.

### Currency

Only CNY is acceptable at regular store and restaurants. Foreign currency or traveler's checks can be change into CNY at major banks, hotels and airports.

### Credit Cards

Credit cards are widely accepted. Commonly recognized cards include Visa and MasterCard.

### Tipping

There is no custom of tipping anywhere in China, even at hotels and restaurants. On certain occasions, however, a service charge is added to the bill.

### Electrical Appliances

The voltage in China is 220 volts for electrical appliances. Electrical sockets usually accept two-pronged (vertical) plugs and three-pronged (vertical) plugs.

### Insurance

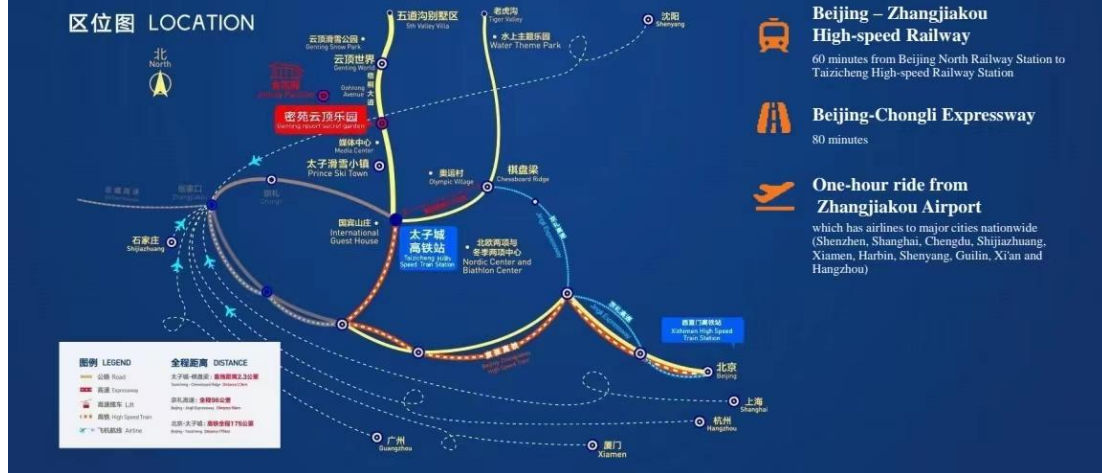
The organizer cannot accept responsibility for accidents which might occur. It is recommended that participants take out adequate medical, travel and personal insurance prior to the commencement of travel.

## Access

It is suggested that the flight of ISHM2023 participants could arrive at terminal 3 (T3) building of Beijing Capital International Airport. On 4 Sept. 2023, the conference volunteers will stay in T3 to help you transfer to Chongli. You will pay the the transportation expenses of about CNY300, including subway ticket (from Beijing Capital International Airport Station to Xizhimen Station) and high-speed rail ticket (from Beijing North Railway Station to Chongli Station). **If you need this service, please kindly send us your flight information before August 15, 2023**

# Convenient Transportation

One-hour Living and Economic Cycle around Beijing



## Conference Secretariat

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