

The 1st International Symposium on Iron Ore Agglomerates (SynOre2022)

November 22-26, 2022

KUNIBIKI MESSE Shimane Prefectural Convention Center, Japan

https://synore2022.com



Reprinted with permission from Libraries for Eng. Inform. Sci. & Technol., University of Tokyo

In the early modern times through the Edo period, "Tatara" ironmaking technology had significantly developed in "Chugoku District around Izumo-Matsue Region", Shimane prefecture. "Tatara" means a stepping bellows to blow air to the furnace.





Organized by: The Iron and Steel Institure of Japan, ISIJ

1 100

Contact

t The 1st International Symposium on Iron Ore Agglomerates (SynOre2022) Secretariat c/o ISS, INC., Mita MT Bldg. 8F, 3-13-12 Mita, Minato-ku, Tokyo, 108-0073 E-mail synore2022@issjp.com

Welcome Message / Organizing Committee / International Scientific Committee

Welcome Message

It is our great honor to announce the 1st International Symposium on Iron One Agglomerates (SynOre2022) to be held in Matsue, Japan from November 22nd to 26th in 2022. The conference will provide the first opportunity for researchers and engineers in the field of ironmaking to focus on comprehensive and dedicated presentations and discussions regarding the iron ore agglomeration processes and the properties of agglomerates. It will contribute the advancement of the agglomeration technology vital for high efficiency operation of the blast furnace. The conference will be held in Matsue City, a typical mythological place, located in the northern region of Western Japan. It is apposite to the venue of the conference since the traditional ironmaking technology called "Tatara" has been alive there since long ago, which has produced high-quality steel, known as "Tama-Hagane". We are looking forward to seeing you in Matsue for our inspiring meeting.

Eiki Kasai, Chair of SynOre2022, Tohoku University

Organizing Committee Members

Chair

Eiki, Kasai (Tohoku University)

Committee

Kiyoshi, Fukada (JFE Steel Corporation) Miyuki, Hayashi (Tokyo Institute of Technology) Takahide, Higuchi (JFE Steel Corporation) Kenichi, Higuchi (Nippon Steel Corporation) Yoshiaki, Kashiwaya (Kyoto University) Minoru, Kuwabara (JFE Steel Corporation) Masaru, Matsumura (Nippon Steel Corporation) Kenjiro, Miyata (Kobe Steel, Ltd.) Shigekazu, Morito (Shimane University) Taichi, Murakami (Tohoku University) Hiroshi, Nogami (Tohoku University) Koichiro, Ohno (Kyushu University) Koji, Osuga (Kobe Steel, Ltd.) Koji, Shiraishi (Kobe Steel, Ltd.) Shigeru, Ueda (Tohoku University) Shin, Sugiyama (Nippon Steel Corporation) Eiji, Yamasue (Ritsumeikan University)

Corporating Organizations

The Chemical Society of Japan (CSJ) The Institute of Life Cycle Assessment, Japan (ILCAJ) The Japan Institute of Energy (JIE) The Japan Institute of Metals and Materials (JIM) The Japan Research and Development Center for Metals (JRCM) The Japan Society of Mechanical Engineers (JSME) Jernkontoret The Mining and Materials Processing Institute of Japan (MMIJ) The Society of Chemical Engineers, Japan (SCEJ) Society of Environmental Science, Japan (SES)

Conference Schedule / Plenary Lecturers



Conference Schedule

22nd, November (Tuesday)	Plant Tour (JFE Steel West Japan Works)		
23rd, November (Wednesday)	Registration + Welcome Party		
24th, November (Thursday)	Technical sessions + Banquet		
25th, November (Friday)	Technical sessions		
26th, November (Saturday)	Excursion (Izumo Taisha Grand Shrine, Live Tatara-Performance etc.)		

*Special excursion to Iron History Village and Banquet at YUUSHIEN will be announced as soon as the schedule is fixed.

Plenary Lecturers

Dr. Kenichi Higuchi (Nippon Steel) Japan Prof. Tom Honeyands (University of Newcastle) Australia Dr. Liming Lu (CSIRO) Australia Prof. Xuewei Lv (Chongqing University) China Dr. Sang Han Son (posco) Korea

Topics / Important Dates / General Information

Topics

1 Raw Materials:

Iron ore resources, Beneficiation technology, Fluxing materials

- 2 Pre-treatment of Raw Materials: Mixing & granulation, Granule design, Charging
- 3 Sintering Process:

Agglomeration agents, Ignition technology, Sintering reactions, Bed-structure change, Yield & productivity, Exhaust gas treatment

4 Metallurgical Properties of Agglomerates: Microstructure, Strength, Reduction disintegration, Reducibility, Softening & melt-down properties

5 Historical Development on Iron Ore Resource Utilization: Iron mine, Iron sand, Ancient ironmaking technology, Remains & ruins

Important Dates

Abstract submission: **March 4th**, Notification of acceptance: **May 23rd**, Extended Abstract submission: **July 29th**, Early bird registration: **August 31st**,

General Information

Passport and Visa

A valid passport is required to enter Japan. Participants from certain countries may be required to obtain a visa to enter Japan. Visa applications need to be made at least three months before the symposium. If you are uncertain about your requirements, please consult your nearest Japanese Embassy or Consulate, or visit the website of the Ministry of Foreign Affairs of Japan.

Climate and Clothing

During November, the average temperature in Matsue is around 12-16 degrees Celsius (54-60 degrees Fahrenheit).

Currency

Only Japanese Yen is acceptable at regular stores and restaurants. Foreign currency can be changed into Japanese yen (¥) at major banks, hotels, and airports.

Credit Cards

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

Tipping

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

Electrical Appliances

The voltage in Japan is 100 - 110 volts for electrical appliances. Electrical sockets usually accept only two-pronged (vertical) plugs.

Special Requirements

Please give us the details of any special diet or disability assistance required on your registration form.

Insurance

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

Contact

The 1st International Symposium on Iron Ore Agglomerates (SynOre2022) Secretariat c/o ISS, INC., Mita MT Bldg. 8F, 3-13-12 Mita, Minato-ku, Tokyo, 108-0073 Phone: +81-(0)3-6369-9984 Fax: +81-(0)3-3453-1180 E-mail: synore2022@issjp.com

Plant Tour / Excursion

Plant Tour

*Scheduled Date: November 22nd (Tuesday)

JFE Steel West Japan Works is integrated steelworks located in Fukuyama City and Kurashiki City. The plant tour will guide you to the main facilities of the ironmaking processes; Sintering Machine, Blast Furnaces etc. of the Fukuyama works.

Details will be announced later to the tour participants.







Blast Furnaces



Excursion

*Scheduled Date: November 26th (Saturday)



Symposium excursion will take place on Saturday 26 December, 2022. Bus(es) will pick up the participants at the conference venue on 9:30 and will visit to "Izumo Taisha Grand Shrine",

"Historical Museum of Iron in Tetsu-no-Rekishimura", and then "Live Tatara Performance".

After that, the bus(es) will be back to Matsue JR Station at 18:30 via Izumo Airport at 18:00.

The symposium registration fee does not cover the excursion. The applicants are required to entry the symposium excursion.

There is a possibility of the schedule change depending on the COVID infection situation. Details will be available soon later.

- Izumo Taisha Grand Shrine
 <u>https://www.izumo-kankou.gr.jp/english/4760</u>
- Historical Museum of Iron in Tetsu-no-Rekishimura <u>http://www.tetsunorekishimura.or.jp/history</u>
- Live Tatara Performance We will be able to see the Noro-dashi (Slag drain) operation at Tatara-Ba (Field).

Call for Papers

Call for Papers

Abstract submission: March 4th, 2022 Notification of acceptance: May 23rd, 2022 Extended Abstract submission: July 29th, 2022

Participants wishing to make a presentation on the results of their recent research are cordially invited to submit up to a maximum of 200 words abstract in English, by no later than March 4th, 2022 via the online SynOre2022 conference website.

Authors of accepted papers will be notified by e-mail by May 23rd, 2022, with information on the format and typing instructions for the Extended Abstract.

Abstract Submission Instructions

Submission is only accepted via the online SynOre2022 conference website.

Only one Abstract per Presenter is accepted for submission.

No fax or e-mail submission is accepted.

Please fill in the online submission form and submit the abstract with up to 5 Keywords.

Abstract should be written not exceeding 200 words. You are requested to choose the topics from the listed below that are most applicable to your abstract theme. After submission, you will receive an automatic submission number in return by e-mail when the submission succeeded.

- 1. Raw Materials
- 2. Pre-treatment of Raw Materials
- 3. Sintering Process
- 4. Metallurgical Properties of Agglomerates
- 5. Historical Development on Iron Ore Resource Utilization
- 6. Others

Extended Abstract submission instruction will be notified on the website once ready.

Type of Presentation

Either Oral or Poster presentations is accepted. However, the Program Committee will make the final decision.

Registration / Accommodation

Registration

Early bird Registration: August 31st, 2022 Regular Registration: October 31st, 2022

Registration Fees

	Early Registration until August 31st, 2022	Regular Registration until October 31st, 2022	On-site Registration
Regular	JPY 80,000	JPY 100,000	JPY 110,000
Student	JPY 35,000	JPY 35,000	JPY 40,000
Plant Tour	TBD (Prices will be posted on the website when decided.)		
Excursion	TBD (Prices will be posted on the website when decided.)		
Documents for Visa acquisition	JPY 10,000		

• All participants are subject to register online in advance or on-site at the registration desk of the venue.

• All presenters are required to register in order to make a presentation and for the paper to be included in the Extended Abstracts Booklet.

• Students are requested to show their Student ID card at the onsite registration desk.

Entitlement

Registration fee for <u>Regular participants</u> and <u>Students</u> include: Session participation, Conference kit, Welcome party, Coffee breaks, Banquet.

Payment Methods

After registering through the website, all payments must be made in Japanese yen by credit card only. Payments are accepted only through VISA and Master Card. Payment will be made in a single lump-sum.

Registration / Accommodation

Confirmation and Receipt

The Pre-Confirmation e-mail bearing your registration number and details will be sent to you after your online registration is completed.

The Confirmation e-mail will be sent to you after the payment has been confirmed.

Cancellation and Refunds

Cancellation Policy: No refund after payment.

Accommodation

All participants are requested to book their accommodation in Matsue by themselves.

SynOre2022 Organizing Committee or Secretariat Office will not arrange accommodation for the participants. Please enquire at your favorite online hotel-booking page or travel agency.

Some hotels in the vicinity of the conference venue are listed below for your reference.

Please contact directly to the hotel you would like to stay at. Please note that the Organizing Committee or Secretariat Office has no special contract with these hotels and is not responsible for participants' hotel reservations.

Matsue Urban Hotel	about 7 mins on foot (to KUNIBIKIMESSE)
Matsue Excel Hotel Tokyu	about 8 mins on foot
Tokyu Inn Matsue Ekimae	about 8 mins on foot
Hotel Route-Inn Matsue	about 12 mins on foot
Matsue New Urban Hotel	about 10 mins by car! about 20 mins by train "Lake Line"
Hotel Ichibata	about 15 mins by car

For more information on accommodation, see the website below. Matsue is located in Izumo area.

https://www.kankou-shimane.com/en/plan-your-trip/travel-booking

Conference Venue / Access to Matsue

Conference Venue

KUNIBIKI MESSE Shimane Prefectural Convention Center http://www.kunibikimesse.jp/14.html



KUNIBIKI MESSE is in Matsue city, the capital of Shimane prefecture in Southwest Japan where is at a walking distance of 7 minutes from JR Matsue Station. Matsue has some famous sightseeing spots, for example Lake Shinji, Matsue Castle, picturesque traditional Japanese street where are one to two kilometers from JR Matsue Station.

Shimae Hiroshima Kansai Airport

Access Details (Reference Prices as of Year 2021)

International Flight (Arriving at Narita Airport)

- Transfer by Domestic Air (Haneda to Izumo Airport): Narita arrivals should first transfer to Tokyo's domestic airport Haneda for flights to Izumo. Bus transfers between Narita and Haneda take for 90 minutes and cost 3,200 Yen. Flight time between Haneda and Izumo is for about 90 minutes. Shuttle buses from Izumo airport to Matsue Station depart following all flight arrivals. A one-way trip takes for 35 minutes and costs 1,050 Yen to Matsue JR Station.
- Domestic Rail Transfer: See right for Shinkansen transfers from Tokyo to Matsue. Trains from Narita to Tokyo (3,000 Yen) Station take about 60 minutes and cost approx.
 2,700 Yen (in case of Narita Express train). Buses from Narita to Tokyo take 80~110 minutes (depending on traffic conditions) and approx. 1,300-2,800 Yen.

International Flight

(Arriving at Kansai International Airport)

- Transfer by Train: JR train to Shin-Osaka and transfer to bullet train (Shinkansen) for Okayama station. Change at Okayama to Limited Express YAKUMO for Matsue station. It takes for about 5 hours and cost approx. 12,000 Yen.



International Flight (Arriving at Yonago Airport)

- Transfer by Train: JR depart from Yonago Airport station approximately once every hour. To get to Matsue, travellers should transfer at Yonago station. A one way trip to Matsue costs 770 Yen by regular train (for 90 mins) and approx. 2,000 Yen by express (for 70 mins).
- Transfer by Shuttle buses to Matsue Station scheduled in connection with a domestic arrival.

Domestic Flight (Arriving at Yonago Airport)

- Transfer by Shuttle buses to Matsue Station depart following all domestic flight arrivals. A one way trip takes for 45 minutes and costs 1,000 Yen.

JR Shinkansen (Bullet) Train (From Tokyo to Okayama) and Limited Express (From Okayama to Matsue)

Bullet Trains (Shinkansen) to Okayama from Tokyo then transfer to Limited Express YAKUMO for Matsue station. It takes for about 6 hrs 15 minutes and cost approx. 20,000 Yen.

From Matsue station to KUNIBIKI Messe

8 minutes on foot (about 650m).



About Matsue

Basic information of Matsue

Matsue is the capital city of Shimane Prefecture, in Southwest Japan. Known as the "City of Water", Matsue stands by the Sea of Japan where Lake Shinji and Nakaumi meet, in the middle of Shimane Peninsula. A former feudal stronghold, Matsue is a true castle town crossed with many canals and boasts one of the twelve remaining original castles in Japan. Famous for its beautiful sunsets over Lake Shinji, Matsue also prides itself on having been the adopted home of the writer Lafcadio Hearn, who became one of the first Westerners to take Japanese citizenship under the name of Koizumi Yakumo.

Tourism Information of Matsue

Matsue City Centre is bisected by the Ohashi River, and many places of interest that are easily accessible on foot from Matsue Station are concentrated in this area.

Matsue Castle Area

Matsue Castle

Completed in 1611 and one of only 12 remaining original castles nationwide, Matsue Castle was built over a five-year period by Horio Yoshiharu, feudal lord and founder of Matsue. It was designated as a national treasure in 2015.

Horikawa Sightseeing Boat

This boat tour circles the castle's historical inner and outer moats, passing points of interest which you may not see otherwise. The boat also passes under particularly lowbuilt bridges from time to time, meaning the passengers need to duck down as the roof lowers. Kotatsu heaters are placed in the boat during winter and passengers can literally experience the "warmth" of Japanese tradition.

Shiomi Nawate Street & Samurai Residence

Shiomi Nawate is a 500m long street running along the castle moat that is lined with traditional Japanese houses on one side and majestic pine trees on the other. It has been designated as a traditional aesthetic zone. A finely preserved samurai residence (buke yashiki), open to public viewing, is located at the half-way point of this street. Shiomi Nawate also has a soba restaurant (Yakumo-an) and other souvenir shops, as well as the Tanabe Museum, containing many artefacts relating to the tea ceremony. The former residence of Lafcadio Hearn and his memorial museum are also located there.

Lake Shinji

Named 'Shinji-ko' in Japanese, Lake Shinji is a Matsue's foremost symbol as the "City of Water". It is the seventh largest lake in Japan, with a circumference of about 45 km (28 miles), making it 16 km from east to west, and 8.5 km from north to south.

Lake Shinji's view has been included in Japan's list of one hundred best sunsets. We recommend watching it from anywhere along Shirakata Park, from the Shimane Art Museum or the sunset viewing spot, which is located south of the museum along the lakefront promenade. From there, you can enjoy the closest view of the petite island of Yomegashima. Lake Shinji is synonymous with Shijimi clams, among the many other fish and shellfish found there. These clams are incorporated in various local dishes. This variety of clam, also known as Yamato Shijimi (corbicula japonica), is larger than other kinds of Shijimi and is well-suited for miso soup and other dishes.

For more information about Matsue. For more information about Shimane. https://www.visit-matsue.com/ https://www.kankou-shimane.com/en/







