The Timetable of the 162nd ISIJ Meeting

	Sep.20（Tues.）		Sep.21（Wed.）		Sep.22（Thurs.）	
	a.m.	p.m.	a.m.	p.m.	a.m.	p.m.
Room1 (R1-211)	Ironmaking process enabling low energy consumption1・2 [1-8]（9:10-12:00）	Blast furnace and shaft furnace /Facility and refractroies1 [9-17]（13:00-16:10）	Young engineer in ironmaking1 /Young engineer session of coke-making1 [52-60]（9:00-12:10）	Young engineer session of coke-making2 /Young engineer in ironmaking2 [61-70]（13:10-16:40）	Numerical simulation for blast furnace1・2 [122-127]（9:30-11:40）	― ― ― ―
Room2 (R1-212)	Slag and dust treatment ・CO_2 reduction1・2 [18-24]（9:20-11:50）	Development of in-situ observation technique for steel solidification and its application （13:00-16:30）[Charge-free]	― ― ― ―	Sintering1・2・3 [71-80]（13:00-16:30）	Cokemaking process /Reactivity and property of coke [128-134]（9:20-11:50）	Gasification [135-139]（13:00-14:40）
Room3 (R1-213)	Thermodynamics1・2 [25-32]（9:00-11:50）	Fundamentals and application of special steel refining technology 1・2・3・4 [33-43]（13:00-17:00）	Conventional continuous casting1・2 ・Refractories2 [81-88]（9:00-11:50）	Converter・secondary refining1・2 /Inclusion・stainless [89-100]（13:00-17:20）	Hot metal treatment /Refractories3 [140-147]（9:00-11:50）	Tansport phenomena1・2 /Prospect of the utilization of new phases to steel-refining1・2 [148-157]（13:00-16:30）
Room4 (R1-214)	Functions of electromagnetic fields in materials processing1・2 [44-51]（9:00-11:50）	― ― ― ―	Physico-chemical properties of molten matter for high temperature processing1・2 [101-108]（9:00-11:40）	Physico-chemical properties of molten matter for high temperature processing3・4・5 /Properties of liquid materials [109-121]（12:40-17:10）	Introduction of novel processing forum activity1・2 [158-163]（10:00-12:00）	Microwave processing [164-167]（13:00-14:20）
Room5 (R1-311)	Exploring a low carbon sintering process ―Aiming at the reduction of 100 kg-CO_2/Fe-ton― （9:30-17:00）[1,000yen]		Fundamentals and applications of non-metallic inclusions in solid steel （9:15-16:45）[Charge-free]		Continuous casting・solidification1・2 [168-175]（9:00-11:50）	Solidification and structure control1・2・3 [176-186]（13:00-17:00）
Room6 (R1-312)	Gas separation・waste heat utilization /Slag utilization [187-192]（9:20-11:30）	New aspects of steel research and development under resource and environmental restrictions （13:00-16:30）[1,000yen]	Iron and steel material cycle and rare metals flow [193-196]（10:00-11:20）	Pyrometallurgy based separating & recycling （13:00-17:00）[2,000yen]	Development on the Novel Functions of Steelmaking Slags -Utilization for Marine Environment- （9:30-16:20）[1,000yen]	
Room7 (C1-211)	― ― ― ―	― ― ― ―	（D） Production of green energy and the use for ironmaking and steelmaking ［D1-12］ （9:10-17:00）		（Int.） Ancient and pre-modern production of iron and non-ferrous metals ［Int.1-13］ （8:45-17:00）	
Room8 (C1-111)	（D） Process control achieving sustainable and fault-tolerant production ［D13-17］ （9:30-12:00）	（D）Modeling and control to realize the deviation-free production ［D18-23］(13:30-16:40）	（D）Advanced system integration for preserving, sharing and improving work quality in steel plants ［D24-28］(9:20-12:00）	Instrumentation /System [197-202]（13:00-15:00）	― ― ― ―	― ― ― ―
Room9 (U2-211)	Numerical model /Interaction between tool and work materials for superior machinability [203-209]（9:30-12:00）	Cooling・hot-dip coating /Rolling・cooling /Skin pass rolling [210-220]（13:00-17:00）	（D） Cooling technologies for the controlling of microstructure and mechanical properties ［D29-35］ （9:30-16:20）		（D）State-of-the-art technology and challenges for new corrosion resistant steel tubes & pipes and its manufacturing process ［D36-40］(9:00-12:00）	― ― ― ―
Room10 (U2-212)	― ― ― ―	Compaction & sintering of powder & particulate1・2 [221-229]（13:00-16:10）	Friction welding and friction stir welding of steel /Tribology and joining [230-236]（9:00-11:30）	Today and future outlook of long life/life extension technologies of steel structures （13:00～17:10）[Member:2,000yen, Non-member:3,000yen]	（D）Approach for the elucidation of metallurgy and effect in processing of an oxide scale ［D41-50］(9:30-15:40）	
Room11 (U2-214)	Hydrogen embrittlement1・2 [237-244]（9:00-11:50）	Hydrogen embrittlement3・4 /Fatigue [245-255]（13:00-17:00）	Fatigue and fracture /Deformation behavior ［306-313］(9:00-11:50）	Fracture1・2 /Stress analysis [314-324]（13:00-17:00）	Deformation and fracture of DP steel /Microstructure and mechanical properties of bainite, martensite, residual austenite steel ［367-374］(9:00-11:50）	Mechanical properties of ferrite steel /Strengthening and hardening of precipitation, dispersion and aging [375-382]（13:00-15:50）
Room12 (U2-213)	Phase transformation・diffusion /Phase equilibria・phase diagram [256-261]（9:00-11:10）	Steels for energy application [262-265]（14:00-15:20）	― ― ― ―	Ni-base super alloy1・2・3 [325-333]（13:00-16:20）	Heat resisting steel1・2 ［383-390］(9:00-11:50）	Heat resisting steel3・4 [391-397]（13:00-15:30）
Room13 (U2-311)	Overview for perspectives and problems of materials and process design toward resource saving and circulating society （8:45-12:15）[Charge-free]	Structural steel1・2 [266-273]（14:10-17:00）	Toward effective 3D4D analysis for materials research （9:00-16:40）[1,000yen]		Common bases for hydrogen embrittlement studies （9:00-16:50）[2,000yen]	
Room14 (U2-312)	― ― ― ―	Hot-dip coating /Mechanism of corrosion and corrosion protection /Resistance to oxidation ・chemical conversion treatment [274-284]（13:00-17:00）	Fundamentals and novel approaches for new demands on work-hardening properties of steels （8:45-17:30）[4,000yen]		Effect of biofilm and bacteria on the material characteristics （10:00-17:00）[1,000yen, Student:Charge-free]	
Room15 (M1-214)	Texture /Prediction and analysis [285-292]（9:00-11:50）	Aging・precipitaion /Recovery・recrystallization [293-300]（14:00-16:50）	― ― ― ―	Electrical steels1・2・3 [334-342]（13:00-16:20）	Cold rolled strip and sheet1・2 ［398-402］(10:00-11:50）	Hot rolled strip and sheet1・2 [403-408]（13:00-15:10）
Room16 (M1-313)	（D）Evaluation and application of retained austenite in steel ［D51-59］(9:00-14:15）		Diffusional and diffusionless transformation1・2 [343-350]（9:00-11:50）	Diffusional and diffusionless transformation3・4 [351-358]（13:00-15:50）	（D）Recent developments and perspective of analysis techniques for evaluating microstructures and properties ［D60-69］(9:10-15:30）	
Room17 (M1-311)	― ― ― ―	Stainless steels1 [301-305]（15:00-16:40）	Stainless steels2・3 [359-366]（9:00-11:50）	Science and Latest Technologies of Stainless Steel PART1 （13:00-16:50） [Charge-free, Textbook:3,000yen]	Titanium and its alloys 1・2 ［409-414］(9:50-12:00）	Titanium and its alloys 3 [415-417]（13:00-14:00）
Room18 (C1-311)	― ― ― ―	Surface and state analysis /Elemental analysis [418-426]（13:40-16:50）	（Int.） Neutron: as a tool for developing miracle steel -1 ［Int.14-27］(9:00-17:10）		Basic aspects and applications of nonmetallic inclusion evaluation （9:00-15:00）[Charge-free]	

Poster session for students（12:00-15:00, U3-311）
ISIJ beer party（17:30-19:00, Cafeteria "Famille"）
Banquet（18:00-20:00, Restaurant "La Scena" in Osaka Univ.）[5,000yen]

[ ]: Lecture Number
( ): Lecture Time
: Symposium Please ask to each of symposium room desks directly.

Board Meeting:
Process Evaluation and Material Characterization
Sep.20（Tues.）12:30-13:30 Room 18

High Temperature Processes

Environmental, Energy and Social Engineering

Instrumentation, Control and System Engineering

Processing for Quality Products

Microstructure and Properties of Materials

Process Evaluation and Material Characterization

Environmental, Energy and Social Engineering

Instrumentation, Control and System Engineering

Processing for Quality Products

Microstructure and Properties of Materials

Lecture No. / Discussion Sessions — Title — Speaker — Page

Microstructure and Properties of Materials&Processing for Quality Products

Lecture No. / Discussion Sessions — Title — Speaker — Page

International Organized Sessions

Environmental, Energy and Social Engineering

2011/09/22 Lecture Room 7

Ancient and pre-modern production of iron and non-ferrous metals

08:45 ～ 08:55
Opening remarks Prof.E.Izawa(Kyushu Univ.)

08:55 ～ 09:55 Chairperson:T.Nakanishi(Kyushu Univ.) and J.Mei(Univ. of Science and Tech. Beijing)

08:55 ～ 09:25
Int. 1 Various pseudo-speisses (*shirome*) produced from smelting of copper ores and lead ores in pre-modern Japan ・・・ 1073

Kyushu Univ. ○E.Izawa

09:25 ～ 09:55
Int. 2 (Invited Lecture)Early metal production-more than just metals Slags,matte,speiss,and other by-products ・・・ 1077

UCL-Q ○T.Rehren

10:10 ～ 11:40 Chairperson:E.Izawa(Kyushu Univ.) and T.Rehren(UCL-Q)

10:10 ～ 10:40
Int. 3 (Invited Lecture)Recent research on early copper and bronze discoveries in northwest China ・・・ 1079

Univ. of Science and Tech. Beijing ○J.Mei

10:40 ～ 11:10
Int. 4 Evolution of silver-smelting technology of Japan in the middle of the 16th century ・・・ 1083

Kyushu Univ. ○T.Nakanishi・E.Izawa

11:10 ～ 11:40
Int. 5 Acceptance of hi-tin bronze technologies in ancient Japan ・・・ 1087

Archaeological Inst. of Kashihara ○Y.Shimizu

12:35 ～ 14:35 Chairperson:M.Tanaka(Tokyo Univ. of the Arts) and J.-S.Park(Hong-Ik Univ.)

12:35 ～ 13:05
Int. 6 (Invited Lecture)Crucible steel from India:A major metallurgical accomplishment in antiquity ・・・ 1090

National Inst. of advanced studies ○S.Ranganathan・S.Srinivasan, Univ.of Exeter G.Juleff

13:05 ～ 13:35
Int. 7 On steelmaking and smithery in southwestern Ethiopia, *Dime* ・・・ 1094

Kyoto Univ. ○E.Yamasue, NHK I.Murahashi

13:35 ～ 14:05
Int. 8 (Invited Lecture)Technological aspects of iron and steel making in ancient Korea ・・・ 1098

Hong-Ik Univ. ○J.-S.Park

14:05 ～ 14:35
Int. 9 The acceptance and development of iron artifacts in Xinjiang,China ・・・ 1102

Waseda Univ. ○Y.Tanaka

14:50 ～ 17:00 Chairperson:E.Yamasue(Kyoto Univ.) and S.Ranganathan(National Inst. of Advanced Studies)

14:50 ～ 15:20
Int. 10 Chemical affinity analysis of C+O=CO reaction during "Zuku" production in modified Tatara steelmaking furnace ・・・ 1105

Nippon Inst. of Tech. ○J.Tanabe

15:20 ～ 15:50
Int. 11 Metallurgical microstructure of Japanese matchlock gun fabricated by the Kunitomo manufacturer in the Edo period ・・・ 1106

Tokyo Univ. of the Arts ○M.Tanaka・M.Kitada

15:50 ～ 16:20
Int. 12 Microstructure and nonmetallic inclusions of iron sheets used for Japanese armature gauntlets in the Edo period ・・・ 1109

Tokyo Univ. of the Arts ○N.Kugiya・M.Kitada・F.Kirino

16:20 ～ 16:50

Int. 13 White sparks "Wakibana" in flame as a sign of welding of Tatara steel ・・・ 1113

Tokyo Univ. of the Arts ○K.Nagata・N.Kugiya, Tokyo Inst. of Tech. T.Watanabe

16:50 ～ 17:00

Concluding remarks Prof.K.Nagata(Tokyo Univ. of the Arts)

International Organized Sessions

Process Evaluation and Material Characterization

2011/09/21 Lecture Room 18

Neutron:as a tool for developing miracle steel1

09:00 ～ 09:05
Opening remarks Prof.Y.Tomota(Ibaraki Univ.)

09:05 ～ 10:30 Chairperson:M.Sugiyama

09:05 ～ 09:50
Int. 14 (Invited Lecture)In-situ Neutron diffraction studies of various metals on Engin-X at ISIS ・・・ 539
ISIS ○A.M.Paradowska, AGH Univ. of Science and Tech. A.Baczmanski, ISIS S.Y.Zhang, The Open Univ. A. Rao・P.J.Bouchard, ISIS J.Kelleher

09:50 ～ 10:10
Int. 15 Texture evolution of ferrite steel during anisotropic tensile deformation studied by neutron diffraction ・・・ 1117
JAEA ○P.G.Xu, Ibaraki Univ. T.Suzuki・K.Yamanaka, JAEA K.Akita

10:10 ～ 10:30
Int. 16 Neutron diffraction study on deformation behavior of high-nitrogen duplex stainless steel ・・・ 1119
KIMS ○T.H.Lee・H.Y.Ha・B.Hwang・S.J.Kim, KAERI W.Woo, KIMS E.Shin

10:40 ～ 12:10 Chairperson:T.Nakayama

10:40 ～ 11:15
Int. 17 (Keynote Lecture)High temperature deformation by neutron diffraction ・・・ 1121
JAEA ○S.Harjo, CROSS T.Ito, Ibaraki Univ. W.Gong, JAEA H.Suzuki・K.Aizawa

11:15 ～ 11:35
Int. 18 In situ stress measurement by neutron diffraction during tension -Compression deformation(Bauschinger effect)in nodular graphite cast iron ・・・ 543
Ibaraki Univ. ○D.Naito・Y.Tomota, JAEA S.Harjo , Hitachi Construction Machinery S.Kubota

11:35 ～ 12:10
Int. 19 “Laboratory neutron source”,a new horizon for steel research ・・・ 1123
Hokkaido Univ. ○M.Furusaka

13:10 ～ 15:10 Chairperson:A.Taniyama

13:10 ～ 13:55
Int. 20 (Invited Lecture)Microscopic insights of the unusual thermal stability of nanostructured steel from in-situ neutron scattering experiments ・・・ 1124
Oak Ridge National Lab. ○X.-L.Wang・M.K.Miller, Oak Ridge National Lab./Hong Kong Polytechnic Univ. C.T. Liu, HZB U.Keiderling, Oak Ridge National Lab. A.D.Stoica・D.Ma

13:55 ～ 14:15
Int. 21 Nano-bainite transformation and tempering behaviors studied by *in situ* neutron diffraction ・・・ 1125
Ibaraki Univ./JAEA ○W.Gong, JAEA S.Harjo, POSCO M.S.Koo, Ibaraki Univ. H.Nishijima, JAEA K.Aizawa, Ibaraki Univ. Y.Tomota

14:15 ～ 14:50
Int. 22 (Keynote Lecture)Development of the smaller-angle neutron scattering instrument TAIKAN of J-PARC ・・・ 1128
CROSS ○J.Suzuki

14:50 ～ 15:10
Int. 23 Analysis of hydrogen and deuterium trapping site using artificially produced Fe/TiN multilayers ・・・ 1129
Kobelco Research Inst. ○T.Wakabayashi・K.Sasakawa, Kobe Steel T.Nakayama, JAEA M.Takeda・D. Yamazaki, CROSS J.Suzuki

15:20 ～ 17:10 Chairperson:K.Sato

15:20 ～ 16:05
Int. 24 (Invited Lecture)SANS study of precipitation behaviors and chemical compositions in low carbon steel ・・・ 1130
KAERI ○B.S.Seong・E.Shin・Y.S.Han・C.Woo・K.H.Lee

16:05 ～ 16:25

Int. 25 Quantitative analysis of nano-size carbide precipitated in steels using small-angle X-ray and neutron scattering methods ・・・ 552

NIMS ○Y.Oba・M.Ohnuma, Kobe Steel E.Kakiuchi・T.Murakami・H.Hatano, JAEA J.Suzuki

16:25 ～ 16:45

Int. 26 Real time neutron small-angle scattering during cementite spheroidization ・・・ 534

Ibaraki Univ. ○Y.H.Su・Y.Tomota, CROSS J.Suzuki, NIMS M.Ohnuma, Yokohama National Univ. S.Morooka

16:45 ～ 17:05

Int. 27 Wetting process of β-FeOOH with Ti by small-angle neutron and X-ray scattering ・・・ 1133

NIMS ○M.Ohnuma・Y.Oba, Kobelco Research Inst. T.Wakabayashi・K.Sasakawa, Kobe Steel T.Nakayama, Kobe Shinwa Womens Univ. T.Ishikawa

17:05 ～ 17:10

Closing remarks