

2008 Joint Symposium on Molten Salts

October 19 - 23, 2008

Kobe, Japan



Program & Abstracts of
2008 Joint Symposium on Molten Salts

8th International Symposium on Molten Salts

2nd Asian and 10th Japan-China Bilateral Conference

on Molten Salt Chemistry and Technology

40th Symposium on Molten Salts Chemistry, Japan

Organizing committee of

2008 Joint Symposium on Molten Salts

October 2008

(c) 2008 Organizing committee of 2008 Joint Symposium on Molten Salts
The Electrochemical Society of Japan

**Organizing committee
of 2008 Joint Symposium on Molten Salts**

Co-sponsored by

Molten Salt Committee of The Electrochemical Society of Japan
Masuda Shogaku Kikin
Kobe Convention and Visitors Bureau
Tsutomu Nakauchi Foundation
Kansai branches of The Iron and Steel Institute of Japan
and The Japan Institute of Metals
Atomic Energy Society of Japan, Reprocessing and Recycle Technology Division

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October 2008

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Co-chairpersons Prof. Kenichiro Ota (Yokohama National University)
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Prof. Morio Matsunaga (Kyushu Institute of Technology)

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Secretary General

Minoru Mizuhata

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Preface

2008 Joint Symposium on Molten Salts is held in Kobe. This meeting includes 4 historical meeting for molten salts and ionic liquids;

"8th International Conference on Molten Salt Chemistry and Technology" (Since 1983), **"2nd Asian Conference on Molten Salt Chemistry and Technology"** extended from **"Japan-China Bilateral Conference on Molten Salt Chemistry and Technology"** (Since 1986) and **"40th Symposium on Molten Salt Chemistry in Japan"** (Since 1958), which will provide a forum to discuss the transfer of these methods and techniques, developed for high temperature, as well as the more recent room-temperature melts.

Ionic liquids in general include the traditional high-temperature molten salts, metal-molten salt systems, glass-forming systems and also the novel room temperature melts. Several state-of-the-art applications will be presented. Several recent examples of applications will highlight the importance of these ionic liquids in various industries, such as batteries, nuclear energy, pyrochemical reprocessing of nuclear fuel, synthesis, catalysis, etc. The basic concepts of the structure, dynamics, electrochemistry, interfacial and thermodynamic properties will be detailed and relevant experimental methods described. Such fundamental concepts are essential for an in-depth understanding of the general physicochemical properties of these Coulomb liquids. Experimental methods for investigating structural, dynamic, electrochemical thermodynamic and interfacial properties will be detailed, as are techniques for data collection and analysis.

We hope that all participants enjoy academic discussion, attractive accommodation, and hospitalities of Kobe. We wish to express our sincere appreciation for your contributions and advices to all participants and supporting organizations for opening of the symposium.

October 19, 2008

On behalf of organizing committee

Shigehito Deki



Cooperation with

International Workshop for Asian Nuclear Prospect

During 2008 Joint Symposium on Molten Salts, **International Workshop for Asian Nuclear Prospect** will be held in Nichi-i Gakkan at the same. This workshop is Sponsored by Atomic Energy Society of Japan, Reprocessing and Recycle Technology Div.(RRTD) on 19-21st October. According to the announcement of the organizer of the workshop, the scope of the workshop is;

The unprecedented economic expansion Asia is currently experiencing is rapidly increasing energy demand in Asia. With China representing 1/4 and India 1/5 of the world population this incremental energy demand has and will continue to have a significant impact on the world. Already, changes in supply and demand are having increasing impact on energy markets with the rising cost of oil, thermal coal and natural gas. This is resulting, in part, on an increasing reliance on nuclear power. Atomic Energy Society of Japan would like to identify and discuss the intrinsic issues of increased nuclear energy generation in China and India. The issues include an increase in the amount of spent nuclear fuel, rising uranium prices, public acceptance of spent fuel reprocessing or repository of high level waste, technical and political issues in proliferation resistance, expansion of qualified human resources and their training organizations. The purpose of the international Workshop for Asian Nuclear Prospect is to begin a dialogue on these and other relevant issues with a goal to bring this forward in order to continue and deepen the discussion of these important issues during GLOBAL 2009.

Resulting negotiation between both organizing committees, the attendees of 2008 Joint Symposium on Molten Salts can join the technical program of International Workshop for Asian Nuclear Prospect. Plenary lecture presented by Dr. M. Goff is supported by IWANC, and main session which the attendees can join will be on Room A. The electronic version of abstract will be delivered with proceeding of 2008 Joint Symposium on Molten Salts. Please notice that the proceeding book of IWANP and the other events will be charged.

A detail program is now announced in website;

http://wwwsoc.nii.ac.jp/aesj/division/recycle/asian_ws2008_program_E.pdf

Acknowledgments to Supporting organizations / Sponsors



Kobe Convention and Visitors Bureau

Masuda Shogaku Kikin

Tsutomu Nakauchi Foundation



Molten Salt Committee



The Electrochemical Society of Japan



AESJ 日本原子力学会
Atomic Energy Society of Japan

Atomic Energy Society of Japan
Reprocessing and Recycle Technology Division



The Iron and Steel Institute of Japan



The Japan Institute of Metals (JIM)

The Japan Institute of Metals



The American Ceramic Society

TOSHIBA
Leading Innovation >>>

 **NIPPON CHEMICAL INDUSTRIAL**

Inspiration for Innovation **TOYO TANSO** 

HD 北斗電工株式会社
Hokuto Denko Corporation

 **SUMITOMO METALS**

otc
OSAKA Titanium technologies Co., Ltd.

General Information

Schedule

Oct.19	15:00-17:30-19:00	Registration Get-together party
Oct.20	8:30-9:30-10:00	Registration Opening ceremony - Opening address of MS8 (Prof. Shigehito Deki) - AESJ Vice president address (Dr. Y. Tsujikura) - Congratulatory address (Prof. Qiao) - Opening address of International Workshop for Asian Nuclear Prospect (Prof. Satoru Tanaka)
	10:00-11:00	Plenary lecture (Dr. M. Goff / Chairman: Prof. Tanaka)
	11:00-12:00	IWANP Poster session (MS8 poster preparation)
	12:00-13:00	Lunch - at Restaurant (1F) and conference room (2F)
	13:00-15:00	Technical session
	ca.15:00	Coffee Break (depending on schedule in each room)
	15:20-17:00	Technical session
	17:00-19:00	Dinner - at Restaurant (1F) and conference room (2F)
	19:00-21:00	Poster Session
Oct.21	9:00-12:00	Technical session
	12:00-13:00	Lunch - at Restaurant (1F)
	13:00-17:30	Excursion (Kobe City Tour)
	18:30-21:00	Banquet (Kacho-én)
Oct.22	9:00-10:00	Plenary Lecture (Prof. Turq / Chairman: Prof. Qiao)
	10:00-11:00	Plenary Lecture (Dr. Ue / Chairman: Prof. Deki)
	11:00-12:00	Technical session
	12:00-13:00	Lunch - at Restaurant (1F) and conference room (2F)
	13:00-15:00	Technical session
	15:00-15:20	Coffee Break (depending on schedule in each room)
	15:20-17:30	Technical session
	17:30-19:00	Dinner - at Restaurant (1F) and conference room (2F)
	19:00-21:00	Poster Session
Oct.23	9:00-12:00	Technical session
	12:00-13:00	Lunch - at Restaurant (1F) and conference room (2F)
	13:00-15:00	Technical session
	15:00-15:20	Coffee Break (depending on schedule in each room)
	15:20-17:20	Technical session
	17:20-18:00	Closing remarks

On-site map



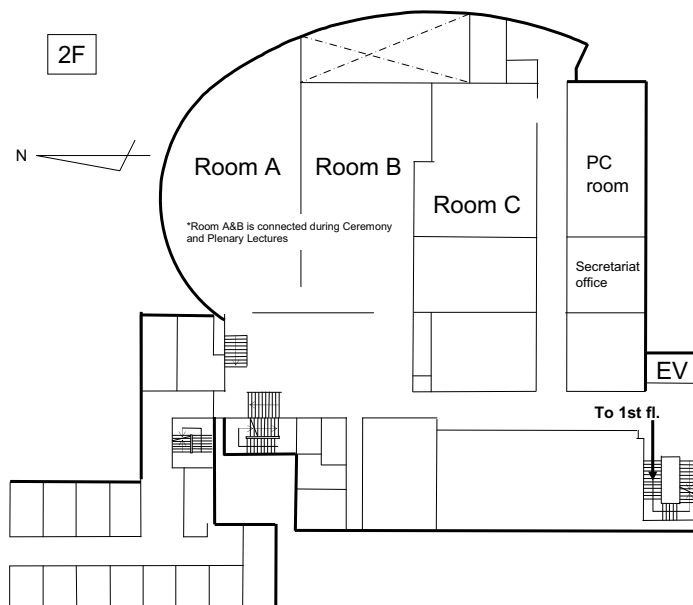
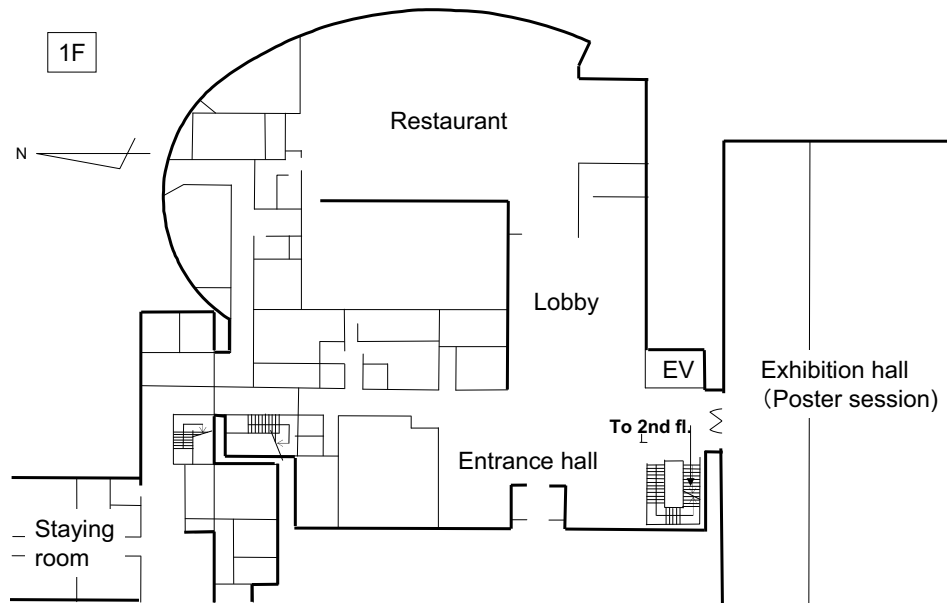
From/To downtown of Kobe (Sannomiya 三宮)

*Getting on LRT at Sanno-miya, please choose local or rapid service to "Kobe Airport(神戸空港)" NOT TO "Kita-Futo(北埠頭)".



Organizing committee delivers "Half price tickets" to/from "inside of Port island" at secretariat room. It is available to go **between Port Terminal and Kobe airport from Port Island minami Station**. Please notice that **it is NOT available to go Sanno-miya**. (limited up to 400 sheets)

Floor guide



Proceeding guide

We would like to thank that most participants with presentation have submitted their proceeding paper for publication of Proceeding of 2008 Joint Symposium on Molten Salts. We estimated the volume might be too large (more than 700 pages) to bring, hold, and keep after the symposium.

Organizing committee determined the proceeding is issued by USB memory (2GB) and reduce the waste paper for publication. Since more than 100 persons from overseas will go back to their own country by airplane, CO2 emission will reduce by ca. 3 tons !

We deliver "The proceedings in USB memory" with logo of 2008 Joint Symposium on Molten Salts. After storage into PC or other media or print out of proceeding files, please use as you like.

Usage:

- Insert USB memory into PC USB socket (USE 2.0 or later is recommended).
- Open the file "index.html"
- Choose session and open the files you need.

During symposium, you can print out in PC room (B/W printer only).

If you do not have a PC, please ask the secretariat office.



■ October 21 (Tue)

2008 Joint Symposium on Molten Salts

13:00 Depart from Portopia Hotel by bus

13:30 Arrive at the Hakutsuru Sake Brewery Museum

Hakutsuru Sake Brewing Co., Ltd., have opened their old "sake" brewhouse in its original form to the public as Sake Brewery Museum. Their hope in doing so is to give visitors a feel of the tradition of "sake" making that has been carried down through the ages and to broadly and deeply convey the "heart of Japan" to the "sake" making world.

14:30 Nunobiki Herb Garden

Ride an aerial cableway up and down Nunobiki Herb Garden for a sweeping view of celebrated Kobe city.

The 40-acre Nunobiki Herb Garden is located in Nunobiki Park, which is nestled in the rich natural setting of the Rokko Mountains. The garden features over 75,000 herbs and 150 varieties, plus a greenhouse, restaurant, cafe, museums, exhibits, and gift shops. From downtown Kobe,

16:00 Visit at China Town

The only China Town in Kansai. Abundant places to see including a splendid public rest room, Chinese cuisine, ingredients, etc.

18:00 Return to the venue



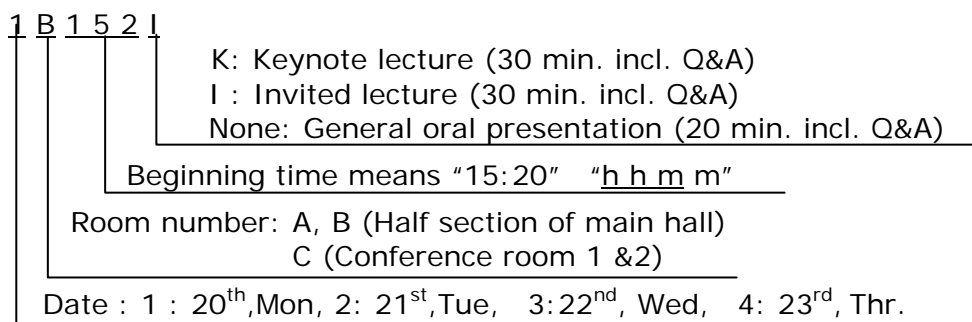
Abstracts

Plenary Lectures

1A100PL
3A090PL
3A100PL

Oral Presentation with Keynote/Invited Lectures

* Presentation number



Session 1- Fundamental structure and properties	1B132-1B162 3B110-3B174
Session 2- Spectroscopy, Modeling, Thermodynamics	1C112-1C162
Session 4- Synthesis, Reaction	2B930-2B113 3A131-3A164
Session 5- Catalysis Synthesis	1C164
Session 6- Corrosion, Electrodeposition	4B090-4B170
Session 7- Surface, Interface, Nanoscale	4C133-4C154
Session 8- Industrial Electrolysis	4A112-4A170
Session 9- Fuel Cells	4A090-4A110
Session 10- Batteries, Capacitors	4C110-4C130
Session 12- Nuclear Energy	3C112-3C174 4C920-4C104

Poster Presentations

Session 1- Fundamental structure and properties	1P001-1P027
Session 2- Spectroscopy, Modeling, Thermodynamics	1P028-1P030
Session 4- Synthesis, Reaction	1P031-1P045
Session 5- Catalysis Synthesis	1P046-1P050
Session 6- Corrosion, Electrodeposition	1P052-1P070
Session 7- Surface, Interface, Nanoscale	1P073-1P081
Session 8- Industrial Electrolysis	1P082-1P097
Session 10- Batteries, Capacitors	1P098-1P101
Session 12- Nuclear Energy	1P102-1P111

*Presentations with hatched program number are nominated for encouragement awards for young researchers.

Timetable of Scientific Program - Chairpersons

	Oct. 19	Oct. 20			Oct. 21			Oct. 22			Oct. 23			
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* IWANP:International Workshop for Asian Nuclear Prospect

Timetable of Scientific Program - Presenter

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* IWANP:International Workshop for Asian Nuclear Prospect * Unexpected cancellation might be announced on-site.



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