

## Final Program

# 2015 IERE – CRIEPI Tokyo Workshop “Advanced Electric Power Management - Thermal Power Generation against Huge Impact by Renewable Energy Penetration -”



May 19 (Tuesday) – May 22 (Friday), 2015

Tokyo, Japan

Organized by:

IERE and CRIEPI

Supported by Japan Power Academy, TENPES and GTSJ



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Thermal and Nuclear Power  
Engineering Society



**Outline Schedule:**

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**Tuesday – 19 May 2015**

Registration and Welcome Reception / Cocktail

**Wednesday 20 May 2015 – Thursday 21 May 2015**

The 2015 IERE – CRIEPI Tokyo Workshop “Advanced Electric Power Management”

**Friday 22 May 2015**

Technical visits (Optional)

**Organizer****IERE:**

IERE Central Office  
2-11-1 Iwado Kita, Komae-shi, Tokyo 201-8511 Japan  
TEL: +81-3-5438-1717 Fax: +81-3-3488-5100  
<https://www.iere.jp>

**CRIEPI**

Central Research Institute of Electric Power Industry  
Planning Group  
Otemachi Bldg., 1-6-1 Otemachi, Chiyoda-ku, Tokyo 100-8126 Japan  
TEL: +81-3-3201-6601 Fax: +81-3287-2841  
<http://criepi.denken.or.jp/en/index.html>

**General Theme: Advanced Electric Power Management****- Thermal Power Generation against Huge Impact by Renewable Energy Penetration -**

Electric power is indispensable in our lives and for the sustained development of our economy and society. From a rise of concern about an environmental problem and FIT and RPS systems, renewable energy sources (RES) such as photovoltaic and wind power generation have been penetrated to the utility system on large scale. However, since the output fluctuation of the RES is large, effective use of the thermal power generation is required of flexible operation such as frequent DSS. Therefore, it is necessary to develop technologies to achieve both effective use of RES and thermal power generation, power quality, stability and safety of utility system. It is also necessary to develop the coordination system technologies for power demand and supply for the steady supply of the electric power.

This IERE-CRIEPI Tokyo Workshop on “Thermal Power Generation” will handle urgent subjects about the thermal power generation. The changes enabled by these developments have a global significance and will impact generation, transmission & distribution as well as supply. They have the potential to challenge the traditional business models of utilities and attract new players to enter the energy markets.

With this workshop, IERE hopes to contribute to improved understanding and exchange on this strategic topic.

## Session Themes:

### Plenary Session

#### Keynote Lecture:

- Mr. Mark McGranaghan (Vice President, Power Delivery & Utilization, EPRI)
- Mr. Friedrich Schulte (Head of Strategy & Technology, Corporate Research & Development, RWE AG)
- Prof. Akihiko Yokoyama (Professor, Department of Advanced Energy, Graduate School of Frontier Sciences, The University of Tokyo)

#### S-1: Balancing of electric supply and demand (including renewable energy)

- Development of high efficiency power generation
- Measure technologies against environmental impacts
- Improvement of operation and control technologies to diversify fuel types
- etc.

### Technical Session

#### S-2: Advanced technology for thermal power plants

- Development of high efficiency power generation
- Measure technologies against environmental impacts
- Improvement of operation and control technologies to diversify fuel types
- etc.

#### S-3: Diagnostic technique for thermal power equipment

- Diagnostic technologies for aging degradation of power plants and facilities
- Non destructive inspection technologies
- Diagnostic technologies by ICT (Information and Communication Technology)
- etc.

#### S-4: Power application technology

- Measure technologies against natural disasters and cyber attack
- Prediction methods for meteorology, earthquake and volcano eruption
- Development of comprehensive assessment technologies for the environmental impact
- Development of battery storage for stationary applications
- Heat pumps
- New applications
- etc.

### Exhibition Viewing at Electric Power Historical Museum of TEPCO

All participants of the Workshop can have a look around the “Electric Power Historical Museum of TEPCO” freely, during the workshop.

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## Poster Session:

**S-1: Balancing of electric supply and demand (including renewable energy)**

**S-2: Advanced technology for thermal power plants**

**S-3: Diagnostic technique for thermal power equipment**

**S-4: Power application technology**

In addition, the Poster Session is also organized under the framework of IERE's "Young Academy" activity. Although presentations by any participants (at any age) are expected, IERE and CRIEPI especially encourage university students, academic researchers etc. to participate in Poster Session under the theme of Workshop.

Poster Session is intended to lead more detailed discussions in front of the poster in the Workshop (Lunch time).

## Who Should Attend?

The workshop is intended for experts actively involved in the selected themes, from IERE members and non-members, as well as all those interested in the evolution of the electrical power industry and the technology development and business development opportunities associated to this evolution. IERE will invite prominent speakers for keynote speeches.

## Program

### Day 0:

May 19(Tue): Venue: Shinagawa Prince Hotel (Main Tower, Reception Hall, Level+32)

19:00-21:00 Registration and Welcome Reception / Cocktail

### Day 1:

May 20(Wed): Venue: Electric Power Historical Museum of TEPCO  
Museum Hall (Level +2)

07:30 Departure of Shuttle bus **from Shinagawa Prince Hotel**  
to Workshop Venue (\*Please refer to page 12)

08:30-09:00 Registration

*Overall conference Chair: Dr. Shirabe Akita (Vice President, CRIEPI, Japan)*

### Opening Session

09:00-09:05 O-1 “Welcome Address”  
by Dr. Hideo Fujinami (Executive Vice President, CRIEPI, Japan)

09:05-09:10 O-2 “Opening Speech”  
by Dr. Rolando Nieva (Chair of IERE, IIE, Mexico)

### Plenary Session : Keynote Addresses

*Chair: Dr. Shirabe Akita (Vice President, CRIEPI, Japan)*

09:10-09:40 P-1 “The challenges of integrating customer and distributed resources”  
by Mr. Mark McGranaghan  
(Vice President, Power Delivery & Utilization, EPRI, USA)

09:40-10:10 P-2 “R&D strategies for deregulated utilities - how to respond to the  
changes in power industry”  
by Dr. Munib Amin  
(Manager, Research & Development, RWE AG, Germany)

10:10-10:40 P-3 “R&D Projects for Massive Integration of Renewable Energy into  
Grid in Japan”  
by Prof. Akihiko Yokoyama  
(Professor, Department of Advanced Energy, Graduate School of  
Frontier Sciences, The University of Tokyo, Japan)

10:40-11:00 Coffee Break

**Session 1: Balancing of electric supply and demand (including renewable energy)**

*Chair: Dr. Ikuo Kurihara (Executive Research Scientist, CRIEPI, Japan)*

- 11:00-11:30 S1-1 “Demand and supply balancing technology under large penetration of renewable energy”  
by Dr. Ikuo Kurihara (CRIEPI, Japan)
- 11:30-12:00 S1-2 “Enterprise Architecture: tool support to reach the Smart Grid”  
by Mr. Andres Rodriguez (IIE, Mexico)
- 12:00-12:30 S1-3 “Study on Modeling and Compensation Strategy of Ancillary Services for Improving Large Scale Wind Power Integration”  
by Dr. Yan Li (CEPRI, China)
- 12:30-13:50 Lunch (complimentary stand-up meal and beverage are available)
- 12:50-13:50 Poster session

<Poster presentation >

No	Title	Name	Organization
1	Adjustable Robust Optimization for Generation Scheduling with Large-Scale Wind Power Integration	Mr. Qia Ding	NARI, China
2	Business of Coal-bed Methane and Waste Heat Power Generation in NARI, China	Dr. Chaohai Zhang	NARI, China
3	Life evaluation technology for fossil power plant	Mr. Xionghua Cui	TPRI, China
4	Energy Saving Technology Development of Coal-fired Power Station in China	Mr. Dongfeng Chang	TPRI, China
5	J-POWER’s Next-Generation Low-Carbon Technologies	Mr. Nobuhiro Misawa	J-POWER Japan
6	Development of Residual Life Diagnosis Method by Strain for 9%Cr Steel Welding Steam Piping	Mr. Hidetaka Nishida	Chugoku EPCO
7	Development of a portable system for detection of thermally grown oxide layer in TBC	Dr. Tetsuo Fukuchi	CRIEPI, Japan
8	Detection of Creep Damage in Weld Joints of High Chrome Alloy Steel by Phased Array Ultrasonic Technology	Dr. Hiroyuki Fukutomi	CRIEPI, Japan
9	Development of utilization method of low HGI coal in pulverized coal-fired power plants	Dr. Hiromi Shirai	CRIEPI, Japan
10	Current status of electricity use, especially in heat pumps, in Japanese horticulture	Dr. Fumiya Goto	CRIEPI, Japan
11	Lightning Protection Design of Power Stations in Japan	Dr. Hirokazu Matsumoto	CRIEPI, Japan
12	Development of Creep Damage Assessment Method for Welded Joints of Boiler Pipes at Fossil Power Stations	Dr. Satoshi Nishinoiri	CRIEPI, Japan

No	Title	Name	Organization
13	Flaw imaging of long structures using ultrasonic dispersion compensation	Dr. Yu Kurokawa	Tokyo Institute of Technology
14	Tapping AE for inner damage detection	Mr. Takeshi Ashizawa	Tokyo Institute of Technology
15	Study on deposition behavior of natural volcanic ash inhaled from air intake of gas turbine	Prof. Masayuki Arai / Mr. Seigo Ishigaki	Tokyo University of Science
16	Development of electric potential technique to identify contact area induced by a high-temperature indentation test	Prof. Masayuki Arai / Mr. Kosuke Nukui	Tokyo University of Science
17	Evolution of Nonlinear Acoustics during Creep in Welded Joint for High Cr Ferritic Heat Resisting Steels	Mr. Takumi Honma	Shonan Institute of Technology

\*In the same Museum hall(Level +2)

- 13:50-14:20 S1-4 “Research on the Application of Wind Farm connected to the Grid in Weak Grid Condition”  
by Mr. Wei Tian (NARI, China)
- 14:20-14:50 S1-5 “TEPCO’s Efforts for Integration of Renewable Energy”  
by Mr. Yoshimitsu Umahashi (TEPCO, Japan)
- 14:50-15:10 Coffee Break

#### Technical Session(1) :

#### Session 2: Advanced technology for thermal power plants

*Chair: Mr. Xionghua Cui (Manager, Power Station Material Tech. Center, TPRI, China)*

- 15:10-15:40 S2-1 “Development of High-Efficiency Oxy-Fuel IGCC System”  
by Dr. Yusuo Oki (CRIEPI, Japan)
- 15:40-16:10 S2-2 “The Effect of In-Furnace Coal Blending to Combustion Performance in Coal-Fired Boilers”  
by Dr. Mohd Hariffin Boosroh (TNBR, Malaysia)
- 16:10-16:40 S2-4 ”Measurement of topcoat thickness of TBC using terahertz waves”  
by Dr. Tetsuo Fukuchi (CRIEPI, Japan)
- 17:15 Departure of Shuttle bus[1] to **Dinner venue**
- 17:15 Departure of Shuttle bus[2] to **Shinagawa Prince Hotel**
- 19:00-21:00 **Dinner in a Japanese houseboat (Cruise around the Tokyo Bay) hosted by CRIEPI**

\*All participants of the Workshop are invited to the “Dinner in a Japanese houseboat” by using shuttle bus[1] from Workshop venue to Dinner venue.

\*A person who doesn't attend the dinner can use the other shuttle bus[2] from Workshop venue to Shinagawa Prince Hotel.

## Day 2:

May 21(Thu): Venue: Electric Power Historical Museum of TEPCO  
Museum Hall (Level +2)

07:30 Departure of Shuttle bus **from Shinagawa Prince Hotel**  
to Workshop Venue (\*Please refer to page 12)

08:30-09:00 Registration

## Special Session:

*Chair: Dr. Munib Amin (Manager, Research & Development, RWE AG, Germany)*

09:00-09:30 SS-1 “Summary Report on the Third Prototype Technology Leader Meeting (TLM)”  
by Dr. Takao Watanabe (CRIEPI, Japan)

09:30-10:00 SS-2 “Transitioning Nuclear Power Plants to Flexible Operations”  
by Mr. David Perkins (EPRI International, Tokyo, Japan)

10:00-10:20 Coffee Break

## Technical Session(2) :

### Session 3: Diagnostic technique for thermal power equipment

*Chair: Dr. Hisao Makino (Executive Research Scientist, CRIEPI, Japan)*

10:20-10:50 S3-1 “Characterization of Damage Behavior in a Nickel-base Superalloy Based on the Crystal Orientation Analysis”  
by Dr. Daisuke Kobayashi (Chubu EPCO, Japan)

10:50-11:20 S3-2 “Diagnostic technique for aging thermal power plants at Tohoku-EPCO”  
by Mr. Fumio Sato (Tohoku EPCO, Japan)

11:20-11:50 S3-3 “Advanced Material Analysis Using Synchrotron Radiation and its Application for R&D Activities in Thermal Power Plants”  
by Dr. Hiroshi Deguchi (Kansai EPCO, Japan)



## Session 4: Power application technology

*Chair: Dr. Takao Watanabe (Associate Vice President, CRIEPI, Japan)*

- 11:50-12:20 S4-1 “Reliability Study of Ombilin Steam Power Plant Structural Concrete Building in West Sumatera as an Earthquake Area”  
by Ms. Rasgianti (PT PLN, Indonesia)
- 12:20-12:50 S4-2 “Development and Field Test of High Temperature Water Circulation Type Heat Pump for Industries”  
by Dr. Hiroshi Nakayama (Chubu EPCO, Japan)
- 12:50-13:00 **Closing Remarks**  
by Mr. Tetsuo Matsumura (IERE Central Office, Japan)
- 13:00-14:00 Lunch (complimentary stand-up meal and beverage are available)
- 13:30 Departure of Shuttle bus[1] to Shinagawa Prince Hotel
- 14:00-15:00 Guide tour of the Museum (Optional)
- 15:30 Departure of Shuttle bus[2] to Shinagawa Prince Hotel  
\*Shuttle Bus service is available from Workshop venue to Shinagawa Prince Hotel.

## Day 3:

### May 22(Fri): Technical visits (optional)

J-POWER Isogo Thermal Power Station & CRIEPI Yokosuka Area

- 08:00 Departure from Shinagawa Prince Hotel
- 09:45 - 11:45 Visit to CRIEPI Yokosuka Area
- 12:15 - 13:15 Lunch
- 14:30 - 16:30 Visit to J-POWER Isogo Thermal Power Station
- 17:30 Arrival at Shinagawa Prince Hotel

- J-POWER Isogo Thermal Power Station : a compact, urban coal thermal power station that has achieved both environmental burden reduction and thermal efficiency improvement at the world's highest level by introducing the latest environment-friendly facilities and adopting USC
  
- CRIEPI Yokosuka Area : four laboratories and latest experiment facilities
  - Electric Power Engineering Research Laboratory
  - High Power Testing Laboratory
  - Energy Engineering Research Laboratory
  - Material Science Research Laboratory

## Registration

Please submit a registration form (Format1, page 15) to IERE Central Office by email.

**Deadline: 7 April 2015**

### Registration Fee

Please make payment of following fee **No later than 17 April 2015** by credit card payment or bank transfer.

#### Registration fee is;

US\$ **300** ( or 36,000 JPY) for IERE members

US\$ **350** ( or 42,000 JPY) for non-members

US\$ **175** ( or 21,000 JPY) for academia

\*IERE member list: <https://www.iere.jp/contents/Membership/Membership.html>

\*\*Payment is applicable only in advance and non-refundable unless otherwise canceled by organizer.

#### Note

Registration fee will cover attendance for the “Advanced Electric Power Management - Thermal Power Generation against Huge Impact by Renewable Energy Penetration -”, conference package, Welcome Reception/Cocktail(19 May), Lunches(20,21 May) and a Dinner (20 May).

### Technical visits (22 May) Fee is US\$60 (or 7,200 JPY)

J-POWER Isogo Thermal Power Station & CRIEPI Yokosuka Area

#### Note:

Technical visits fees above will cover attendance for the technical visits, a round trip transportation between Shinagawa and the sites and a Lunch.

### Credit Card payment (payment in USD only)

If you prefer using your credit card for the payment of registration fee, please contact to the following URL.

[https://www.iere.jp/Payment/Tokyo\\_Workshop\\_2015.html](https://www.iere.jp/Payment/Tokyo_Workshop_2015.html)

### Bank Information (payment in USD and JPY)

#### Bank Information

Name of the Bank: The Bank of Tokyo-Mitsubishi UFJ, Ltd.

Name of the Branch: Seijo branch

Name of the account: IERE

Account Number: 1204581

Bank address: 15-1 Seijo 6-chome, Setagaya-ku, Tokyo, 157-0066 JAPAN

SWIFT code: 

B	O	T	K		J	P		J	T
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\* Remittance charge, Lifting charge, Correspondent charge and other charges should be paid by participants

### VISA (Please do not forget!)

For participants from some countries needing a VISA to enter Japan, please consult with travel agent in your country for the details.

If you need an Invitation Letter, please contact IERE Central Office.

## Submission Items & Deadlines

### For Participants including speakers

Items	Format No.	Deadline	Submit To:
Registration Form (Page 10)	1	7 April 2015	Mr. Tetsuo Matsumura <a href="mailto:office@iere.dcc.co.jp">office@iere.dcc.co.jp</a>
Registration Fee		17 April 2015	Please, refer to p.10 of this Announcement
Technical visits Fee		17 April 2015	Ditto

### For Speakers

Items	Format No.	Deadline	Submit To:
Abstract	2	6 March 2015	Mr. Tetsuo Matsumura <a href="mailto:office@iere.dcc.co.jp">office@iere.dcc.co.jp</a>
Speaker's Information	3	17 March 2015	
Copyright Permission	4	17 April 2015	
Presentation Slides (Power Point file)		17 April 2015	

The formats (No.1 to 4) can be **DOWNLOADED** from  
[https://www.iere.jp/contents/Information/Preparation\\_Events/index.html](https://www.iere.jp/contents/Information/Preparation_Events/index.html)

### Language

The official language is English.

### For Exhibitors & Sponsors:

Exhibition at the conference site is available.  
 Exhibition Fee is;

US\$ **600** for IERE members

US\$ **700** for non-members

\*Exhibition fee includes registration for two persons.

For further details, please contact IERE Central Office **by 31 March, 2015**. Please refer to;

[https://www.iere.jp/contents/Information/Preparation\\_Events/index.html](https://www.iere.jp/contents/Information/Preparation_Events/index.html)

And kind of sponsorship is also welcome. For further details, please contact IERE Central Office.

## Information

### Venue

**Welcome Reception:** **Shinagawa Prince Hotel (Main Tower, Reception Hall, Level +32)**

Location is;

4-10-30, Takanawa, Minato Ku, Tokyo, Japan

+81 3-3449-9844

URL :<http://www.princehotels.com/en/shinagawa/>

\*Two minute walk from the Shinagawa Station (Takanawa Exit).

**Workshop:** **Electric Power Historical Museum of TEPCO**

Location is;

4-1, Egasaki, Tsurumi Ku, Yokohama, Japan

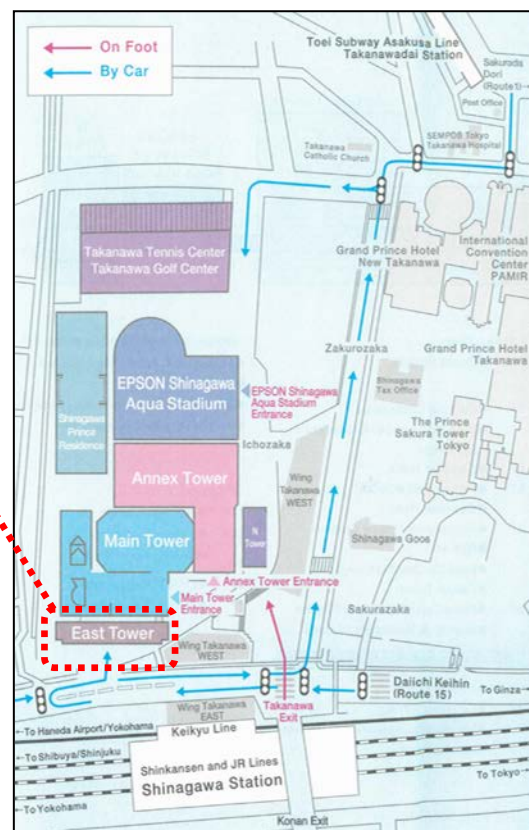
URL :<http://www.tepco.co.jp/en/shiryokan/guide/index-e.html>

\*This Museum is located about 2 km west from JR Kawasaki Station.

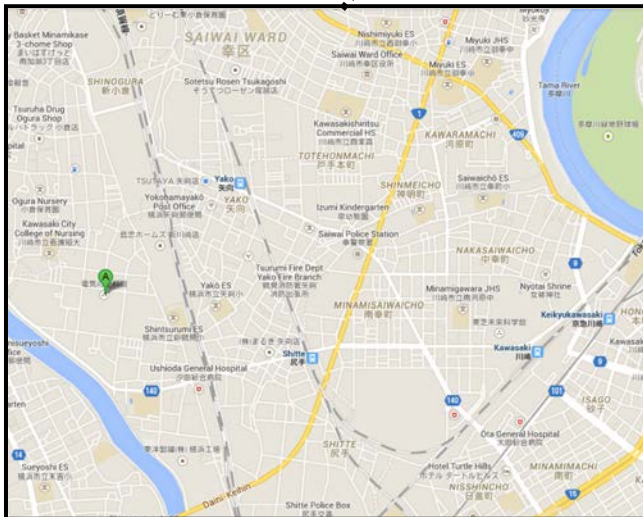
\*Currently, Electric Power Historical Museum of TEPCO is closed for the time being. Shuttle Bus Service of TEPCO in the URL above is not available between Workshop venue and Kawasaki Station.

\*Shuttle Bus Service arranged by CRIEPI is available between **Workshop venue** and **Shinagawa Prince Hotel**.

\*The place where the shuttle buses departs and arrives is the parking in front of the East Tower of the Shinagawa Prince Hotel.



<Map around Shinagawa Prince Hotel>



Map URL: <http://goo.gl/maps/i46YX>

**Electric Power Historical Museum of TEPCO**

(In Japanese: “Tokyo Denryoku, Denki-No-Shiryoukan”)




Map URL: <http://goo.gl/maps/Jbt1t>

**Shinagawa Prince Hotel (Main Tower)**

\*Shuttle Bus Service arranged by CRIEPI is available between **Workshop venue** and **Shinagawa Prince Hotel**.

## Accommodations (Hotels situated near the venues)

### HOTELS NEAR SHINAGAWA STATION

HOTEL		Rates* <i>The rate will be changed.</i>	TRAIN
Shinagawa Prince Hotel  <u>*Shuttle Bus Service is available between Workshop venue and Shinagawa Prince Hotel (arranged by CRIEPI)</u>  4-10-30 Takanawa Minato Ku Tokyo, Japan +81 3-3449-9844 <a href="http://www.princehotels.com/en/shinagawa/">http://www.princehotels.com/en/shinagawa/</a>		9,979 JPY - 71,755 JPY *Reference price from the Hotel Website on 3rd Feb	JR Shinagawa Station
Grand Prince Hotel Takanawa  3-13-1 Takanawa Minato Ku Tokyo, Japan +81 3-3447-1111 <a href="http://www.princehotels.com/en/takanawa/">http://www.princehotels.com/en/takanawa/</a>		<i>Please check the Hotel website</i>	JR Shinagawa Station
Keikyu EX Inn Shinagawa-Ekimae  3-13-3 Takanawa Minato Ku Tokyo, Japan +81 3-6743-3910 <a href="http://www.shinagawa.keikyu-exinn.co.jp/en/index.html">http://www.shinagawa.keikyu-exinn.co.jp/en/index.html</a>		<i>Please check the Hotel website</i>	JR Shinagawa Station

✓ *Please contact to the Hotel listed above and make a reservation by yourself !!*

#### [Reference]

### Narita International Airport

Please refer to;

<http://www.narita-airport.jp/en/index.html>

Airport transfer (between Narita International Airport and Shinagawa station)

<http://www.narita-airport.jp/en/access/train/index.html>

### Haneda Airport

Please refer to;

<http://www.haneda-airport.jp/inter/en/>

Airport transfer (between Haneda Airport and Shinagawa station)

<http://www.haneda-airport.jp/inter/en/access/train.html>

## REGISTRATION FORM

Format 1

2015 IERE-CRIEPI Tokyo Workshop “Advanced Electric Power Management - Thermal Power Generation against Huge Impact by Renewable Energy Penetration -”, May. 19-22, 2015

Please type  at appropriate boxes, and then return this form by email **NO LATER THAN 7 April 2015** to Mr. Tetsuo Matsumura at Email: office@iere.dcc.co.jp

Name	<input type="checkbox"/> Prof. <input type="checkbox"/> Dr. <input type="checkbox"/> Mr. <input type="checkbox"/> Ms. <input type="checkbox"/> Other, Please specify	
	First Name	Family Name
Department & Position		
Affiliation		
Address		
	Zip Code	
Contact Info	Email	
	Phone #	
I will contribute to a presentation	<input type="checkbox"/> <b>Oral Session</b> <input type="checkbox"/> <b>Poster Session</b> <input type="checkbox"/> <b>No</b> <i>*There is a possibility we ask you to change from Oral Session to Poster Session by the number of presentation.</i>	
	Title of Paper :	
Dinner attendance	Registration fee covers the reception and the dinner, but for restaurant reservations, please let us know your dinner attendance. (x: I will attend) <input type="checkbox"/> Welcome Cocktail on 19 May. <input type="checkbox"/> Dinner on 20 May. <input type="checkbox"/> None	
Accompanying person	If your family accompanies you on dinner, please write her or his name and title (Mr., Ms.).	
Registration fee (Participants including speakers should pay)	<input type="checkbox"/> US\$300 ( or 36,000 JPY ) : IERE Member <input type="checkbox"/> US\$350 ( or 42,000 JPY ) : Non-Member <input type="checkbox"/> US\$175 ( or 21,000 JPY ) : Academia  <small>*IERE member list: <a href="https://www.iere.jp/contents/Membership/Membership.html">https://www.iere.jp/contents/Membership/Membership.html</a>  ** Payment is applicable only in advance and non-refundable unless otherwise canceled by organizer.</small>	
Technical visits (Optional)	<input type="checkbox"/> Yes (on 22 May.) <input type="checkbox"/> No US\$60 ( or 7,200 JPY ) / person for “J-POWER Isogo Thermal Power Station & CRIEPI Yokosuka Area”	
Guide tour of Museum (Optional)	<input type="checkbox"/> Yes (on 21 May, 14:00 - 15:00,) <input type="checkbox"/> No Free of charge (Number of participants is limited). A specialist guide will show you around the <b>Electric Power Historical Museum of TEPCO</b> , explaining points of interest along the way. <i>*All participants of the Workshop can have a look around the “Electric Power Historical Museum of TEPCO” freely, during the workshop.</i>	
Payment amount	Total US\$ _____ (Registration Fee, Technical visits Fee)	
Payment method	<input type="checkbox"/> Credit Card <input type="checkbox"/> Bank Transfer (Please full in the followings.) I will remit / have remitted the fee on _____ (date) by the name of _____ (name of remitter) through _____ (name of bank)	
Invitation Letter	CRIEPI may be able to issue an invitation letter for participants who need to apply for a Japan Visa. Please mark below if applicable. <input type="checkbox"/> <b>I need an invitation letter for Japan Visa application.</b> <b>Name(s)/Country on Passport(s) of Accompanying Person(s) :</b> _____ <small>Disclaimer: CRIEPI reserves the right to fulfill or decline, at CRIEPI's discretion, requests for letters of invitation for visa application support purposes.</small>	
13. Information from IERE	Do you agree with receiving e-mail notice on future activities and/or IERE E-mail Magazine from IERE Central Office? <input type="checkbox"/> Yes <input type="checkbox"/> No	

<Credit Card payment>

If you prefer using your credit card for the payment of registration fee, please contact to the following URL.

[https://www.iere.jp/Payment/Tokyo\\_Workshop\\_2015.html](https://www.iere.jp/Payment/Tokyo_Workshop_2015.html)



## About CRIEPI

CRIEPI is a research institute founded in 1951 as a joint research institute of electric power companies in order to pursue scientific truth and create technologies that can contribute to the electric power industry and society. Since then, we have provided technical support to the electric industry that supports social development. We contribute to the development of a robust and flexible energy supply and demand infrastructure by appropriately preparing for risks, effectively maintaining facilities, and providing new technologies for the next generation. A stable supply of energy and conservation of the environment are issues shared by the entire world, and we closely collaborate with a broad range of international and domestic organizations in the same field to resolve these problems.

CRIEPI has been continuing to support the IERE activities from the establishment of IERE in 1968.

URL : <http://criepi.denken.or.jp/en/index.html>

## About Japan Power Academy

Electrical engineering played a key role in the expansion of Japan's power supply infrastructure in the high economic growth period, and has brought more convenience and comfort into our lives. Today, the high quality of the electricity supply and the variety of available electric appliances are taken for granted, yet electrical engineering continues to play a vital role. We are now facing a range of energy-related issues that include global warming and soaring prices of fossil fuels. Electrical engineering is a fundamental discipline that is indispensable in solving such difficult problems, and the importance of this discipline is increasing. With this background, Japan Power Academy was set up in April 2008 to promote electrical engineering.

Embracing a broad perspective over all industries that rely on electrical engineering, Japan Power Academy fosters industry-academia partnerships throughout Japan and seeks to implement corresponding programs effectively for both research and education.

Japan Power Academy greatly appreciates the active support of all its stakeholders.

URL : <http://www.power-academy.jp/en/>

## About TENPES

TENPES aims to promote the following activities as related to thermal and nuclear power generating technology: investigation and research, the creation of standards, the gathering/providing information, the training of engineers, and exchange/cooperation with internal/external organizations. The objective through these activities is to develop and improve on power generating technologies, and to ultimately contribute to Japan's economic growth.

URL : [http://www.tenpes.or.jp/e\\_index.html](http://www.tenpes.or.jp/e_index.html)

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## About GTSJ

Gas Turbine Society of Japan (GTSJ) was founded in 1976, based on Gas Turbine Committee of Japan established in 1972.

GTSJ aims to promote science, technology and social development through information exchange, publication, technology research and other activities in the fields of all types of gas turbines, turbomachinery and energy conversion.

GTSJ members come from a wide variety of organizations; gas turbine manufacturing companies, users, universities, national laboratories, and other corporations. Currently more than 2,000 individuals join GTSJ and more than 100 corporate members support the activities of GTSJ.

URL : <http://www.gtsj.org/english/about/index.html>

**IERE Members List (as of 27 March, 2015)**

Brazil	CEPEL		
Canada	Hydro-Québec	Powertech Labs Inc.	
China	CEPRI	Guangdong Power	NARI
	SEPRI	Xi'an TPRI	
France	EDF	ERDF	GDF Suez
Germany	RWE AG		
Hong Kong	CLPRI	NHVS	
India	CPRI	NTPC	
Indonesia	PT.PLN		
Iran	NRI		
Italy	Enel		
Japan	CEPC	Chubu EPCO	Chugoku EPCO
	CRIEPI	Fuji Electric	Hitachi
	Hokkaido EPCO	Hokuriku EPCO	IHI
	J-POWER	Japan Atomic Power	Kansai EPCO
	Kyushu EPCO	Meidensha	MHPS
	Mitsubishi Electric	NGK	Sumitomo Electric
	Shikoku EPCO	Tohoku EPCO	Tokyo EPCO
	Toshiba		
Korea	KEPCO	KEPCO E&C	KERI
	KESRI-SNU*		
Malaysia	TNB		
Mexico	IIE	Prolec GE	
Philippines	Aboitiz Power Co.	MERALCO	SMC GPHC
Singapore	SP PowerGrid		
South Africa	CT LAB	Eskom	PIESA
Spain	Gas Natural Fenosa	REE	
Taiwan	Taiwan Power		
Thailand	EGAT	PEA	
U.S.A.	EPRI	Light the World	

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