

# The 6th International Symposium and Seminar on Global Nuclear Human Resource Development for Safety, Security and Safeguards – Nuclear Safety –



*Fukushima Daiichi Nuclear Power Plants (By Courtesy of TEPCO Holdings)*

**February 20 – March 3, 2017**  
**Tokyo Institute of Technology, Tokyo, Japan**

**Organized by**  
**Academy for Global Nuclear Safety and Security Agent,**  
**Tokyo Institute of Technology**

**In Cooperation with**  
**International Atomic Energy Agency (IAEA)**  
**World Nuclear University (WNU)**  
**European Nuclear Education Network (ENEN)**  
**Texas A&M University**  
**Japan Atomic Energy Agency (JAEA)**  
**Institute of Nuclear Materials Management (INMM) Japan Chapter**



# Background and Objectives

Nuclear 3S (**Safety, Security and Safeguards (Non-proliferation)**) are serious global issues of common concern. Based on lessons learned from the International Terrorism in New York on September 11, 2001 and the Accidents of Fukushima Daiichi Nuclear Power Plant on March 11, 2011, new creative ideas in the research and educational programs in the future nuclear energy development are needed in order to promote the global peaceful use of nuclear energy for sustainable growth in the world.

Based on these global circumstances, Tokyo Institute of Technology (Tokyo Tech) established “**Academy for Global Nuclear Safety and Security Agent**” in December, 2011, which is a Special Program for Leading Graduate School supported by Ministry of Education, Culture, Sports, Science and Technology (MEXT), Japan to develop Global Nuclear Human Resources in the field of 3S.

As one of the essential educational activities in “Academy for Global Nuclear Safety and Security Agent”, **The 6th International Symposium and Seminar on Global Nuclear Human Resource Development for 3S** including the technical and cultural tour to visit Hiroshima Peace Memorial Museum, Radiation Effects Research Foundation in Hiroshima, Prototype Fast Breeder Reactor in Tsuruga (MONJU) is held from February 20 to March 3, 2017 in Tokyo, Japan, for DOJO students in the Academy together with the invited students/young professionals from other universities and industries in domestic and foreign countries.

This International Symposium and Seminar is organized by Academy for Global Nuclear Safety and Security Agent, Tokyo Tech in cooperation with International Atomic Energy Agency (IAEA), World Nuclear University (WNU), European Nuclear Education Network (ENEN), Texas A&M University, Japan Atomic Energy Agency (JAEA), and Institute of Nuclear Materials Management (INMM) Japan Chapter, which is supported by MEXT.

The 6th International Symposium and Seminar is divided into Plenary Sessions from February 20 (Monday) to February 22 (Wednesday), which are opened to the public, and Closed Sessions prepared after the Plenary Sessions only for the seminar students and young professionals with pre-registration.

We sincerely hope that this International Symposium and Seminar contributes to the nuclear human resource development in the next generation for the global peaceful use of nuclear energy and sustainable prosperity in future.



Masaki SAITO  
Professor and Director  
Academy for Global Nuclear Safety and Security Agent  
Tokyo Institute of Technology

# Program at a Glance

| Time                        | 8 | 9   | 10  | 11   | 12   | 13   | 14              | 15  | 16  | 17 | 18   | 19   | 20                   | 21 |  |  |
|-----------------------------|---|---|---|--|------|--|-----------------|---|---|----|--|--|----------------------|----|--|--|
| <b>Feb 19</b><br><b>Sun</b> |   |   |   |  |      |  |                 | Students' Orientation<br>(Teshima Memorial Conference Room,<br>3F, TTF Bldg.) |   |    |  |  | Speakers'<br>Meeting |    |  |  |
| <b>20</b><br><b>Mon</b>     |   | Registration  |   |  |      |  |                 |   | Opening &<br>Plenary Session 1<br>(Lecture Theater, West Bldg. 5) |    | Photo  | Plenary Session 2<br>(Lecture Theater, West Bldg. 5) |                      |    | Evening Session<br>(Multipurpose Hall,<br>1F, EEI Bldg.) |  |
| <b>21</b><br><b>Tue</b>     |   | Registration  |   |  |      |  |                 |   | Plenary Sessions 3 & 4<br>(Lecture Theater, West Bldg. 5)         |    | Plenary Session 4<br>(Lecture Theater, West Bldg. 5) |  |                      |    |  |  |
| <b>22</b><br><b>Wed</b>     |   | Registration  |   | Plenary<br>Session 5<br>(Lecture Theater,<br>West Bldg. 5) |      | Move   |                 | Move to Hiroshima   |   |    |  |  |                      |    |  |  |
| <b>23</b><br><b>Thu</b>     |   | Move  | Field Education 1<br>(Hiroshima University)                     |  |      |  |                 |   |   |    |  |  |                      |    |  |  |
| <b>24</b><br><b>Fri</b>     |   | Move  | Field Education 2<br>(Radiation Effects<br>Research Foundation) |  | Move | Field Education 3<br>(Hiroshima Peace<br>Memorial Museum)                      |                 |   |   |    |  |  |                      |    |  |  |
| <b>25</b><br><b>Sat</b>     |   | Cultural Exchange by Group                              |   |  |      | Move   |                 |   |   |    |  |  |                      |    |  |  |
| <b>26</b><br><b>Sun</b>     |   | Cultural Exchange by Group                              |   |  |      |  |                 | Move to<br>Tsuruga  |   |    |  |  |                      |    |  |  |
| <b>27</b><br><b>Mon</b>     |   | Move  | Field Education 4<br>(MONJU Fast Breeder Reactor)               |  |      |  | Return to Tokyo |   |   |    |  |  |                      |    |  |  |
| <b>28</b><br><b>Tue</b>     |   | Lecture Session 1<br>(Multipurpose Hall, 1F, EEI Bldg.) |   |  |      | Lecture Session 2<br>(Multipurpose Hall, 1F, EEI Bldg.)                        |                 |   |   |    |  |  |                      |    |  |  |
| <b>Mar 1</b><br><b>Wed</b>  |   | Lecture Session 3<br>(Multipurpose Hall, 1F, EEI Bldg.) |   |  |      | Lecture Session 4<br>& Student Session 1<br>(Multipurpose Hall, 1F, EEI Bldg.) |                 |   |   |    |  |  |                      |    |  |  |
| <b>2</b><br><b>Thu</b>      |   | Student Session 2<br>(Multipurpose Hall, 1F, EEI Bldg.) |   |  |      | Continued  |                 |   |   |    |  |  |                      |    |  |  |
| <b>3</b><br><b>Fri</b>      |   | Student Session 3<br>(Multipurpose Hall, 1F, EEI Bldg.) |   |  |      | Continued  |                 | Closing   |   |    |  |  |                      |    |  |  |

# Symposium

## **Opening (Feb 20)**

Chair : Masayuki IGASHIRA (*Tokyo Tech*)

Welcome Address :

**Yoshinao MISHIMA** (*Tokyo Tech*)

Opening Address :

**Masaki SAITO** (*Tokyo Tech*)

**Yassin A. HASSAN** (*Texas A&M, USA*)

## **Plenary Session 1 (Feb 20)**

Chair : Tomihiro TANIGUCHI (*Tokyo Tech*)

Speakers :

**Gustavo CARUSO** (*IAEA*)

**Takafumi ANEGAWA** (*TEPCO, Japan*)

**Shigeo NOMURA** (*NDF, Japan*)

## **Plenary Session 2 (Feb 20)**

Chair : Akira OMOTO (*Tokyo Tech*)

Speakers :

**Seiji OZAWA** (*Ministry of the Environment, Japan*)

**Toyoshi FUKETA** (*Nuclear Regulation Authority, Japan*)

**Shigeaki TSUNOYAMA** (*Fukushima Prefectural Center for Environment Creation, Japan*)

**Kenji TAKESHITA** (*Tokyo Tech*)

**Noramly Muslim** (*UKM/UNITEN, Malaysia*)

## **Plenary Session 3 (Feb 21)**

Chair : Jun SUGIMOTO (*Tokyo Tech*)

Speakers :

**Noriaki OZAWA** (*METI, Japan*)

**Frank CARRE** (*CEA, France*)

**Ross MATZKIN-BRIDGER** (*DOE Japan Office, Japan*)

**Man-Sung YIM** (*KAIST, Korea*)

## **Plenary Session 4 (Feb 21)**

Chair : Masaki SAITO (*Tokyo Tech*)

Speakers :

**Janice DUNN LEE** (*Former IAEA*)

**Leon CIZELJ** (*ENEN*)

**Virginie RYAN-TAIX** (*World Nuclear Association*)

**Jor-Shan CHOI** (*UCB Nuclear Research Center, USA*)

**Masaki SAITO** (*Tokyo Tech*)

**Hiroshi SAGARA** (*Tokyo Tech*)

**Chi Young HAN** (*Tokyo Tech*)

## **Plenary Session 5 (Feb 22)**

Chair : Tomihiro TANIGUCHI (*Tokyo Tech*)

Speakers :

**Tomotsugu SAWAI** (*IAEA, Japan*)

**Man-Sung YIM** (*KAIST, Korea*)

**Tran Chi Thanh** (*VINATOM, Vietnam*)

# Seminar (Closed)

## **Lecture Session 1 (Feb 28)**

Moderator : Jun SUGIMOTO (*Tokyo Tech*)

Speakers :

**Tran Chi Thanh** (*VINATOM, Vietnam*)

**Jun SUGIMOTO** (*Tokyo Tech*)

## **Lecture Session 2 (Feb 28)**

Moderator : Akira OMOTO (*Tokyo Tech*)

Speakers :

**Akira OMOTO** (*Tokyo Tech*)

**Toshiaki SAKAI** (*CRIEPI, Japan*)

**Yasunori YAMANAKA** (*CRIEPI, Japan*)

## **Lecture Session 3 (Mar 1)**

Moderator : Akira OMOTO (*Tokyo Tech*)

Speakers :

**Kumiaki MORIYA** (*Hitachi-GE, Japan*)

**Yasunobu FUJIKI** (*Toshiba, Japan*)

**Shigemitsu OTSUKA** (*Mitsubishi Heavy, Japan*)

## **Lecture Session 4 (Mar 1)**

Moderator : Akira OMOTO (*Tokyo Tech*)

Speaker :

**Masaki ICHINOSE** (*U Tokyo, Japan*)

## **Student Session 1 (Mar 1)**

Chairs : *Students and Young Professionals*

## **Student Session 2 (Mar 2)**

Chairs : *Students and Young Professionals*

## **Student Session 3 (Mar 3)**

Chairs : *Students and Young Professionals*

Speakers : *Students and Young Professionals*

## **Closing (Mar 3)**

Chair : Masaki SAITO (*Tokyo Tech*)

# Program



*The 5th International Symposium and Seminar on Global Nuclear Human Resource Development for Safety, Security and Safeguards, February 21 – March 3, 2016, Tokyo, Japan*

# Students' Orientation and Speakers' Meeting

February 19 (Sun)

## **Students' Orientation (Only for Invited Students and Young Professionals)**

(Teshima Memorial Conference Room, 3F, TTF Bldg.)

14:00-14:10 **Welcome Address**

**Masaki SAITO** (Professor and Director, Academy for Global Nuclear Safety and Security Agent, Tokyo Institute of Technology)

14:10-14:30 **Student Self Introductions**

14:30-15:30 **Orientation**

15:30-16:00 **Student Registration**

16:00-17:30 **Student Event**

17:30-18:00 **Closing**



*The 5th International Symposium and Seminar on Global Nuclear Human Resource Development for Safety, Security and Safeguards, February 21 – March 3, 2016, Tokyo, Japan*

## **Speakers' Meeting (Only for Invited Overseas Speakers)**

(Richmond Hotel Premier Musashikosugi)

19:00-21:00 **Program Meeting**

**February 20 (Mon)**

(Lecture Theater, West Bldg. 5)

## **Opening**

*Chaired by Masayuki IGASHIRA (Professor and Vice-Director, Academy for Global Nuclear Safety and Security Agent, Tokyo Institute of Technology)*

### **Welcome Address**

09:00-09:10 **Yoshinao MISHIMA** (President, Tokyo Institute of Technology)

### **Opening Address**

**Masaki SAITO** (Professor and Director, Academy for Global Nuclear Safety and Security Agent, Tokyo Institute of Technology)

**Yassin A. HASSAN** (Professor and Head, Department of Nuclear Engineering, Texas A&M University, USA)

## **Plenary Session 1:**

### **Fukushima Daiichi Nuclear Power Plant Accident (1)**

*Chaired by Tomihiro TANIGUCHI (Professor, Academy for Global Nuclear Safety and Security Agent, Tokyo Institute of Technology)*

### **09:30-10:15 Keynote Speech**

**“The IAEA Report on the Fukushima Daiichi Accident”**

**Gustavo CARUSO** (Director, Office of Safety and Security Coordination, Department of Nuclear Safety and Security, IAEA)

10:15-10:30 **Tea Break**

### **10:30-11:15 Invited Speech 1**

**“The Human Aspect of the Fukushima Daiichi Accident”**

**Takafumi ANEGAWA** (Chief Nuclear Officer, Tokyo Electric Power Company (TEPCO), Japan)

### **11:15-12:00 Invited Speech 2**

**“Strategic Plan of Fukushima-Daiichi Decommissioning”**

**Shigeo NOMURA** (Executive Director, Nuclear Damage Compensation and Decommissioning Facilitation Corporation (NDF), Japan)

12:00-13:40 **Group Photo and Lunch**



## **Plenary Session 2:**

### **Fukushima Daiichi Nuclear Power Plant Accident (2)**

*Chaired by Akira OMOTO (Professor, Academy for Global Nuclear Safety and Security Agent, Tokyo Institute of Technology)*

13:40-14:20 **Invited Speech 3**

**“Progress on Off-site Cleanup Efforts in Fukushima”**

**Seiji OZAWA** (Deputy Director General, Headquarters for Fukushima Environmental Restoration, Ministry of the Environment, Japan)

14:20-15:00 **Invited Speech 4**

**“Lessons Learned from the Fukushima Dai-ichi Accident Regarding Safety Culture of Regulatory Body”**

**Toyoshi FUKETA** (Commissioner, Nuclear Regulation Authority (NRA), Japan)

15:00-15:15 **Tea Break**

15:15-15:55 **Invited Speech 5**

**“Multidiscipline Engineering Required by Defueling, Decommissioning and Environmental Creation in Fukushima and Human Resource Development”**

**Shigeaki TSUNOYAMA** (Director General, Fukushima Prefectural Center for Environmental Creation, Japan)

15:55-16:35 **Invited Speech 6**

**“Removal of Radioactive Cesium from Soil Contaminated by Fukushima Daiichi NPP Accident”**

**Kenji TAKESHITA** (Professor, Laboratory for Advanced Nuclear Energy, Tokyo Institute of Technology)

16:35-17:35 **Special Lecture 1**

**“Human Resource Development in Developing Countries, International Obligations and Compliance: Roles of Universities and Civil Society”**

**Noramly Muslim** (Former DDG, IAEA and Professor Emeritus, National University of Malaysia (UKM), Malaysia)

## **Evening Session** (Multipurpose Hall, 1F, EEI Bldg.)

*Chaired by Jun SUGIMOTO (Professor, Academy for Global Nuclear Safety and Security Agent, Tokyo Institute of Technology)*

18:00-20:00 **Discussions on the Key Issues of Mutual Concern**

**February 21 (Tue)**

(Lecture Theater, West Bldg. 5)

## **Plenary Session 3:**

### **Nuclear Energy in Future**

*Chaired by Jun SUGIMOTO (Professor, Academy for Global Nuclear Safety and Security Agent, Tokyo Institute of Technology)*

09:00-09:30 **Invited Speech 7**

**“Energy Policy in Japan”**

**Noriaki OZAWA** (Director-General for Energy and Environmental Policy, Agency for Natural Resources and Energy, Ministry of Economy, Trade and Industry (METI), Japan)

09:30-10:00 **Invited Speech 8**

**“Outlook for Nuclear Power in France’s Energy Transition”**

**Frank CARRE** (Scientific Director, Nuclear Energy Division, French Commission for Atomic and Alternative Energies (CEA), France)

10:00-10:30 **Invited Speech 9**

**“Nuclear Energy in the United States”**

**Ross MATZKIN-BRIDGER** (Director, U.S. Department of Energy (DOE) Japan Office, Japan)

10:30-10:45 **Tea Break**

10:45-11:15 **Invited Speech 10**

**“Future of Nuclear Energy in Korea”**

**Man-Sung YIM** (Professor, Department of Nuclear and Quantum Engineering, Korea Advanced Institute of Science and Technology (KAIST), Korea)

## **Plenary Session 4:**

### **Nuclear Education and Training (1)**

*Chaired by Masaki SAITO (Professor and Director, Academy for Global Nuclear Safety and Security Agent, Tokyo Institute of Technology)*

11:15-12:00 **Special Lecture 2**

**“Personal Reflections on Leadership”**

**Janice DUNN LEE** (Former Deputy Director General and Head of the Department of Management, IAEA)

12:00-13:30

Lunch

**Plenary Session 4 (Continued):**  
**Nuclear Education and Training (1)**

*Chaired by Masaki SAITO (Professor and Director, Academy for Global Nuclear Safety and Security Agent, Tokyo Institute of Technology)*

13:30-14:00

**Invited Speech 11**

**“The Evolving Role of ENEN Association in European Nuclear Education”**  
Leon CIZELJ (President, European Nuclear Education Network (ENEN))

14:00-14:30

**Invited Speech 12**

**“World Nuclear University: Building a Global Nuclear Network of Future Leaders”**  
Virginie RYAN-TAIX (Head, Strategic Communication, World Nuclear Association (WNA))

14:30-15:00

**Invited Speech 13**

**“What is a Berkeley Nuclear Engineer?”**  
Jor-Shan CHOI (Associate Director, UC Berkeley Nuclear Research Center, USA)

15:00-15:15

Tea Break

15:15-17:00

**Invited Speech 14**

**“Summary of Current Activities and Intensive Education and Training in Academy for Global Nuclear Safety and Security Agent”**  
Masaki SAITO (Professor and Director, Academy for Global Nuclear Safety and Security Agent, Tokyo Institute of Technology)  
**(a) Nuclear Security Training**  
Hiroshi SAGARA (Professor, Laboratory for Advanced Nuclear Energy, Tokyo Institute of Technology)  
**(b) Environmental Dynamics of Radioactive Nuclides**  
Chi Young HAN (Professor, Academy for Global Nuclear Safety and Security Agent, Tokyo Institute of Technology)

**February 22 (Wed)**

(Lecture Theater, West Bldg. 5)

## **Plenary Session 5:**

### **Nuclear Education and Training (2)**

*Chaired by Tomihiro TANIGUCHI (Professor, Academy for Global Nuclear Safety and Security Agent, Tokyo Institute of Technology)*

09:00-09:30 **Invited Speech 15**

**“JAEA Activities for the Nuclear Human Resource Development in Japan”**

**Tomotsugu SAWAI** (Director, Nuclear Human Resource Development Center, Japan Atomic Energy Agency (JAEA), Japan)

09:30-10:00 **Invited Speech 16**

**“Nuclear Human Resource Development in Korea”**

**Man-Sung YIM** (Professor, Department of Nuclear and Quantum Engineering, Korea Advanced Institute of Science and Technology (KAIST), Korea)

10:00-10:30 **Invited Speech 17**

**“Nuclear Human Resources Development in Vietnam”**

**Tran Chi Thanh** (President, Vietnam Atomic Energy Institute (VINATOM), Vietnam)

## **Closing Remarks of Plenary Sessions**

10:30-10:40 **Masayuki IGASHIRA** (Professor and Vice Director, Academy for Global Nuclear Safety and Security Agent, Tokyo Institute of Technology)

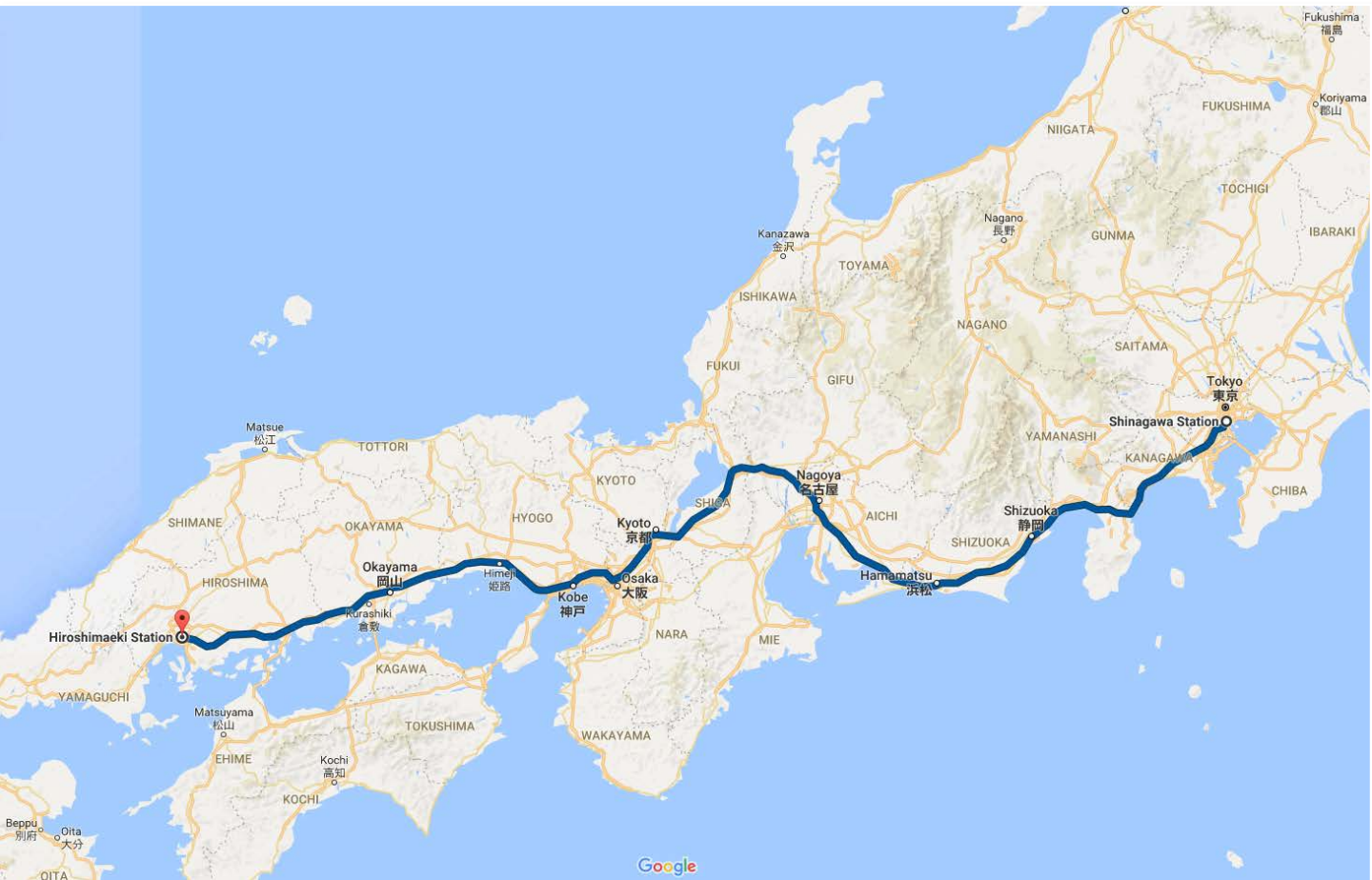
## February 22 (Wed)

(Only for Invited Students and Young Professionals)

10:40- Move to Shinagawa Station by Group  
(Including Lunch)

13:00 Meet at the Departure Platform for Hiroshima in Shinagawa Station

13:17- Move to Hiroshima



Google Map

## February 23 (Thu)

### **Field Education 1:** **Hiroshima University**

09:15-            *Move to Hiroshima University*

10:00-11:00    **Welcome Address and Introduction of Research Institute**  
**Shinya MATSUURA** (Director, Research Institute for Radiation Biology and  
Medicine, Hiroshima University, Japan)

11:00-12:00    **Special Lecture 3**  
**“Health Effects of Radiation”**  
**Kenji KAMIYA** (Vice President, Hiroshima University and Fukushima Medical  
University, Japan)

12:00-13:00                    **Group Photo and Lunch**

13:00-14:00    **Research Introduction of Hiroshima University Students**  
**(PHOENIX Leading Program)**

14:00-            *Move for Facilities Visit*

14:30-15:30    **Facilities Visit**

15:30-15:40    **Closing**



*Kasumi Campus, Hiroshima University (<https://www.hiroshima-u.ac.jp>)*

February 24 (Fri)

## Field Education 2:

### Radiation Effects Research Foundation (RERF)

08:50- *Move to Radiation Effects Research Foundation*

09:30-10:30 **Special Lecture 4**

**“RERF Research Results”**

**Robert L. ULLRICH** (Vice Chairman and Executive Director, Radiation Effects Research Foundation (RERF), Japan)

10:30-11:20 **Facilities Visit**

11:20-11:30 **Group Photo**

## Field Education 3:

### Hiroshima Peace Memorial Museum

11:30- *Move to Hiroshima Peace Memorial Museum*

12:00-14:00 **Group Photo and Lunch**

14:00-15:30 **Special Lecture 5**

**“Conveying the Memories of the A-Bombing”**

**Kenji SHIGA** (Director, Hiroshima Peace Memorial Museum, Japan)

15:30-16:30 **Tour of Museum**



RERF



Hiroshima Peace Memorial Park



Hiroshima Atomic Bomb Dome

# Field Education

(Closed: Only for Invited Students and Young Professionals)

## February 25 (Sat) – 26 (Sun)

### Cultural Exchange by Group



*The 5th International Symposium and Seminar on Global Nuclear Human Resource Development for Safety, Security and Safeguards, February 21 – March 3, 2016, Tokyo, Japan*

### Move to Tsuruga



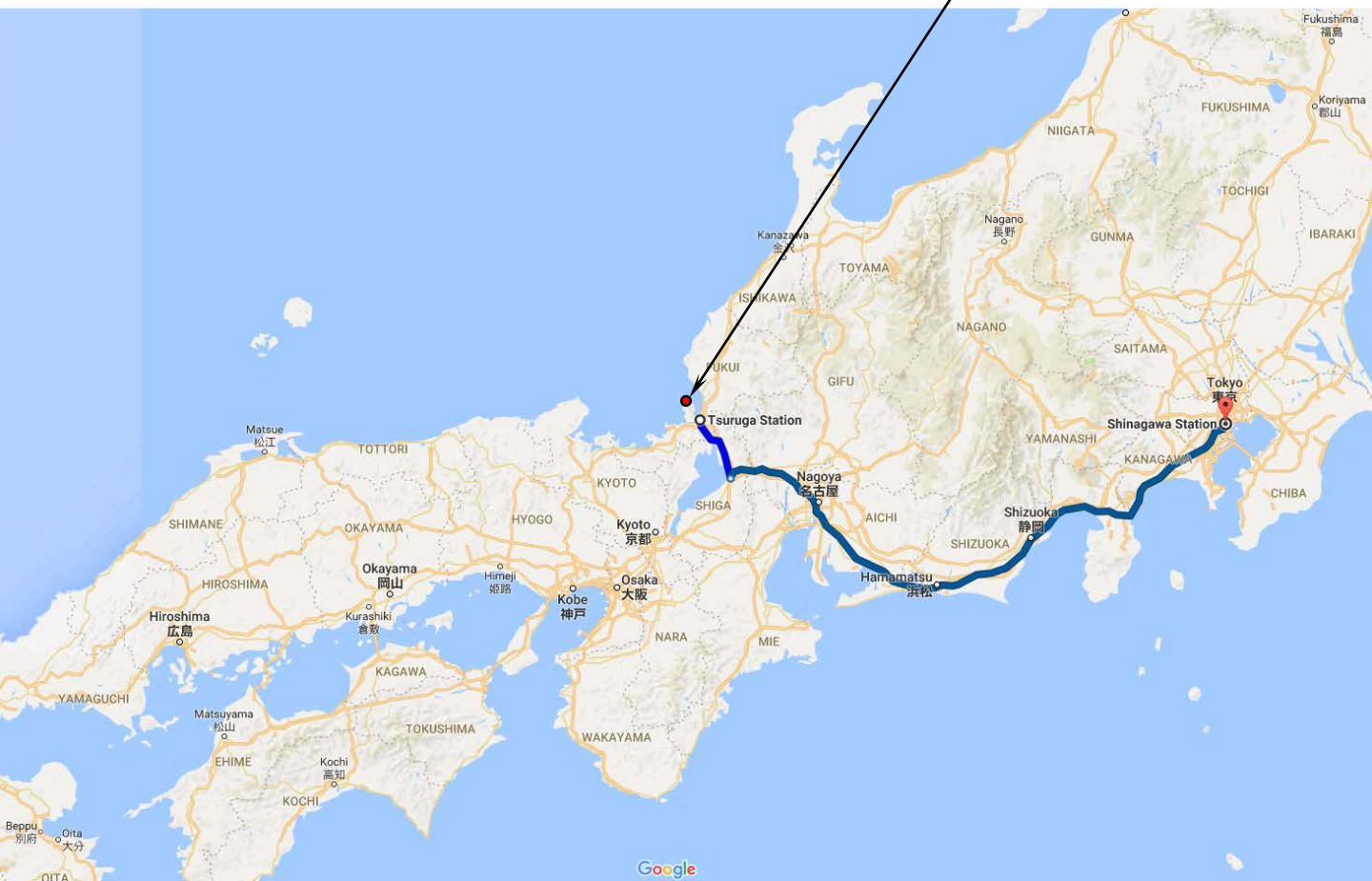
## February 27 (Mon)

### **Field Education 4: MONJU Fast Breeder Reactor**

- 08:30- *Move to MONJU Site*
- 09:30-12:20 **Facilities Visit**
- 12:40-13:20 **Discussion**  
*(Including Lunch)*
- 13:20-13:30 **Group Photo**
- 13:30- *Return to Tokyo*



MONJU Fast Breeder Reactor



Google Map

# Seminar

*(Closed: Only for Invited Students and Young Professionals)*

## February 28 (Tue)

(Multipurpose Hall, 1F, EEI Bldg.)

### Lecture Session 1:

#### Severe Accidents

*Moderated by Jun SUGIMOTO (Professor, Academy for Global Nuclear Safety and Security Agent, Tokyo Institute of Technology)*

09:00-09:50 **Lecture 1**

**“The Effective Convectivity Model (ECM) and Application for Analysis of Severe Accident Progression”**

**Tran Chi Thanh** (President, Vietnam Atomic Energy Institute (VINATOM), Vietnam)

09:50-10:40 **Lecture 2**

**“Post-Fukushima Severe Accident Research in Japan”**

**Jun SUGIMOTO** (Professor, Academy for Global Nuclear Safety and Security Agent, Tokyo Institute of Technology)

10:40-11:10 **Group Discussions**

*(Including Tea Break)*

11:10-12:00 **Q&A**

12:00-13:30 **Lunch**

**February 28 (Tue)**

(Multipurpose Hall, 1F, EEI Bldg.)

## Lecture Session 2:

### **Safety Assessment and Decision-Making**

*Moderated by Akira OMOTO (Professor, Academy for Global Nuclear Safety and Security Agent, Tokyo Institute of Technology)*

13:30-14:20 **Lecture 3**

**“How Safety Approaches and Methods Should be Improved in Light of the Fukushima-Daiichi Accident?”**

**Akira OMOTO** (Professor, Academy for Global Nuclear Safety and Security Agent, Tokyo Institute of Technology)

14:20-15:10 **Lecture 4**

**“Improving Assessment of External Hazards and Their Risks to NPPs”**

**Toshiaki SAKAI** (Program Director, Central Research Institute of Electric Power Industry (CRIEPI), Japan)

15:10-15:40 **Lecture 5**

**“Risk-Informed Decision Making”**

**Yasunori YAMANAKA** (Senior Staff Member, Central Research Institute of Electric Power Industry (CRIEPI), Japan)

15:40-16:10 **Group Discussions**

*(Including Tea Break)*

16:10-17:00 **Q&A**

# Seminar

*(Closed: Only for Invited Students and Young Professionals)*

**March 1 (Wed)**

**(Multipurpose Hall, 1F, EEI Bldg.)**

## **Lecture Session 3:**

### **Safety Improvement for Future Nuclear Power Plant**

*Moderated by Akira OMOTO (Professor, Academy for Global Nuclear Safety and Security Agent, Tokyo Institute of Technology)*

09:00-09:40 **Lecture 6**

**“Safety Improvement for External Hazard”**

**Kumiaki MORIYA** (Corporate Chief Engineer, Hitachi-GE Nuclear Energy, Japan)

09:40-10:20 **Lecture 7**

**“Safety Features in New LWR, -AP1000-”**

**Yasunobu FUJIKI** (Senior Fellow, Nuclear Energy Systems & Services Division, Toshiba Corporation Energy Systems & Solutions Company, Japan)

10:20-11:00 **Lecture 8**

**“Plant Safety Concept to Improve Accident Coping Ability”**

**Shigemitsu OTSUKA** (Engineering Manager, Mitsubishi Heavy Industries, Japan)

11:00-11:30 **Group Discussions**

*(Including Tea Break)*

11:30-12:30 **Q&A**

12:30-14:00 **Lunch**

**March 1 (Wed)**

**(Multipurpose Hall, 1F, EEI Bldg.)**

## **Lecture Session 4:**

*Moderated by Akira OMOTO (Professor, Academy for Global Nuclear Safety and Security Agent, Tokyo Institute of Technology)*

14:00-15:00 **Special Lecture 6**

**"Causation, Prevention, and Precaution"**

**Masaki ICHINOSE** (Professor, Graduate School of Humanities and Sociology, The University of Tokyo, Japan)

15:00-15:30 **Group Discussions**

*(Including Tea Break)*

15:30-16:00 **Q&A**

## **Student Session 1:**

### **Orientation**

*Chaired by Students and Young Professionals*

16:00-17:00 **Orientation for Group Discussions and Presentations**

# Seminar

(Closed: Only for Invited Students and Young Professionals)

## March 2 (Thu)

(Multipurpose Hall, 1F, EEI Bldg.)

### **Student Session 2: Group Discussions**

*Chaired by Students and Young Professionals*

09:00-12:00 **Group Discussions and Preparation of Presentation**  
(Including Tea Break)

12:00-14:00 **Lunch**

14:00-17:00 **Group Discussions and Preparation of Presentation**  
(Including Tea Break)



*The 5th International Symposium and Seminar on Global Nuclear Human Resource Development for Safety, Security and Safeguards, February 21 – March 3, 2016, Tokyo, Japan*

**March 3 (Fri)**

**(Multipurpose Hall, 1F, EEI Bldg.)**

## **Student Session 3:** **Group Presentations**

*Chaired by Students and Young Professionals*

*(Two Presentations by Each Group and Discussions: 30 min. Presentations and 15 min. Discussions for Each Group)*

09:00-10:30 **Group Discussions and Preparation of Presentation**  
*(Including Tea Break)*

10:30-11:15 **Presentations of Group 1**

11:15-12:00 **Presentations of Group 2**

12:00-13:30 **Lunch**

13:30-14:15 **Presentations of Group 3**

14:15-15:00 **Presentations of Group 4**

15:00-15:45 **Presentations of Group 5**

15:45-16:00 **Tea Break**

## **Closing**

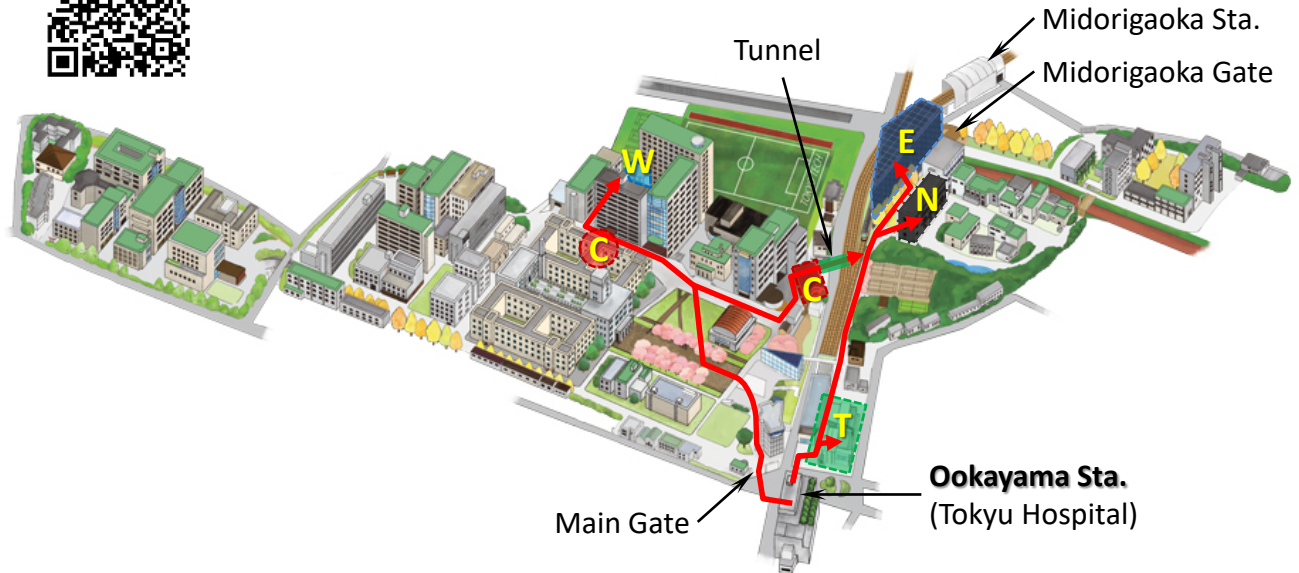
*Chaired by Masaki SAITO (Professor and Director, Academy for Global Nuclear Safety and Security Agent, Tokyo Institute of Technology)*

16:00-17:00 **Awards and Closing Remarks**





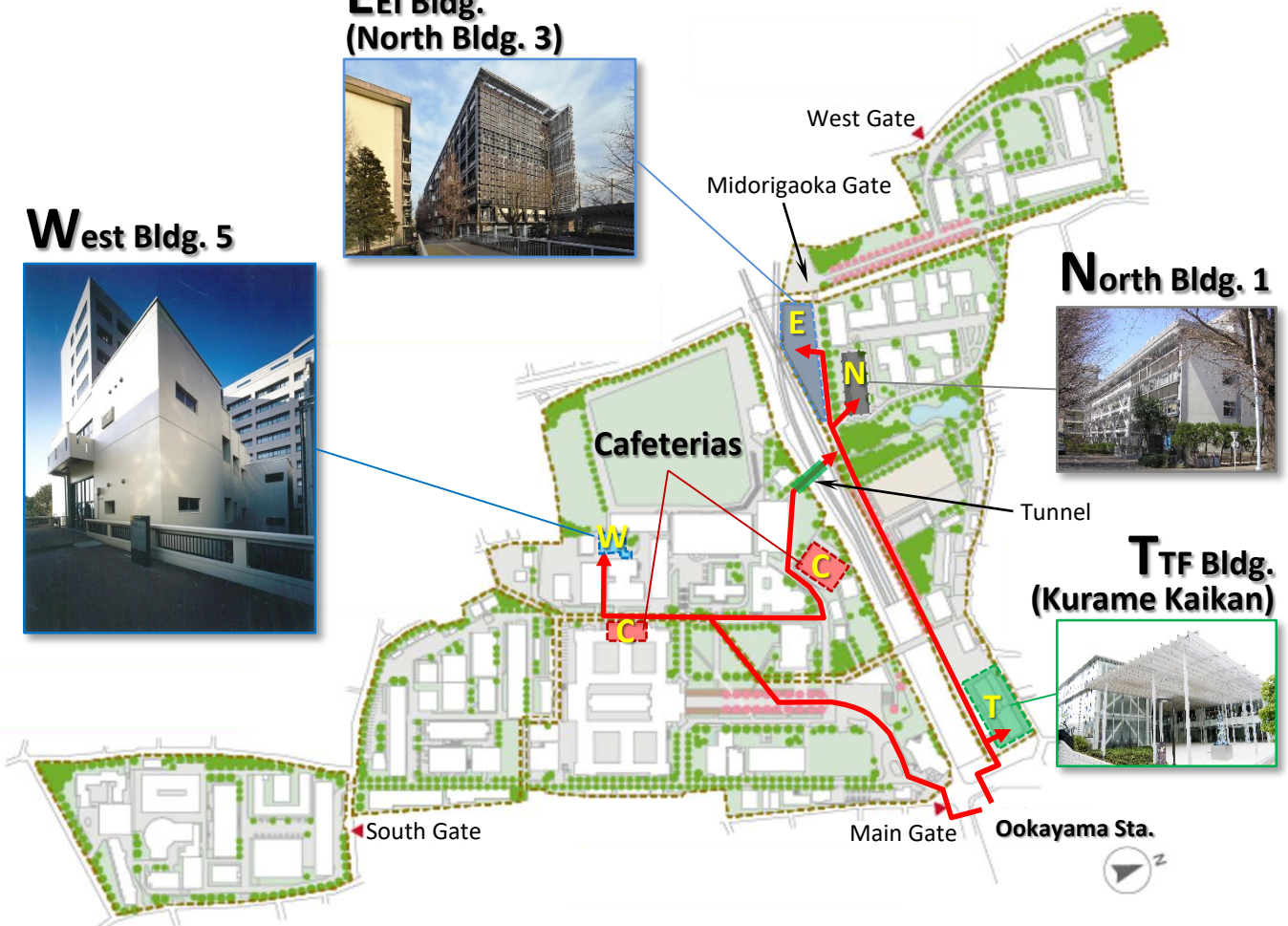
## Tokyo Tech Ookayama Campus



**EI Bldg.**  
(North Bldg. 3)



**West Bldg. 5**



**North Bldg. 1**



**TTF Bldg.**  
(Kurame Kaikan)



The Four Seasons of Fukushima

