

Ministry of Education, Culture, Sports, Science and Technology
Program for Leading Graduate Schools

The 7th International Symposium and Seminar on Global Nuclear Human Resource Development for Safety, Security and Safeguards – Nuclear Security and Safeguards –



Hiroshima Peace Memorial Park

August 28 – September 1, 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)
Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO)
World Nuclear University (WNU)
European Nuclear Education Network (ENEN)
Texas A&M University
Japan Atomic Energy Agency (JAEA)
Institute of Nuclear Materials Management Japan Chapter (INMMJ)



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 Tokyo Electric Power Company (TEPCO) 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 7th International Symposium and Seminar on Global Nuclear Human Resource Development for 3S** is held from August 28 to September 1, 2017 in Tokyo, Japan, for DOJO students in the Academy together with the invited students/young professionals from other universities, institutes, 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), Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO), World Nuclear University (WNU), European Nuclear Education Network (ENEN), Texas A&M University, Japan Atomic Energy Agency (JAEA), and Institute of Nuclear Materials Management Japan Chapter (INMMJ), which is supported by MEXT.

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.

Handwritten signature of Masaki Saito in Japanese calligraphy, reading '齋藤正樹' (Saito Masaki).

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

Program



The 6th International Symposium and Seminar on Global Nuclear Human Resource Development for Safety, Security and Safeguards, February 20 – March 3, 2017, Tokyo, Japan

Symposium

Opening (Aug 28)

Chair : Yoshiyuki OGURI (*Tokyo Tech*)

Welcome Address :

Yoshinao MISHIMA (*Tokyo Tech*)

Opening Address :

Masaki SAITO (*Tokyo Tech*)

Plenary Session 1 (Aug 28)

Atoms for Peace

Chair : Tomihiro TANIGUCHI (*Tokyo Tech*)

Speakers :

Masayuki TAKEUCHI (*MOFA, Japan*)

Dmitriy NIKONOV (*IAEA*)

Margarete BARBOSA SOBRAL (*CTBTO*)

Plenary Session 2 (Aug 29)

Nuclear Energy in Future

Moderator : Jun SUGIMOTO (*Tokyo Tech*)

Speakers :

Yojiro HATAKEYAMA (*METI, Japan*)

Sunil FELIX (*Embassy of France in Tokyo, Japan*)

Vladimir ARTISIUK (*ROSATOM-CICE&T, Russia*)

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

Plenary Session 3 (Aug 29)

Nuclear Human Resource Development

Chair : Masayuki IGASHIRA (*Tokyo Tech*)

Speakers :

Takuya HATTOTRI (*JAIF, Japan*)

Margarete BARBOSA SOBRAL (*CTBTO*)

Sunil S. CHIRAYATH (*Texas A&M, USA*)

Hiroshi SAGARA (*Tokyo Tech*)

Masao SENZAKI (*INMMJ, Japan*)

Seminar

Lecture Session 1 (Aug 30)

Nuclear Security (1)

Moderator : Yoshihisa MATSUMOTO (*Tokyo Tech*)

Speakers :

Akira OMOTO (*Tokyo Tech*)

Dmitriy NIKONOV (*IAEA*)

Anno KEIZER (*URENCO Nederland B.V., Netherlands*)

Lecture Session 2 (Aug 30)

Nuclear Security (2)

Moderator : Shunji IIO (*Tokyo Tech*)

Speakers :

Anno KEIZER (*URENCO Nederland B.V., Netherlands*)

Trevor DIXON (*WNTI*)

Dmitriy NIKONOV (*IAEA*)

Lecture Session 3 (Aug 31)

Nuclear Security (3)

Moderator : Chi Young HAN (*Tokyo Tech*)

Speakers :

Anno KEIZER (*URENCO Nederland B.V., Netherlands*)

Alan KING (*Former INTERPOL, UK*)

Lecture Session 4 (Aug 31)

Nuclear Security (4)

Moderator : Dmitriy NIKONOV (*IAEA*)

Speakers :

Alan KING (*Former INTERPOL, UK*)

Tomihiro TANIGUCHI (*Tokyo Tech*)

Lecture Session 5 (Sep 1)

Nuclear Security (5)

Moderator : Yosuke NAOI (*JAEA, Japan*)

Speakers :

Yosuke NAOI (*JAEA, Japan*)

Masato HORI (*JAEA, Japan*)

Mitsuo KOIZUMI (*JAEA, Japan*)

Student Session (Sep 1)

Group Discussions and Presentations

Chairs : *Students and Young Professionals*

Speakers :

Students and Young Professionals

Masaki SAITO (*Tokyo Tech*)

Closing (Sep 1)

Chair : Masaki SAITO (*Tokyo Tech*)

August 28 (Mon)

(Digital Hall, West Bldg. 9)

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

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

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

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

10:30-11:30 **Orientation**

11:30-12:00 **Student Registration**



Opening

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

13:30-13:40 **Welcome Address**

Yoshinao MISHIMA (President, Tokyo Institute of Technology)

13:40-14:00 **Opening Address**

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

14:00-14:30

Group Photo

August 28 (Mon)
(Digital Hall, West Bldg. 9)

Plenary Session 1:

Atoms for Peace

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

14:30-15:15 **Keynote Speech 1**

“Japan’s Efforts in Strengthening Nuclear Security”

Masayuki TAKEUCHI (Principal Deputy Director, Non-Proliferation, Science and Nuclear Energy Division, Disarmament, Non-Proliferation and Science Department, Ministry of Foreign Affairs (MOFA), Japan)

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

15:30-16:15 **Keynote Speech 2**

“Overview of Nuclear Security: Risk-Informed Approach and Interface with Safety and Safeguards”

Dmitriy NIKONOV (Education Officer, Division of Nuclear Security, IAEA)

16:15-17:00 **Keynote Speech 3**

“Putting an End to Nuclear Testing – An Overview of CTBTO”

Margarete BARBOSA SOBRAL (Director, Human Resources Services, CTBTO)

Evening Session (Multipurpose Hall, 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**

August 29 (Tue)

(Digital Hall, West Bldg. 9)

Plenary Session 2:

Nuclear Energy in Future

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

09:00-09:45 **Invited Speech 1**

“Nuclear Energy in Japan”

Yojiro HATAKEYAMA (Director, Policy Planning Division, Electricity and Gas Industry Department, Agency for Natural Resources and Energy, Ministry of Economy, Trade and Industry (METI), Japan)

09:45-10:30 **Invited Speech 2**

“Future Nuclear Energy in France”

Sunil FELIX (Nuclear Advisor, Nuclear Service, Embassy of France in Tokyo, Japan)

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

10:45-11:30 **Invited Speech 3**

“Nuclear Power Development in Russia”

Vladimir ARTISIUK (Professor and Vice-Rector, ROSATOM Central Institute for Continuing Education & Training (CICE&T), Russia)

11:30-12:15 **Invited Speech 4**

“Nuclear Energy in the United States”

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

12:15-13:30 **Lunch**

Plenary Session 3:

Nuclear Human Resource Development

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

13:30-14:15 **Invited Speech 5**

“Human Resources Development for Sustainable Nuclear Future”

Takuya HATTOTRI (Senior Advisor, Japan Atomic Industrial Forum, Inc. (JAIF), Japan)

14:15-15:00 **Invited Speech 6**

“Attracting Talent to Put an End to Nuclear Testing: Working in CTBTO”

Margarete BARBOSA SOBRAL (Director, Human Resources Services, CTBTO)

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

15:15-16:00 **Invited Speech 7**

“Nuclear Security Education and Training in Texas A&M University”

Sunil S. CHIRAYATH (Director and Professor, Nuclear Security Science & Policy Institute (NSSPI), Texas A&M University, USA)

16:00-16:45 **Invited Speech 8**

“Nuclear Security Education and Training in Tokyo Tech”

Hiroshi SAGARA (Professor, Laboratory for Advanced Nuclear Energy, Tokyo Institute of Technology)

16:45-17:30 **Special Lecture 1**

“Importance of Nuclear Materials Management for Peaceful Uses of Nuclear Energy”

Masao SENZAKI (President, Institute of Nuclear Materials Management Japan Chapter (INMMJ), Japan)

Closing Remarks of Plenary Sessions

17:30-17:35 **Masayuki IGASHIRA** (Professor, Academy for Global Nuclear Safety and Security Agent, Tokyo Institute of Technology)

August 30 (Wed)

(Digital Hall, West Bldg. 9)

Lecture Session 1:

Nuclear Security (1)

Moderated by Yoshihisa MATSUMOTO (Professor, Laboratory for Advanced Nuclear Energy, Tokyo Institute of Technology)

09:00-09:45 **Special Lecture 2**

“How Safety Approaches, Methods and Goals Could be Improved in Light of the Fukushima-Daiichi Accident?”

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

09:45-10:30 **Lecture 1**

“International Legal Framework for Nuclear Security”

Dmitriy NIKONOV (Education Officer, Division of Nuclear Security, IAEA)

10:30-11:15 **Lecture 2**

“Physical Protection of Nuclear Materials and Facilities”

Anno KEIZER (Manager Security, URENCO Nederland B.V., Netherlands)

11:15-11:45 **Group Discussions**

(Including Tea Break)

11:45-12:30 **Q&A**

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

August 30 (Wed)
(Digital Hall, West Bldg. 9)

Lecture Session 2:

Nuclear Security (2)

Moderated by Shunji IIO (Professor, Laboratory for Advanced Nuclear Energy, Tokyo Institute of Technology)

13:30-14:15 **Lecture 3**

“Nuclear Material Accounting and Control for Nuclear Security”

Anno KEIZER (Manager Security, URENCO Nederland B.V., Netherlands)

14:15-15:00 **Lecture 4**

“Transport Security”

Trevor DIXON (Specialist Advisor and Master Mariner, World Nuclear Transport Institute (WNTI))

15:00-15:45 **Lecture 5**

“Nuclear Security Culture”

Dmitriy NIKONOV (Education Officer, Division of Nuclear Security, IAEA)

15:45-16:15 **Group Discussions**

(Including Tea Break)

16:15-17:00 **Q&A**

August 31 (Thu)

(Digital Hall, West Bldg. 9)

Lecture Session 3:

Nuclear Security (3)

Moderated by Chi Young HAN (Professor, Academy for Global Nuclear Safety and Security Agent, Tokyo Institute of Technology)

09:00-09:45 **Lecture 6**

“Computer and Information Security”

Anno KEIZER (Manager Security, URENCO Nederland B.V., Netherlands)

09:45-10:30 **Lecture 7**

“Introduction to Materials Out of Regulatory Control”

Alan KING (Former Head, The Radiological Nuclear Terrorism Prevention Unit, INTERPOL, UK)

10:30-11:15 **Lecture 8**

“Detection Architecture, Technologies and Equipment”

Alan KING (Former Head, The Radiological Nuclear Terrorism Prevention Unit, INTERPOL, UK)

11:15-11:45 **Group Discussions**

(Including Tea Break)

11:45-12:30 **Q&A**

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

August 31 (Thu)
(Digital Hall, West Bldg. 9)

Lecture Session 4:

Nuclear Security (4)

Moderated by Dmitriy NIKONOV (Education Officer, Division of Nuclear Security, IAEA)

13:30-14:15 **Lecture 9**

“Response to Nuclear Security Events”

Alan KING (Former Head, The Radiological Nuclear Terrorism Prevention Unit, INTERPOL, UK)

14:15-15:00 **Lecture 10**

“Nuclear Forensic Analysis and Radiological Crime Scene Management”

Alan KING (Former Head, The Radiological Nuclear Terrorism Prevention Unit, INTERPOL, UK)

15:00-15:45 **Special Lecture 3**

“Comprehensive Nuclear Security - Towards an Integrated Big Picture Approach”

Tomihiko TANIGUCHI (Professor, Academy for Global Nuclear Safety and Security Agent, Tokyo Institute of Technology)

15:45-16:15 **Group Discussions**

(Including Tea Break)

16:15-17:00 **Q&A**

September 1 (Fri)

(Lecture Theater, West Bldg. 5)

Lecture Session 5:

Nuclear Security (5)

Moderated by Yosuke NAOI (Director, Integrated Support Center for Nuclear Nonproliferation and Nuclear Security (ISCN), JAEA, Japan)

09:00-09:45 **Lecture 11**

“JAEA’s Activities in the Field of Nuclear Nonproliferation and Nuclear Security”

Yosuke NAOI (Director, Integrated Support Center for Nuclear Nonproliferation and Nuclear Security (ISCN), JAEA, Japan)

09:45-10:30 **Lecture 12**

“Overview of International Safeguards and JAEA’s Experience”

Masato HORI (Deputy Director, Integrated Support Center for Nuclear Nonproliferation and Nuclear Security (ISCN), JAEA, Japan)

10:30-11:15 **Lecture 13**

“JAEA’s Research and Development on Measurement and Detection for Nuclear Material”

Mitsuo KOIZUMI (Manager, Technology Development Promotion Office, Integrated Support Center for Nuclear Nonproliferation and Nuclear Security (ISCN), JAEA, Japan)

11:15-11:45 **Group Discussions**

(Including Tea Break)

11:45-12:30 **Q&A**

12:30-13:30

Lunch

September 1 (Fri)
(Lecture Theater, West Bldg. 5)

Student Session:

Group Discussions and Presentations

*Chaired by Students and Young Professionals
(Including Tea Break)*

(Presentation (20 min.) by Each Group and Discussions (5 min.))

13:30-15:00 **Group Discussions**

15:00-15:25 **Presentation of Group 1**

15:25-15:50 **Presentation of Group 2**

15:50-16:15 **Presentation of Group 3**

16:15-16:40 **Presentation of Group 4**

16:40-17:15 **Special Lecture 4**

“Protected Pu Production (P³) for Peace and Sustainable Prosperity”

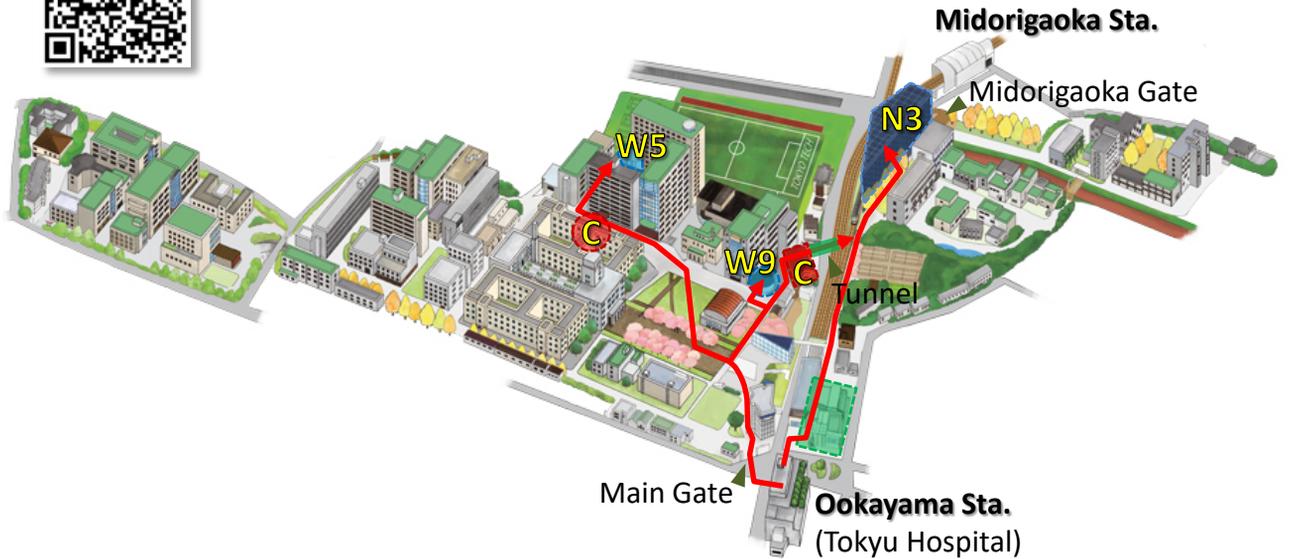
Masaki SAITO (Professor and Director, Academy for Global Nuclear Safety and Security Agent, Tokyo Institute of Technology)

Closing

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

17:15-17:30 **Awards and Closing Remarks**

Tokyo Tech Ookayama Campus



West Bldg. **5**



EEI Bldg. (**N**orth Bldg. **3**)



West Bldg. **9**





春 *Spring*



夏 *Summer*

秋 *Autumn*



冬 *Winter*

