

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

The 5th International Symposium and Seminar on
Global Nuclear Human Resource Development
for Safety, Security and Safeguards
- Nuclear Security and Safeguards -



February 21 – March 3, 2016
Tokyo Institute of Technology
Tokyo, Japan

Photograph by Akira NISHIMURA

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

In Cooperation with
International Atomic Energy Agency (IAEA)
Japan Atomic Energy Agency (JAEA)
Nuclear Security Science & Policy Institute (NSSPI), Texas A&M University
Institute of Nuclear Materials Management (INMM) Japan Chapter
International Nuclear Research Collaboration Center, Tokyo Tech



PROGRAM at a Glance

Time	8	9	10	11	12	13	14	15	16	17	18	19	20	21
Feb 20 Sat							Staff & Mentor Meeting	Students' Orientation (Teshima Memorial Conference Room, 3F, TTF Bldg.)					Speakers' Meeting	
21 Sun	Registration													
		Opening & Plenary Session 1 (Digital Hall, 2F, West Bldg. 9)				Photo		Plenary Session 2 (Digital Hall, 2F, West Bldg. 9)					Evening Session (1F, EEI Bldg.)	
22 Mon	Registration													
		Plenary Session 3 (Digital Hall, 2F, West Bldg. 9)					Continued							
23 Tue		Registration		Field Education 1 (Tokyo Tech)	Move	Move to Misawa via Hachinohe								
24 Wed		Move	Field Education 2 (Rokkasho Reprocessing Plant)							Move				
25 Thu							Move to Matsushima via Sendai							
26 Fri	Move	Field Education 3 (Onagawa Nuclear Power Plant)					Move to Fukushima							
27 Sat		Move	Field Education 4 (Fukushima)	Move to Tokyo										
28 Sun														
29 Mon		Lecture Session 1 (1F, EEI Bldg.)					Lecture Session 2 (1F, EEI Bldg.)							
Mar 1 Tue		Lecture Session 3 (1F, EEI Bldg.)					Lecture Session 4 (1F, EEI Bldg.)							
2 Wed		Student Session 1 (1F, EEI Bldg.)					Continued							
3 Thu		Student Session 2 (Digital Hall, 2F, West Bldg. 9)					Continued		Closing					

Symposium

Opening (Feb 21)

Chair : Masayuki IGASHIRA (*Tokyo Tech*)

Welcome Address :

Yoshinao MISHIMA (*Tokyo Tech*)

Janice DUNN LEE (*IAEA*)

Opening Address :

Masaki SAITO (*Tokyo Tech*)

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

Plenary Session 1 (Feb 21)

Chair : Tomihiro TANIGUCHI (*Tokyo Tech*)

Speakers :

Nobuyasu ABE (*Japan Atomic Energy Commission, Japan*)

Dmitriy NIKONOV (*IAEA*)

Genxin LI (*CTBTO*)

Noramly Muslim (*UNITEN/UKM, Malaysia*)

Plenary Session 2 (Feb 21)

Chair : Akira OMOTO (*Tokyo Tech*)

Speakers :

Hirokazu KUMEKAWA (*Nuclear Regulation Authority, Japan*)

Frank CARRE (*CEA, France*)

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

Masaki SAITO (*Tokyo Tech*)

Plenary Session 3 (1) (Feb 22)

Chair : Yosuke NAOI (*IAEA, Japan*)

Speakers :

Jongsook KIM (*KINAC/INSA, Korea*)

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

Masao SENZAKI (*IAEA, Japan*)

Jasmina VUJIC (*UC Berkeley, USA*)

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

Dmitriy NIKONOV (*IAEA*)

Plenary Session 3 (2) (Feb 22)

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

Speakers :

Walter AMBROSINI (*ENEN*)

Genxin LI (*CTBTO*)

Craig M. MARIANNO (*Texas A&M, USA*)

Man-Sung YIM (*KAIST, Korea*)

Jeremy GORDON (*World Nuclear Association*)

Masaki SAITO (*Tokyo Tech*)

Plenary Session 4 (Feb 23)

Chair : Masaki SAITO (*Tokyo Tech*)

Speakers :

Giang N. NGUYEN (*VINATOM, Vietnam*)

Muhamad Lebai Juri (*Malaysia Nuclear Agency, Malaysia*)

Giedrius LAUKAITIS (*Kaunas U of Technology, Lithuania*)

Seminar (Closed)

Lecture Session 1 (Feb 29)

Moderator : Chi Young HAN (*Tokyo Tech*)

Speakers :

David HURT (*IAEA*)

Joseph STAINBACK (*U of Tennessee, Knoxville, USA*)

Lecture Session 2 (Feb 29)

Moderator : Chi Young HAN (*Tokyo Tech*)

Speakers :

Richard C. MAC NAMEE (*Texas A&M, USA*)

Nobuo SHINOHARA (*IAEA, Japan*)

Lecture Session 3 (Mar 1)

Moderator : Sagara HIROSHI (*Tokyo Tech*)

Speakers :

Colin OKADA (*Remote Sensing Laboratory, USA*)

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

Lecture Session 4 (Mar 1)

Moderator : Sagara HIROSHI (*Tokyo Tech*)

Speakers :

Yosuke NAOI (*IAEA, Japan*)

(continued)

Tomihiro TANIGUCHI (*Tokyo Tech*)

Akira OMOTO (*Tokyo Tech*)

Student Session 1 (Mar 2)

Chairs : *Students and Young Professionals*

Student Session 2 (Mar 3)

Chairs : *Students and Young Professionals*

Speakers : *Students and Young Professionals*

Closing (Mar 3)

Chair : Masaki SAITO (*Tokyo Tech*)

PROGRAM



The 4d International Symposium and Seminar on Global Nuclear Human Resource Development for Safety, Security and Safeguards, February 17 – 26, 2015, Tokyo, Japan

February 20 (Sat)

Orientation (Only for Invited Students and Young Professionals)

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

13:00-13:45 **Staff and Mentors' Meeting**

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

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

14:10-15:00 **Orientation**

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

15:30-17:30 **Self Introductions**

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

Speakers' Meeting (Only for Overseas Speakers)

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

February 21 (Sun)

(Digital Hall, 2F, West Bldg. 9)

Opening

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

09:00-09:20 **Welcome Address**

Yoshinao MISHIMA (President, Tokyo Institute of Technology)

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

09:20-09:40 **Opening Address**

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

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

Plenary Session 1

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

09:40-10:20 **Keynote Speech 1**

“Future of Nuclear Energy in Japan”

Nobuyasu ABE (Commissioner, Japan Atomic Energy Commission, Japan)

10:20-11:00 **Keynote Speech 2**

“IAEA Nuclear Security Activities”

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

11:00-11:10 **Tea Break**

11:10-11:50 **Keynote Speech 3**

“CTBTO Recent Developments”

Genxin LI (Director, Legal and External Relations Division, CTBTO)

11:50-12:30 **Keynote Speech 4**

“Getting ASEAN Together for the Nuclear Power Program”

Noramly Muslim (Former DDG, IAEA and Professor Emeritus, Universiti Tenaga Malaysia and Universiti Kebangsaan Malaysia, Malaysia)

12:30-14:30 **Group Photo and Lunch**

Plenary Session 2:

Nuclear Energy in Future and Non-Proliferation Issues

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

14:30-15:10 **Invited Speech 1**

“State System of Accounting for and Control of Nuclear Material (SSAC) in Japan”

Hirokazu KUMEKAWA (Director, Safeguards Office, Nuclear Regulation Authority (NRA), Japan)

15:10-15:50 **Invited Speech 2**

“Nuclear Energy in France and Security Issues for a Worldwide Deployment”

Frank CARRE (Chief Scientist, Nuclear Energy Division, CEA, France)

15:50-16:00 **Tea Break**

16:00-16:45 **Invited Speech 3**

“Current Trends in Nuclear Power Development in Russia and Non-Proliferation Issues”

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

16:45-17:30 **Invited Speech 4**

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

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

Evening Session

(1F, EEI Bldg.)

Chaired by Hiromi TANABE (Advisor to Director, Academy for Global Nuclear Safety and Security Agent, Tokyo Institute of Technology)

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

February 22 (Mon)

(Digital Hall, 2F, West Bldg. 9)

Plenary Session 3:

Nuclear Education and Training (1)

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

09:00-09:30 **Invited Speech 5**

“INSA Nuclear Security Education and Training Activities and Lessons Learned”

Jongsook KIM (Director General, International Nuclear Nonproliferation and Security Academy (INSA), Korea Institute of Nuclear Nonproliferation and Control (KINAC), Korea)

09:30-10:00 **Invited Speech 6**

“Nuclear Security Education at Texas A&M University”

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

10:00-10:30 **Invited Speech 7**

“JAEA’s Capacity Building Activities for Nuclear Security and Safeguards”

Masao SENZAKI (Senior Fellow, Integrated Support Center for Nuclear Nonproliferation and Nuclear Security (ISCN), JAEA, Japan)

10:30-10:40 **Tea Break**

10:40-11:10 **Invited Speech 8**

“Nuclear Science and Security Consortium: Training the Next Generation of Experts”

Jasmina VUJIC (Professor, University of California at Berkeley, USA)

11:10-11:40 **Invited Speech 9**

“Russian Education & Training System to Support Capacity Building in Newcomer States”

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

11:40-12:10 **Invited Speech 10**

“IAEA Nuclear Security Education and INSEN”

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

12:10-13:30 **Lunch**

Plenary Session 3 (Continued):
Nuclear Education and Training (2)

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

- 13:30-14:00 **Invited Speech 11**
“The European Nuclear Education Network: Its Missions and Actions”
Walter AMBROSINI (President, European Nuclear Education Network (ENEN))
- 14:00-14:30 **Invited Speech 12**
“CTBTO Education”
Genxin LI (Director, Legal and External Relations Division, CTBTO)
- 14:30-14:40 **Tea Break**
- 14:40-15:10 **Invited Speech 13**
“TAMU Texas Engineering Extension Service at the Disaster City & The Emergency Operations Training Center” (Video)
Craig M. MARIANNO (Professor and TEES Senior Research Engineer, Nuclear Security Science & Policy Institute (NSSPI), Texas A&M University, USA)
- 15:10-15:40 **Invited Speech 14**
“Nuclear Security Education and Training in Korea”
Man-Sung YIM (Professor and Head, Department of Nuclear and Quantum Engineering, Korea Advanced Institute of Science and Technology (KAIST), Korea)
- 15:40-16:10 **Invited Speech 15**
“WNU Career Development for Future Nuclear Leaders”
Jeremy GORDON (Head, Information Management, World Nuclear Association (WNA))
- 16:10-17:00 **Invited Speech 16**
“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)

February 23 (Tue)

(Digital Hall, 2F, West Bldg. 9)

Plenary Session 4:

Nuclear Research and Development

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

09:00-09:30 **Invited Speech 17**

“Nuclear Education and Training, Research and Development in Vietnam”

Giang N. NGUYEN (Head, Training Division, Nuclear Training Center, Vietnam Atomic Energy Institute (VINATOM), Vietnam)

09:30-10:00 **Invited Speech 18**

“Nuclear Research & Development – Contribution to Economic and Social Prosperity in Malaysia”

Muhamad Lebai Juri (Director General, Malaysia Nuclear Agency, Malaysia)

10:00-10:30 **Invited Speech 19**

“Nuclear Education, Research and Development in Lithuania”

Giedrius LAUKAITIS (Professor and Head, Department of Physics, Kaunas University of Technology (KTU), Lithuania)

Closing Remarks of Plenary Sessions

10:30-10:35 **Masayuki IGASHIRA** (Professor and Vice Director, Academy for Global Nuclear Safety and Security Agent, Tokyo Institute of Technology)

Field Education 1:

Radiation Measurement in Tokyo

(Only for Invited Students and Young Professionals)

10:40-11:30 **Environmental Radiation Measurement**

11:30- *Move to Tokyo Station by Group (Including Lunch)*

13:00 *Gather at the Departure Platform for Hachinohe in Tokyo Station*

13:20- *Move to Misawa via Hachinohe*



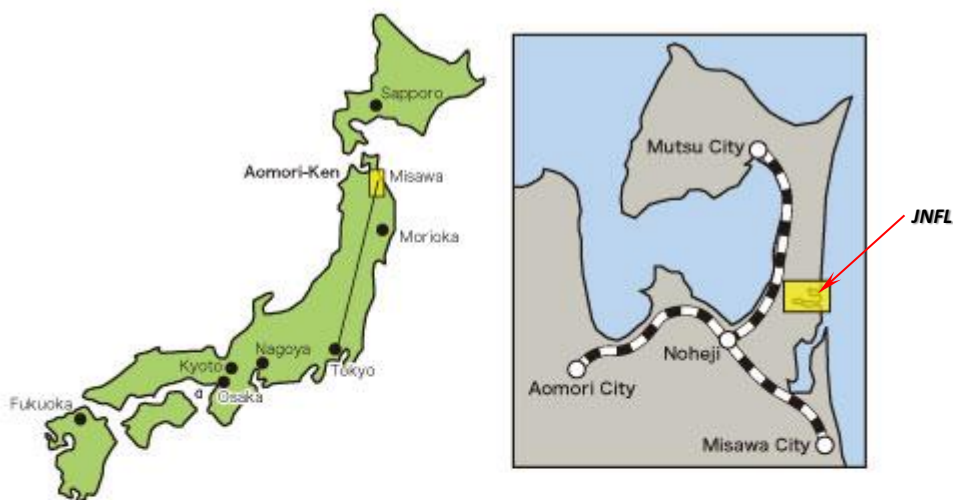
February 24 (Wed)

Field Education 2: Facility Visit at Rokkasho Reprocessing Plant

08:45- *Move to Rokkasho Reprocessing Plant*

10:00-16:00 **Facility Visit** (*Including Lunch*)

16:00- *Move to Aomori*



*Rokkasho Reprocessing Plant
(<http://www.jnfl.co.jp>, as of January 27, 2016)*

Field Education

(Closed: Only for Invited Students and Young Professionals)

February 25 (Thu)

13:00- Move to Matsushima via Sendai

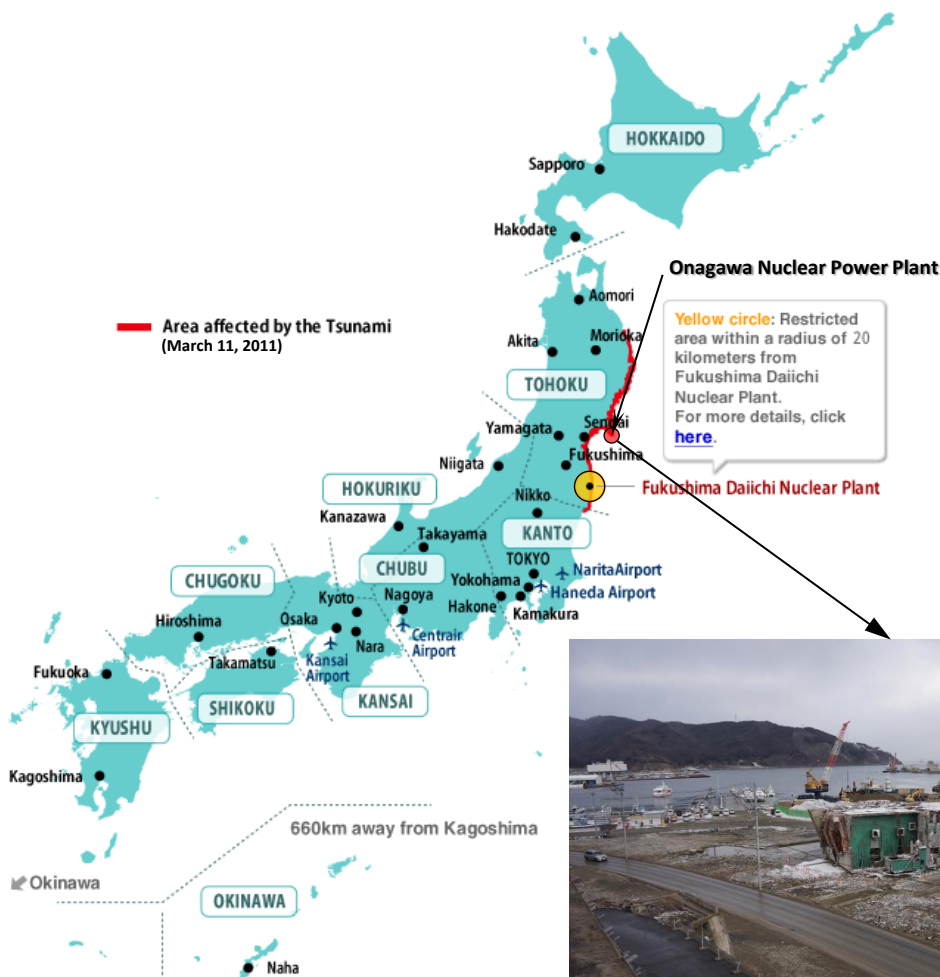


Google Map

**Field Education 3:
Facility Visit at Onagawa Nuclear Power Plant**

08:00- Move to Onagawa Nuclear Power Plant

09:30-13:30 **Facility Visit** (Including Lunch)



*Onagawa City on February 25, 2013
(The 2nd International Seminar, February 18 - 26, 2013)*

13:30- Move to Fukushima

Field Education

(Closed: Only for Invited Students and Young Professionals)

February 27 (Sat)

Field Education 4: Radiation Measurement in Fukushima

- 09:00- *Move to Measurement Site*
- 09:30-11:00 **Environmental Radiation Measurement**
- 11:30-12:30 **Lunch**
- 12:30- *Return to Tokyo*



The 4d International Symposium and Seminar on Global Nuclear Human Resource Development for Safety, Security and Safeguards, February 17 – 26, 2015, Tokyo, Japan

February 29 (Mon)

(1F, EEI Bldg.)

Lecture Session 1

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

09:00-10:00 **Lecture 1**

“The IAEA Safeguards System”

David HURT (Head, Tokyo Regional Office, Department of Safeguards, IAEA)

10:00-11:00 **Lecture 2**

“Nuclear Security Culture: A US Perspective”

Joseph STAINBACK (Professor, Department of Nuclear Engineering, The University of Tennessee at Knoxville, USA)

11:00-11:30 **Group Discussions** *(Including Tea Break)*

11:30-12:15 **Q&A**

12:15-14:00 **Lunch**

Lecture Session 2

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

14:00-15:00 **Lecture 3**

“The 5W’s of Terrorism”

Richard C. MAC NAMEE (Professor, The Bush School of Government, Texas A&M University, USA)

15:00-16:00 **Lecture 4**

“Nuclear Forensics”

Nobuo SHINOHARA (Advisor to Nuclear Forensics Project, Integrated Support Center for Nuclear Nonproliferation and Nuclear Security (ISCN), JAEA, Japan)

16:00-16:30 **Group Discussions** *(Including Tea Break)*

16:30-17:15 **Q&A**

Seminar

(Closed: Only for Invited Students and Young Professionals)

March 1 (Tue)

(1F, EEI Bldg.)

Lecture Session 3

Moderated by Sagara HIROSHI (Professor, Tokyo Institute of Technology,)

09:00-10:00 **Lecture 5**

"Radiological/Nuclear Incident Consequence Management"

Colin OKADA (Senior Scientist, National Security Technologies, Remote Sensing Laboratory, USA)

10:00-11:00 **Lecture 6**

"Cyber Security of Nuclear Facilities in a New Nuclear Security Regime"

Jor-Shan CHOI (Associate Director, UC Berkeley Nuclear Research Center, USA)

11:00-11:30 **Group Discussions** *(Including Tea Break)*

11:30-12:15 **Q&A**

12:15-14:00 **Lunch**

Lecture Session 4

Moderated by Sagara HIROSHI (Professor, Tokyo Institute of Technology)

14:00-15:00 **Lecture 7**

"Introduction to the Design of Physical Protection Systems"

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

15:00-15:30 **Lecture 8**

"Capturing and Creating the Global Big Picture"

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

15:30-16:00 **Lecture 9**

"Reconsidering Approaches for Nuclear Safety in Light of the Accident at Fukushima Daiichi NPS"

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

16:00-16:30 **Group Discussions** *(Including Tea Break)*

16:30-17:15 **Q&A**

March 2 (Wed)

(1F, EEI Bldg.)

Student Session 1:

Group Discussions

Chaired by Students and Young Professionals

09:00-09:30 **Orientation**

09:30-12:00 **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)

Seminar

(Closed: Only for Invited Students and Young Professionals)

March 3 (Thu)

(Digital Hall, 2F, West Bldg. 9)

Student Session 2:

Summary of the International Symposium and Seminar

Chaired by Students and Young Professionals

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

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

10:00-10:45 **Presentations of Group 1**

10:45-11:30 **Presentations of Group 2**

11:30-12:15 **Presentations of Group 3**

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

13:30-14:15 **Presentations of Group 4**

14:15-15:00 **Presentations of Group 5**

15:00-15:45 **Presentations of Group 6**

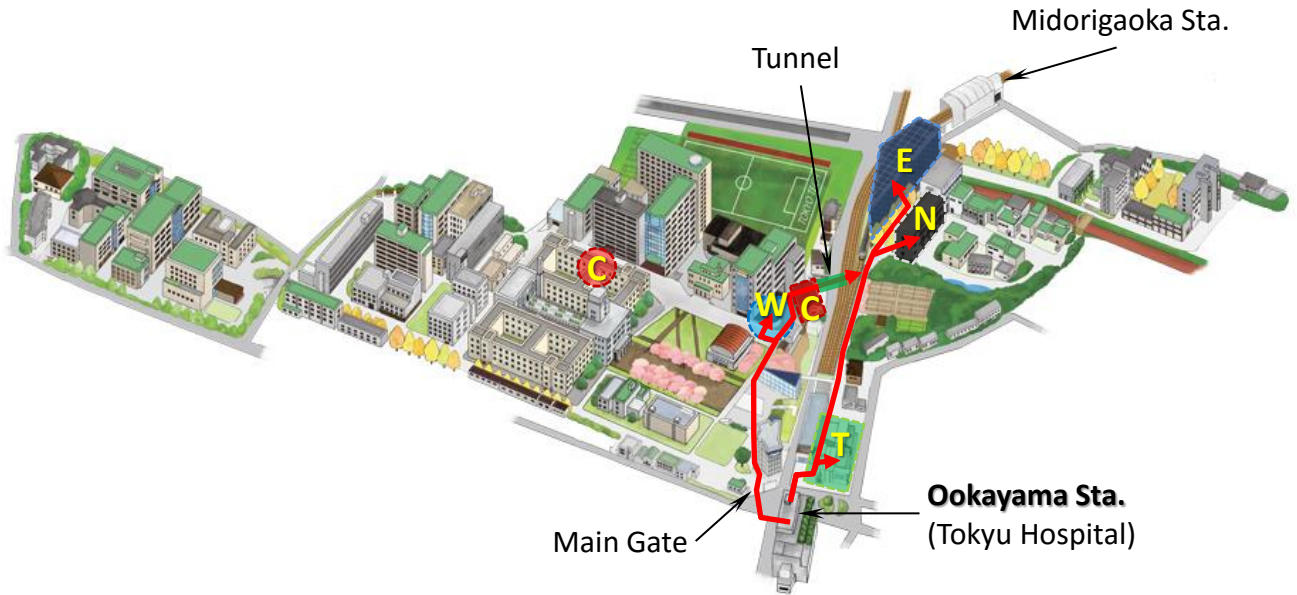
15:45-16:00 **Tea Break**

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



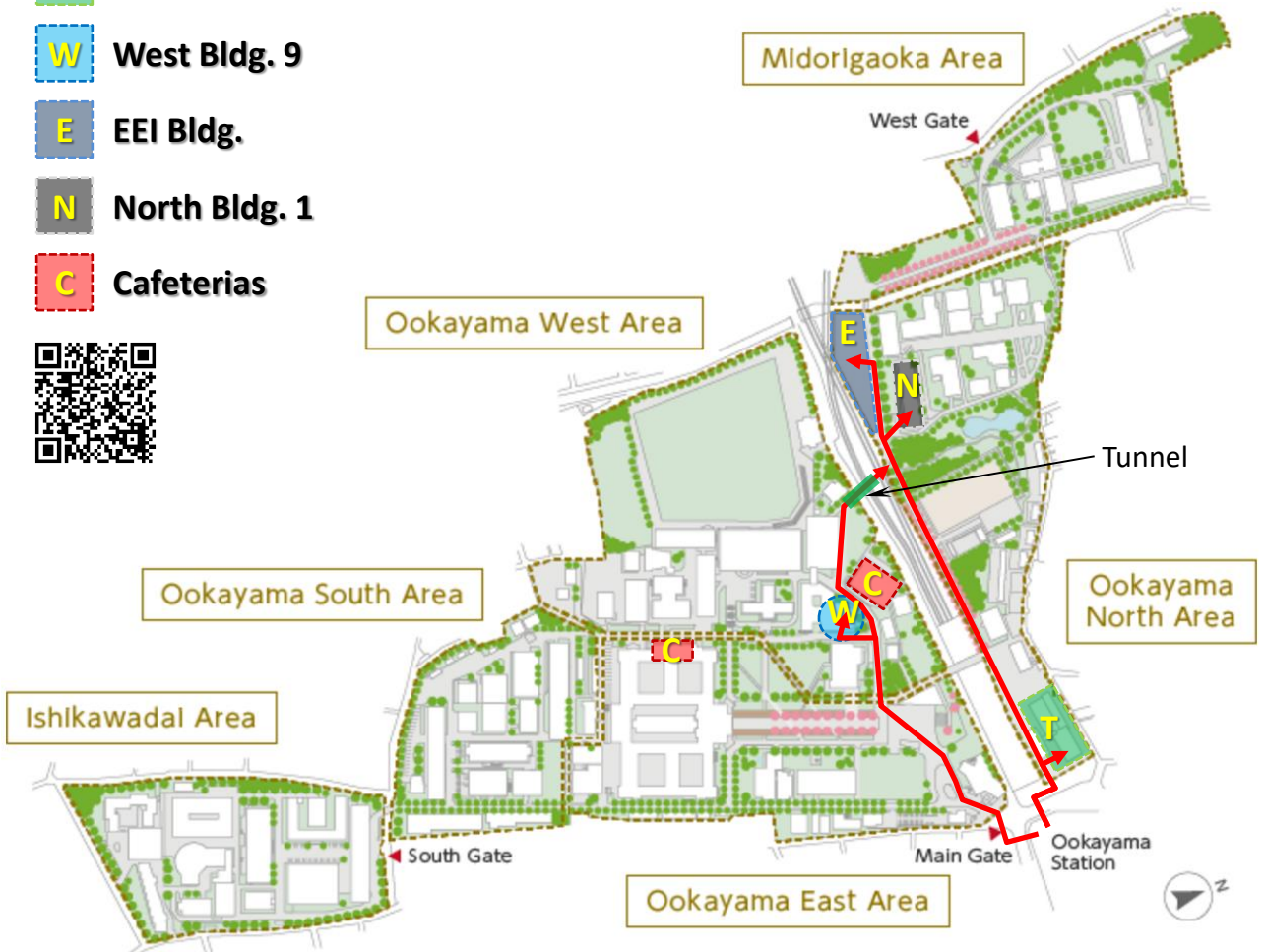
T TTF Bldg. (Kurame Kaikan)

W West Bldg. 9

E EEI Bldg.

N North Bldg. 1

C Cafeterias



The Four Seasons of Tokyo Tech



春 *Spring*



夏 *Summer*

秋 *Autumn*



冬 *Winter*

