

# Newsletter



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## U-ATOM

The Academy for Global Nuclear Safety and Security Agent, has a unique, new nuclear education program, one feature of which is full boarding for specially selected students called Dojo students. We have named this program U-ATOM, combining the letter "U" (for unique) with the word "atom".

## Second International Seminar

The Second International Seminar on Global Nuclear Human Resource Development for Safety, Security and Safeguards–Fukushima Daiichi Accident was held February 18–26. Lecturers and participants came from Japan, Korea, Vietnam, Malaysia, the United States, Russia and France, and from international organizations. The seminar was a great success.

### Plenary Session (Open)



▲ Commemorative photo from the plenary session.

The plenary sessions on the first day and the morning of the second day at Grand Pacific Le Daiba were open to the public, attended by thirty-two lecturers from around the world and 83 students. The first plenary session featured Youtaro Hatamura, chairman of the government's Investigative Committee on the Accident at the Fukushima-Daiichi Nuclear Power Station of Tokyo Electric Power Company, and many lecturers actively working in the nuclear field gave presentations on Fukushima-Daiichi accident and other topics such as nuclear education and the future prospect of nuclear power in Asia.

### Lecture Session (Closed)



▲ Discussion group work.

The afternoon of the second day was a closed session in which 34 pre-registered students and young nuclear engineers reviewed the plenary session lectures and attended lectures on seven themes each given by one to several lecturers. Topics covered included the accident at TEPCO's Fukushima Daiichi Nuclear Plant, developments in nuclear power technologies. Participants split into six groups (each led by a Dojo student). Each group carried out its own

discussion on each lecture theme, decided on questions they wished to ask, and then addressed those questions to the lecturers to deepen their understanding. After mini-fieldwork session and a visit to Onagawa Nuclear Power Plant, the students presented their findings and were awarded a certificate of completion in the final session.



▲ Dojo students were awarded a certificate of completion after the seminar.

### Fieldwork Session

Students and others in the international seminars participated in a mini-fieldwork exercise on radiation measurement. Dose measurements were taken outside the seminar venue in Odaiba, with readings of 0.07  $\mu\text{Sv/h}$  at one meter above the ground and 0.1  $\mu\text{Sv/h}$  at ground level. On the way up north by bus the next day for fieldwork, students took readings at the parking area in Ryozen (part of Date City, Fukushima Prefecture). The reading one meter above ground was about 0.3  $\mu\text{Sv/h}$ . Measurement of a drainpipe outlet close to the rest area gave a reading of 10  $\mu\text{Sv/h}$ , which was a sobering reminder for all participants of the actual contamination in Fukushima.



▲ Taking measurements at a parking area in Ryozen.

### Tour of Onagawa Nuclear Power Plant

The day after the fieldwork session, students visited Tohoku Electric's Onagawa Nuclear Power Plant. After the Great East Japan Earthquake, some 360 Onagawa residents evacuated to the gymnasium and other buildings on the power plant grounds. Students were briefed on the power plant and watched a video of the tsunami as it hit Onagawa. The students from abroad were especially riveted to the screen. The group visited areas damaged by the tsunami, the new emergency power generating facility installed at an elevated location in light of the tsunami, and the new emergency water pump truck.



▲ A commemorative picture of the visit to Onagawa Nuclear Power Plant.

## Visit to Europe

The education at U-ATOM is intended to develop leadership and competence, not only in nuclear science and engineering, but also for decision-making, both with an interdisciplinary and international perspective. To this end, the Academy provides opportunities such as a one-year overseas internship/study, attendance at international seminars and overseas training and visits to cultivate our students' capacities to think and work globally.

In line with this objective, eight Dojo students visited Europe February 1-10 with U-ATOM faculty to learn about the functions, activities and contemporary points of focus from a practitioner's perspective at a European nuclear supplier, international organizations, educational institutes and in industry.

In France, the group paid a visit to the AREVA La Hague facility to observe and learn about spent fuel storage and reprocessing and to the AREVA Paris office to study its global activities, including the design of new reactors. Visits to ENEN (European Nuclear Education Network) and INSTN (National Institute for Nuclear Science and Technology) in Saclay were to learn about cooperative arrangements for nuclear science and engineering education in France and in Europe. Students also had an opportunity to discuss the Fukushima-Daiichi Accident with ENEN students.



▲ Discussion with ENEN students on Fukushima



▲ IAEA

In Austria, the group visited the IAEA and the Preparatory Commission for CTBTO (Comprehensive Nuclear-Test-Ban Treaty Organization) in Vienna, where they were briefed on the activities in each department and on the special topic of the status of the post-Fukushima IAEA action plan. During a visit to the Permanent Mission of Japan to the International Organizations in Vienna, students were briefed on the mission's activities and the expected competence and expertise necessary to be qualified as staff members at international organs.



▲ CTBTO

A dozen Japanese staff members working for the IAEA came to discuss their own activities. Students asked penetrating questions about matters such as post-IAEA career plans, motivation for work for such international organs, and the future of the IAEA.

Students also had opportunities for cultural enrichment, visiting museums and churches, and attended a performance of Mozart's *Zauberflöte* (The Magic Flute) at a Vienna opera house.



▲ Discussion with Japanese staff members working for the IAEA

## Student Voices

We visited ENEN and AREVA as part of our trip to Europe in February 2 to 12. Being able to visit such core facilities in the nuclear industry and listen to the top-class staff working there was a highly valuable experience for us. When we visited the spent fuel reprocessing plant in La Hague, we were shown a video of how reprocessing works that was very easy to understand. Such clarity and brevity ties in to the building of trust and also provides an important lesson to Japan regarding the stalled Rokkasho Reprocessing Plant issue. From the perspective of building trust, we must develop such a sense of accountability since we are aiming to develop into global leaders in the nuclear power field.

(Dojo Student Yuta Fukatsu, 2<sup>nd</sup> Year of the Master's Program)





## Fieldwork in Fukushima

Eight Dojo students went to Fukushima March 17-21 for their Environmental Radiation Measurement Fieldwork class. Students were split into three teams, and they and their instructors drove themselves and their survey meters to measurement sites in three rental vehicles. Everyone worked together on the first day of fieldwork on the 18<sup>th</sup>, measuring in the Iizakamachi area of Fukushima City while confirming the ways to operate and take measurements with each type of meter. The picture to the right is a scene from this fieldwork. Students compared their measurements against the 0.857 $\mu$ Sv/h measured obtained from the measuring post at Tatenoyama Park, which was installed after the Fukushima Daiichi nuclear disaster. On the second day, each group worked along its own separate prearranged path. On the third day, everyone once again moved as a single group to experience measuring in areas with high dose readings. At a hotspot near barriers marking a "Difficult to Return" zone, a dose of 100  $\mu$ Sv/h was recorded. Students also collected leaf and soil samples to bring back to the university, where they used instruments such as imaging analyzers to measure the quantity of specific radioactive nuclides, etc.



▲ Fieldwork at Tatenoyama Park in Iizakamachi, Fukushima Prefecture.

## Student Voices

One of the good things from the Fukushima fieldwork was learning about the actual radiation doses in Fukushima and places where radioactive substances tend to accumulate. Being allowed into radiation controlled areas and directly seeing the disaster-stricken areas and decontamination work was an extremely valuable experience.

I would like to actively participate in decontamination efforts as a volunteer to contribute to the restoration efforts in any small way. (Dojo Student Yuki Sakata, 2<sup>nd</sup> Year of the Master's Program)



## Measurement Data

In the previous fiscal year, large-scale decontamination work had yet to start in Fukushima, although all areas outside the 20km evacuation zone were accessible regardless of dose. However, it has been more than two years since the accident and major decontamination work in many places such as Jurokunuma Park (Fukushima City) has proceeded together with restricting access by dose rather than by just distance from the Fukushima-Daiichi Plant. Therefore, for this fieldwork, we measured a maximum air dose at one meter of 7  $\mu$ Sv/h at the border of a Difficult-to-Return zone.



▲ The barricade and dose near the Nagadoro District observation area in Iitate Village along National Route 339.

## ●●● Student Introductions (Part 2) ●●●



Keisuke Tsukada

I majored in mechanical engineering at university, and I'm currently researching flow measurements. My hobby is photography. I recorded our activities, having brought my camera with me for the Fukushima fieldwork and the trip to Europe. I feel I was able to broaden my knowledge and absorb culture beyond my area of speciality by meeting students from abroad and by visiting nuclear facilities outside of Japan. I'd like to become a person who is able to see the overall picture of nuclear power.

Aiming to Have a Broad View of Nuclear Power



Kento Fukano

My dream is to become a resourceful person for many people. I thought energy would be something vitally necessary to many, so I studied Electrical and Electronic Engineering at a technical college and at university, looking largely at solar batteries. But from the perspective of energy security, I decided to study nuclear energy at graduate school. This graduate school provides various opportunities to those who are ready to take advantage of them. I would like to use those opportunities as a source of encouragement to help me be resourceful to many.

Helping people is my dream



Takahiro Mori

I was born in 1989, the second son of a family of tea farmers in Honkawane, Shizuoka Prefecture. After graduating junior high school, I left home to attend Numazu National College of Technology, where I spent the next seven years earning my Bachelor's degree in Electrical and Electronic Engineering. After experiencing the Fukushima Nuclear Plant accident, I joined this university's graduate program in Nuclear Engineering. My motto is "Live up to the expectations of the world by becoming a good-natured, excellent engineer," which is the teaching of the first principal of Numazu National College of Technology, Atsuomi Igata.

Building a personality and learning technologies to contribute to society



Tatsuki Watanabe

My hobby is triathlons, which I started in university. I found it interesting that self-management and planning is directly tied into race results, and I devoted myself to triathlon club activities. I originally had an interest in energy, and the Great East Japan Earthquake and TEPCO Fukushima Nuclear Plant accident happened at a time when I had already started to pay attention to nuclear power. I had long been interested in energy issues and I felt that safety and security would be demanded of nuclear power in the future, so I decided to major in nuclear engineering and join the U-ATOM curriculum. I'd like to compete in friendly ways with my classmates so we can all improve ourselves!

I chose nuclear engineering and U-ATOM because of the Fukushima Accident

## Exchange with Texas A&M Students

April 11(Thur.)

Participants: Six dojo students, Program Coordinator Saito, Special Associate Professor Han, Assistant Professor Sagara and Promotion Officer Watanabe.

A group of 13 representatives (students and faculty members) from three countries attending Texas A&M University came to Japan on a study tour of Japan's nuclear power facilities. We organized a meeting in Asakusa with the representatives in response to a request to meet and hold discussions with Academy students. The group visited Asakusa Temple and enjoyed lunch together, discussing Japanese culture and tradition, the state of the art of nuclear power in each of their home countries and other topics. Although it was a short visit, friendships were made.



▲ A commemorative photo at Asakusa Temple.

## Hyotan Seminar

Yasumasa Matsui, a reporter at the City News service at TV Asahi's News Bureau was invited to the weekly Hyotan Seminar as a lecturer on May 30 (Thur.). Mr. Matsui is a former presenter and he applies those skills in his coverage of nuclear power plants. He used the example of the recent accelerator accident at the Japan Proton Accelerator Research Complex to speak about the importance of communication and presentation. In the latter half of the seminar, students were asked to give a 30-second presentation, becoming keenly aware of how difficult that task actually is.



▲ Watching a television program while carrying out the seminar.

## Sports and BBQ Event



▲ At the Tokyo International Exchange Center BBQ pit.

We held a basketball tournament and barbeque on June 1(Sat.) at the Tokyo International Exchange Center. After building up a good sweat from basketball, everyone enjoyed an outdoor barbeque. Adding to the liveliness were many first-year graduate students in the Department of Nuclear Engineering who are considering entering U-ATOM.

## Third International Seminar (Nuclear Security) and Visit to the US

This joint seminar will be held over five days at Texas A&M University in the United States. The university's Disaster City, which is a mock community used for emergency response training, will be used to stage a retrieval of radioactive material from concrete rubble. Following the training drill, the students are scheduled to go to New York to visit the UN Headquarters and to Idaho to tour the Idaho National Laboratory.

### Third International Seminar (Nuclear Security)

Dates: September 9 (Mon.) - 13 (Fri.)

Location: Texas A&M University (US)

Hosts:

- ◆ Academy for Global Nuclear Safety and Security Agent
- ◆ Texas A&M University



▲ Disaster City at Texas A&M

### Visit to the United States

Dates: September 14 (Sat.) - 20(Fri.)

Location: United Nations, Idaho National Laboratory



▲ The United Nations headquarters.



▲ The world's first nuclear reactor, EBR-1.

## Core Schedule for FY2013

June	Information meeting about the first screening of Dojo applicants (second class)	October 1	Entrance ceremony for the second class of Dojo students
August	Entrance examination	January	Visit to Europe
September	Third International Symposium Visit to the US	Late February to early March	Second International Symposium

Thank you for your readership, We would like to take this opportunity to thank all of you who helped us with this issue, as we had many large events to cover.

Our next issue, to be published sometime around November, will cover an international seminar in September and the Academy's entrance ceremony for new students.

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Date of publication: July. 22, 2013

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