

**2011 Advanced Summer School of
Nuclear Engineering and Management with
Social-Scientific Literacy**
— Reflections on the Fukushima Nuclear Accident —
<http://goneri.nuc.berkeley.edu/pages2011/index.html>

Organized by the University of Tokyo and University of California, Berkeley

July 31 (Sun.) – Aug. 5 (Fri.), 2011
David Brower Center
2150 Allston Way, Berkeley, CA 94704 USA

Outline of the School

This summer school is a 6-day program focusing on the issues raised by the recent serious accident in Fukushima-Daiichi nuclear power station in Japan, in the context of interactions and relations between the nuclear technology and society. Participants will develop their own philosophies, stances and/or principles which they believe appropriate and responsible in the post-Fukushima nuclear scene, based on very intensive studies and discussions.

The 2011 school will be held in the UC Berkeley campus, under the collaboration framework between the nuclear engineering departments of the UC Berkeley and the University of Tokyo. Both departments have been collaborated in the research and education of social aspects of nuclear utilization for over 3years.

Applications from highly motivated students of all countries are welcomed. The organizers will select participants based upon the provision of application materials.

Expected Participants

Graduate students and young professionals in the nuclear engineering field who are interested in social responsibility, ethical considerations, decision-making process in society, regulatory problems and any other social issues regarding the nuclear utilization raised by the Fukushima accident. To enable intensive study and discussion, the number of participants will be limited to 20.

Organizers

Global COE Program, Nuclear Education and Research Initiative (GoNERI) Program, The University of Tokyo
Japan

Department of Nuclear Engineering, University of California, Berkeley, USA

Organizing Committee

Chair: Joonhong Ahn (Professor, Univ. of California Berkeley, USA)

Co-chair: Shinya Nagasaki (Professor, Univ. of Tokyo, Japan)

Co-chair: Mikael Jensen (Former Analyst, SSM, Sweden)

Cathryn Carson (Associate Professor, Univ. of California, Berkeley, USA)

Kohta Juraku (Project Assistant Professor, Univ. of Tokyo, Japan)

Agenda

Sunday, July 31 [Registration and Reception, David Brower Center]

- 15:30 – 16:00 Registration
- 16:00 Welcome Remarks
- 16:10 Orientation
- 16:30 – Reception (Organized by Student Committee)
- (19:00 – Dinner meeting of the organizing committee with discussants)

Monday, August 1, [Workshop, David Brower Center]

Chair: Dr. Mikael Jensen (Former Analyst, SSM, Sweden)

- 10:00 – 10:05 Greetings
 Prof. Masayoshi Tomizuka (Executive Associate Dean, College of Engineering, UC Berkeley)
- 10:05 – 10:15 Opening Remarks
 Prof. Joonhong Ahn (Dept. of Nuclear Engineering, UC Berkeley)
- 10:15 – 11:00 [Lecture 1] Scientific Analysis of Radiation Contamination at the Area around the
 Fukushima-Daiichi Nuclear Power Station
 Prof. Satoru Tanaka & Prof. Shinichiro Kado (Dept. of Nuclear Engineering and Management,
 Univ. of Tokyo) (Speaker: Prof. Tanaka)
- 11:00 – 11:30 Q&A

Lunch

- 12:45 – 13:30 [Lecture 2] Physics of Fukushima Damaged Reactors and its Preliminary Lessons
 Prof. Naoyuki Takaki (Dept. of Nuclear Engineering, Tokai University, Japan)
- 13:30 – 14:00 Q&A

Break

- 14:15 – 15:00 [Lecture 3] Radiation Safety Regulation under Emergency Condition
 Prof. Toshiso Kosako (Dept. of Nuclear Engineering and Management, Univ. of Tokyo)

- 15:00 – 15:30 Q&A

Coffee Break

- 16:00 – 17:30 Reflection and Discussion
 Discussant: Dr. Takuji Oda (Dept. of Nuclear Engineering and Management, Univ. of Tokyo)

Tuesday, August 2 [Workshop, David Brower Center]

Chair: Prof. Shinya Nagasaki (Nuclear Professional School, Univ. of Tokyo)

9:00 – 9:45 [Lecture 4] Impact of Fukushima for Reactor Design Practice
Prof. Per Peterson (Dept of Nuclear Engineering, UC Berkeley)

9:45 – 10:15 Q&A

Coffee Break

10:30 – 11:15 [Lecture 5] “Ethics, Risk and Uncertainty: Reflections on Fukushima and Beyond”
Prof. William E. Kastenberg (Dept. of Nuclear Engineering, UC Berkeley)

11:15 – 11:45 Q&A

Lunch

13:00 – 15:00 Reflection and Discussion
Led by Prof. Kastenberg and Prof. Ahn

Coffee Break

15:30 – 17:00 [Student Session] “What has been Discussed in Today?”
Organized by young researchers and students of U Tokyo

Wednesday, August 3 [Workshop, David Brower Center]

Chair: Prof. Cathryn Carson (Dept. of History, UC Berkeley)

9:00 – 9:45 [Lecture 6] “Failure” of Regulation and Issues in Public Policy Studies
Prof. Hideaki Shiroyama (Graduate School of Public Policy, Univ. of Tokyo)

9:45 – 10:15 Q&A

Coffee Break

10:30 – 11:15 [Lecture 7] The Structural Failure of the Science-Technology-Society Interface: A Hidden
Accident Long Before Fukushima
Prof. Miwao Matsumoto (Dept. of Sociology, Univ. of Tokyo)

11:15 – 11:45 Q&A

Lunch

13:00 – 13:45 [Lecture 8] Three Mile Island and Fukushima: Some Reflections on the History of Nuclear Power

Dr. J. Samuel Walker (Former USNRC Historian)

13:45 – 15:15 Reflection and Discussion

Discussant: Dr. Mary E. Sunderland (Dept. of History, UC Berkeley)

Coffee Break

15:45 – 17:30 [Student Session] “Impact of Fukushima for US Nuclear Researchers”

Organized by students of UC Berkeley

17:30 – 18:30 [Group Work]

Thursday, August 4 [Workshop, David Brower Center]

Chair: Prof. Joonhong Ahn (Dept. of Nuclear Engineering, UC Berkeley)

9:00 – 9:45 [Lecture 9] Anatomy of Japanese Nuclear Program: Critical Reflection

Dr. Tetsunari Iida (Institute for Sustainable Energy Policies, Japan)

9:45 – 10:15 Q&A

Coffee Break

10:30 – 11:15 [Lecture 10] Engineers in Organization, in Industry and in Society: Ethical Considerations
Prof. Jun Fudano (Applied Ethics Center for Engineering and Science, Kanazawa Institute of Tech., Japan)

11:15 – 11:45 Q&A

Lunch

13:00 – 13:45 [Lecture 12] Long-Term Energy and Environmental Strategy

Prof. Yasumasa Fujii (Dept. of Nuclear Engineering and Management, Univ. of Tokyo)

13:45 – 15:15 Reflection and Discussion

Discussant: Dr. Robert A. Borrelli (Dept. of Nuclear Engineering, UC Berkeley)

Coffee Break

15:45 – 17:30 [Group Work]

18:00 – 19:30 Dinner

19:30 – 20:30 [After-dinner Talk] From Fukushima To the World: How to Learn from the Experience in Japan

Dr. Tatsujiro Suzuki (Atomic Energy Commission of Japan)

Friday, August 5 [Symposium, David Brower Center]

What is your principle? : Lessons from Fukushima

Presentations by Student Groups, Responses from Lecturers and Discussions

Chair: Dr. Kohta Juraku (Dept. of Nuclear Engineering and Management, Univ. of Tokyo)

[Student Group Session]

9:00 – 10:20 Presentations and Discussions

Coffee Break

10:40 – 12:00 Presentations and Discussions

Lunch

[Concluding Panel]

13:00 – 14:00 Summary of Lectures and Discussions

14:00 – 15:20 Comments from Panelists

Coffee Break

15:40 – 17:20 Discussion

17:20 Concluding Remarks

Background, Motivation and Objective of the Summer School

For the past four years, the Department of Nuclear Engineering and Management, University of Tokyo, and Department of Nuclear Engineering, University of California, Berkeley, have collaborated to develop advanced educational programs for nuclear engineering. The collaboration, called GoNERI, has been funded by the Global Center of Excellence (G-COE) program of the Japan Society for the Promotion of Sciences (JSPS).

As one of the core parts of GoNERI program, special emphasis is placed on integrating nuclear science and engineering with social science. We recognize the particular relevance of social-scientific approaches to various aspects of nuclear technology, such as the nuclear fuel cycle, radioactive waste disposal, implementation in rising countries, etc. It is imperative that the new generation of nuclear engineers understand societal aspects of nuclear technologies sufficiently to serve the public good. However, as faculty members and students in nuclear science and engineering, we do not yet have sufficient command of the fundamentals of the social sciences (such as their domain, concepts, terminology, methodology, etc.), which limits us in collaborating with social scientists. This must be corrected.

Under the GoNERI program, efforts have been made to develop an innovative education program by integrating nuclear engineering and social sciences, including a series of bi-weekly seminars and field trips to Waste Isolation Pilot Plant (WIPP), at Carlsbad, New Mexico, Toyo-Cho and Rokkasho-Mura, Japan. The collaborating partners conducted the “2009 Advanced Summer School of Radioactive Waste Disposal with Social Scientific Literacy” at Berkeley and “2010 Advanced Summer School of Nuclear Engineering and Management with Social-Scientific Literacy” at Honolulu, in collaboration with Tokai University, Japan.

In 2011, in response to the occurrence of the serious accident at the Fukushima-Daiichi nuclear power station in Japan on March 11, it is decided that the 2011 summer school should focus on the reflection from that shocking event. This accident raised many fundamental and controversial questions against the traditional approach of nuclear engineering and its utilization in society. Engineers and any other experts involving nuclear utilization should take those questions very seriously and have to respond to any criticism and concern shown by citizens. Our 2011 school will provide an arena for the discussions to find and create renewed platform to renovate engineering practices which required in the post-Fukushima era nuclear scene.