



# ISET-R NEWSLETTER

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<http://www.ied.tsukuba.ac.jp/hydrogeo/isetr/>



## ISET-R Plenary Conference

@ Cross Wave Makuhari May 25, 2015

The third “ISET-R Plenary Conference” was held at Cross Wave Makuhari in Makuhari City, Chiba Prefecture on May 25, 2015.

Four years have passed since the FDNPP accident and this third conference gathered eighty-eight participants. It started with a remark by the head investigator, Prof. Yuichi Onda, regarding future plans. Presentations on recent developments of research were made by the principal investigator of each research group, followed by presentations on future research plans by researchers recruited from public. The conference ended with an overall discussion. Since this is the fourth year of the ISET-R project, entering the latter half of the whole project, we are focusing on strengthening collaborative research.



Here is the list of four collaborative research themes confirmed at the last two conferences.

- B01** Estimation of deposition process of radionuclides based on the investigation, analysis and clarification of chemical status at the time of release and impact assessment of transfer [A01, A04] (Chief: Dr. Igarashi)
- B02** Clarification of circulation process of radionuclides in forest environment and modeling of the process [A01, A03, A04] (Chief: Dr. Takenaka)
- B03** Clarification of transfer process of radionuclides from terrestrial environment to marine environment through river network [A02, A03, A04] (Chief: Dr. Onda)
- B04** Calculation of locational radiation exposure based on radionuclide behavior and transfer in the environment [A01, A02, A03, A04] (Chief: Dr. Tsuruta)



Professor Onda explained developments and future plans of the four most critical issues confirmed at the last two conferences.

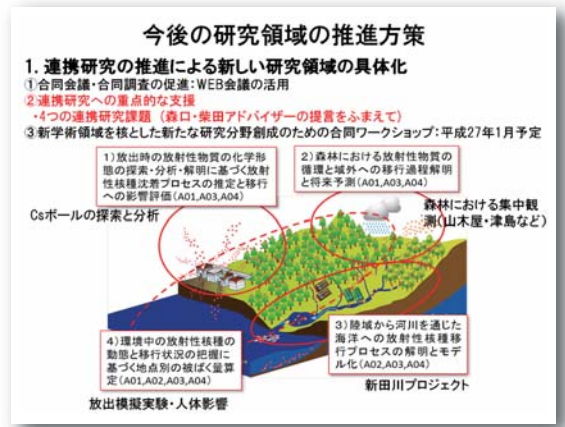
- 1 Embodiment of new research fields by promoting collaborative research
- 2 Promotion of international collaboration: ongoing collaborative research with 11 overseas research institutions
  - A01 Effects of radionuclides on atmosphere  
: Atmospheric Research Division, IRSN (Institut de Radioprotection et de Surete Nucleaire) France
  - A02 Effects of radionuclides on marine environment  
: Marine Research Division, IRSN France, Woods Hole Oceanographic Institution
  - A03 Radionuclide transfer in terrestrial environment  
: Research Division on circulation of radionuclides in forest environment, Research Division on river network, IRSN France  
: LSCE France, University of Liverpool, University of Sheffield, Moscow State University
  - A04 Existence form of radionuclides associated with transfer and development of measurement techniques  
: University of Vienna

The others include

Department of Nuclear Sciences and Applications, IAEA: collaboration with A02, A03, and A04

Ukrainian Hydrometeorological Institute (UHMI): collaboration with A03 and A04

- 3 Fulfillment of fostering young researchers
- 4 Transmission of information



The main focus of this conference is to deepen understandings on the four collaborative research themes, which will be the important theme in developing a new scientific research in the future. Therefore, all participants were encouraged to take part in discussions in one of the four collaborative research issues.

Presentation on recent developments of research by principle investigators of each research group

**Group A01-1**  
**Teruyuki NAKAJIMA, Japan Aerospace Exploration Agency**  
 “Understanding the atmospheric transport modeling and transfer process of fallout radionuclides”



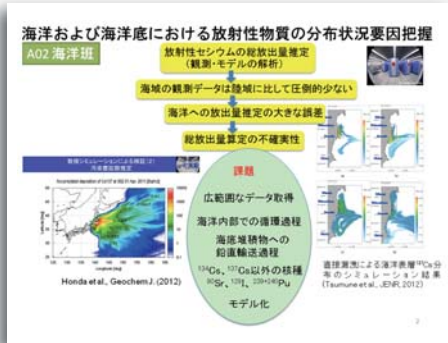
**Group A01-2**  
**Yasuhito IGARASHI, Meteorological Research Institute**  
 “Understanding atmospheric deposition, dispersion process, and land interaction of radionuclides”



**Group A02-3**

**Masatoshi YAMADA, Hirosaki University**

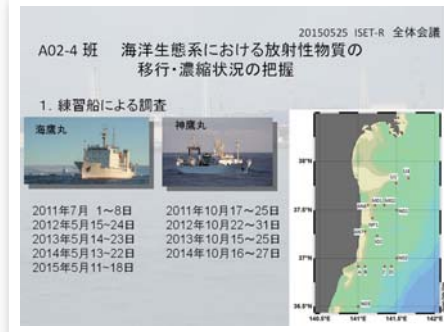
“Understanding the distribution status of radionuclides in sea and seafloor sediment”



**Group A02-4**

**Takashi ISHIMARU, Tokyo University of Marine Science and Technology**

“Understanding the transfer and concentration of radionuclides in marine ecosystem”



**Group A03-5**

**Yuichi ONDA, University of Tsukuba**

“Understanding the transfer process of radionuclides associated with water and sediment transport”



**Group A03-6**

**Chisato TAKENAKA, Nagoya University**

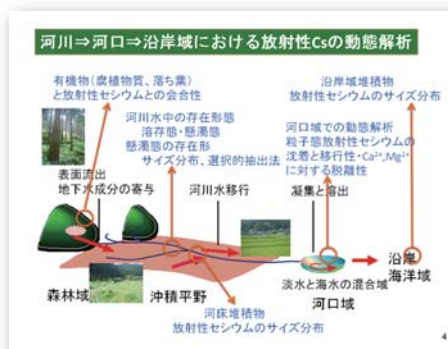
“Understanding the radionuclide circulation process in terrestrial ecosystem”



**Group A04-7**

**Seiya NAGAO, Kanazawa University**

“Development of microanalysis technology and chemical form of radionuclides associated with migration”



**Group A04-8**

**Atsushi SHINOHARA, Osaka University**

“Radionuclide measurement in various chemical forms and development of technology”

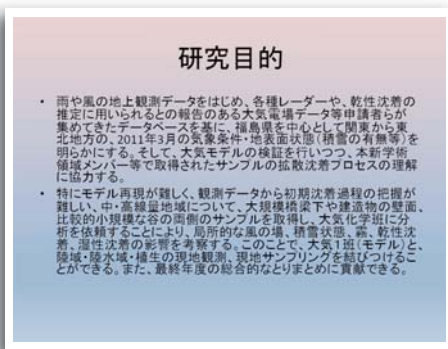


## Future research plans by researchers recruited from public

**B01**

**Akiyo YATAGAI, Research Institute for Humanity and Nature**

“Estimation of deposition process of radionuclides based on three-dimensional meteorological data”



**B01**

**Izumi NAKAI, Tokyo University of Science**

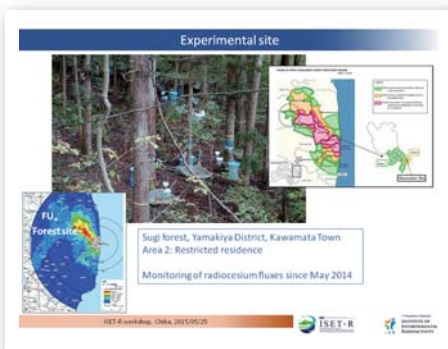
“Identifying chemical state of radioactive microparticles emitted from the FDNPP accident using multiple synchrotron radiation X-ray analyses”



**B02**

**Yoschenko VASYL, Fukushima University**

“Study of stable cesium for long-term”



**B02**

**Hiroaki KATO, University of Tsukuba**

“Large-scale assessment of initial interception rate for radiocesium deposited on forest stands”



**B02**

**Junko TAKAHASHI, University of Tsukuba**

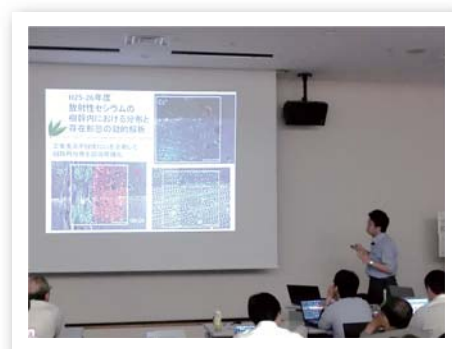
“Quantitative assessment of thinning impact on radiocesium circulation in forest ecosystems”



**B02**

**Dan AOKI, Nagoya University**

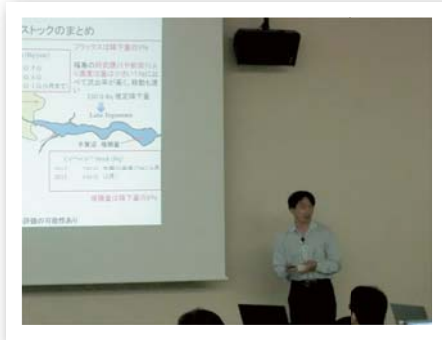
“Analysis of interaction between cesium and phyto-components and research on physical and chemical adsorption-desorption process”



## B03

Yukio KOIBUCHI, University of Tokyo

“Clarification of radionuclide behavior in urban region and urban coastal area”



## B03

Chihiro YOSHIMURA, Tokyo Institute of technology

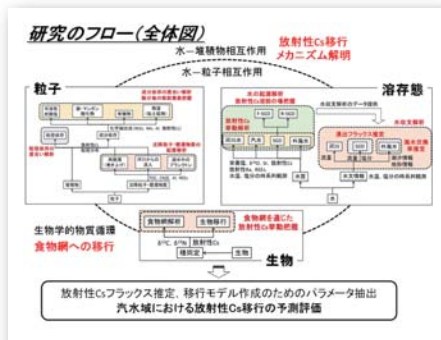
“Clarification of existence status and leaching system of radiocesium in natural underwater environment using comprehensive analysis approach”



## B03

Jing ZHANG, University of Toyama

“Analysis of migration process of radiocesium focusing on river-ocean interaction in brackish water”



## B03

Yusuke UCHIYAMA, Kobe University

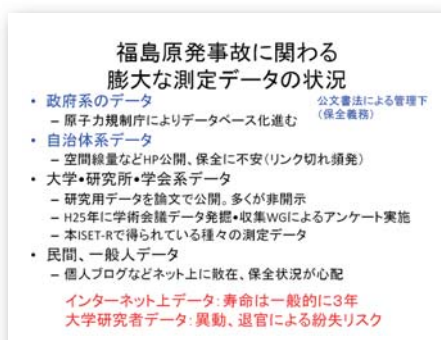
“Development of simultaneous analysis system of suspended and dissolved cesium transport toward assessment of radionuclide transfer in marine environment”



## B04

Yoshitaka ITOW, Nagoya University

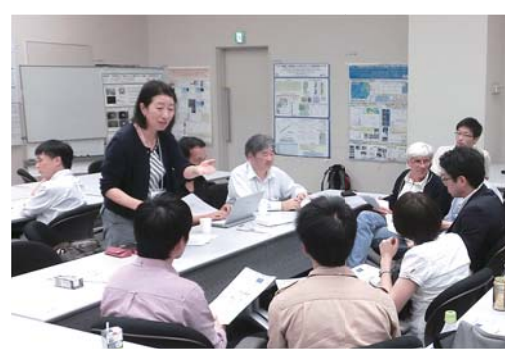
“Construction of a metadatabase for measuring radiation derived from FDNPP accident and estimation of initial exposure to radiation”



Presentation materials for this conference are posted on the Members Only Page of our ISET-R website at <http://www.ied.tsukuba.ac.jp/hydrogeo/isetr/>.

## Poster session and general discussion

Participants took part in discussions in one of the four multidisciplinary projects of chemical status (B01), forest (B02), terrestrial environment to rivers (B03), and calculation of radiation exposure (B04). Group discussions started with self-introductions by members. At the end, presentations were made on the results of discussions by chiefs of each collaborative research group.



## Comments from participants

◆ Group discussion was made beyond the framework of research groups, which was very meaningful. In the chemical status group I participated, information on the initial emission of radionuclides from the power plant and the second emission including resuspension were shared. I hope this trial continues in the next conference.

(Yukihiko Sato, B01)

◆ In the past plenary sessions, discussions were made within each research group based on their study fields, however, this session tried a new approach of going beyond research fields and making a new framework to solve critical research issues. The success of this approach made me think that the future interdisciplinary research will be prosperous.

(Yoshifumi Wakiyama, B03)

◆ As actively engaging participation and constructive discussion between highly regarded experts, professors, and researchers from various fields of study is the purpose of the annual ISET-R meeting, I was able to broaden my understanding on an array of current research progresses and result on the Fukushima Daiichi Nuclear Power Plant accident.

(Yoo Nahyun, B04)

The ISET-R Plenary Conference of 2015 closed with a comment by Professor Gamo, one of the research area advisors. “Although the conference was long, lasted for six hours, it was extremely rich in content. I hope that the members make a constant effort to keep up a good work and develop the work further until the final compilation year. We talked about the importance of ‘collaboration’ with other research areas in the last conference, and I felt that the collaboration among research areas penetrated so much in this conference, which is the greatest achievement in this new scientific research.”