

Sixth Epidemiological Training Workshop for Biologists

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The sixth Epidemiological Training Workshop for Biologists, sponsored by the Council of Radiation Effects Research Organizations,* was held August 24–25, 2015, and 49 people (six from the Radiation Effects Research Foundation [RERF]) attended. Although past workshops were held in RERF's Auditorium, this year's workshop took place in the Hiroshima RERF Laboratory's Hijiyama Hall. Many Epidemiology Department staff helped to move tables from the Auditorium up to Hijiyama Hall. The heavy lifting we did served as a reminder again of how much RERF's workforce has aged.

On the first day of the workshop, I gave a talk titled "Epidemiology for non-specialists" about epidemiological terminology and methods. Dr. Kotaro Ozasa, Chief, RERF Department of Epidemiology, presented RERF research results in a lecture titled "Recent results from the Life Span Study (LSS)." Dr. Atsuko Sadakane, Acting Chief, Pathology Laboratory, Associate Senior Scientist, from the same department, shared tips for reading and understanding epidemiological papers in her talk "Risk of childhood cancer from CT scans." Dr. Misa Imaizumi, Chief, Divisions of Radiology and Clinical Laboratories, Department of Clinical Studies, Nagasaki RERF, spoke about "Radiation exposure and thyroid cancer," covering the thyroid gland and its association with radiation. Subsequent talks titled "Radiation effects on the fetus" (Dr. Nori Nakamura, Consultant, Department of Genetics) and "Combined effects of radiation exposure and estradiol on postmenopausal breast cancer" (Dr. Eric J. Grant, Assistant Chief, Department of Epidemiology) attracted participants' interest as each touched on both epidemiological

and biological findings. In the last session of the first day, RERF Chairman Ohtsura Niwa gave the presentation "Summary of the ICRP tissue stem cell report." This report was a reason why many of the participants, who listened intently, decided to attend. Following this presentation, Dr. Kazuo Yoshida, Director, Radiation Safety Research Center, Central Research Institute of Electric Power Industry, talked about a model for integrating biology and epidemiology in his presentation titled "Simulation of dose-rate effects with stem-cell competition." This presentation marked the end of the first day of the workshop.

Almost all participants attend the reception every year. This year's reception began with greetings by RERF Vice Chairman Robert L. Ullrich and Chief Scientist Kazunori Kodama. The participants shared information with each other throughout the reception.

A typhoon was forecast to pass near Hiroshima around noon on the second day, when the workshop was scheduled to conclude. Concerned that the approaching typhoon might halt westbound train service, some of the participants, particularly those from Kyushu, had to cut short their visit and leave early. However, most participants stayed through until the end of the workshop despite the storm. Dr. Nori Nakamura gave a talk titled "Observing mouse experiments from the perspective of epidemiology," which served as a bridge between the two fields of epidemiology and biology. Dr. Kazutaka Doi, a researcher from the National Institute of Radiological Sciences, gave a presentation titled "Can epidemiology markers be generated with data from animal experiments?" about the development of an R extension pack-



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age for calculating excess relative and other risks. Some participants requested that they be able to use the package. Lastly, there was a general discussion about a paper by Tomasetti et al., titled "Variation in cancer risk among tissues can be explained by the number of stem cell divisions." The research described in the paper looks at changes in number of mutations, rather than at individual genes as conventional studies have done. Understanding the explanation was a challenge for many of the participants.

We were worried about the participants' journey home through the approaching typhoon. Fortunately, those from the east were able to return as scheduled via eastbound *Shinkansen* train service, which was not affected.

In this year's workshop, less time was spent introducing RERF's research to allow more time for presentations bridging epidemiological and biological research. New this year were presentations by researchers from the Central Research Institute of Electric Power Industry and the National Institute of Radiological Sciences.

Participants were asked to complete a question-

naire at the end of the workshop. Some told us what they plan to present next year, responses that will help with planning for the next workshop. A participant reported finding the workshop educational because it helped him remember the many things he had learned at previous workshops and subsequently forgotten. His comment reminded us why we must keep holding the workshop. In response to demands to restore the theme "Radiation biology for non-biologists," employed at the fourth workshop, we will include this session in next year's program.

On the next day, after the storm had passed, we began moving the tables from Hijiyama Hall back to the Auditorium, only to find that the elevator was out of service due to a power outage. But despite this and other unexpected events, we successfully wrapped up the workshop, the importance of which we became well aware. I would like to express my sincere appreciation to the participants, the presenters, and the staff from the General Affairs Section and the Department of Epidemiology, who helped make this workshop possible.

*The Council of Radiation Effects Research Organizations, consisting of the Institute for Environmental Sciences, Kyoto University, Nagasaki University, Hirosaki University, Hiroshima University, Fukushima Medical University, National Institute of Radiological Sciences, and Radiation Effects Research Foundation (order of above institutes arranged according to the Japanese syllabary), was established to develop understanding among radiation research organizations and strengthen their alliance.