

## Collaborative and Institutional Publications

*The following manuscripts are not based on research connected to specific protocols. Rather, they generally represent collaborative work, institutionally authored publications, or publications based on pilot studies. They are arranged by department.*

### Directors and Chief Scientists

- ◆ Douple EB, Boice JD: In memoriam—Seymour Jablon (June 2, 1918–April 9, 2012). *Radiat Res* 2012 (September); 178(3):246–7.
- ◆ Okubo T: Long-term epidemiological studies of atomic bomb survivors in Hiroshima and Nagasaki: Study populations, dosimetry and summary of health effects. *Radiat Prot Dosimetry* 2012 (October); 151(4):671–3.
- ◆ Okubo T: Obituary: Itsuzo Shigematsu. *J Radiol Prot* 2012 (September); 32(3):359.
- ◆ Okubo T (ed): MHLW Grant: FY2011 Report of Atomic Bomb Disease Research Project. 2012 (September), 92 p. (Japanese)
- ◆ Yasumura S, Hosoya M, Yamashita S, Kamiya K, Abe M, Akashi M, Kodama K, Ozasa K, for the Fukushima Health Management Survey Group: Study protocol for the Fukushima health management survey. *J Epidemiol* 2012 (September); 22(5):375–83.

### Clinical Studies, Hiroshima

- ◆ Usui S, Matsumura M, Yanagida J, Suyama A, Tatsukawa Y, Inoue N, Kidani Y, Egawa M, Kubota M, Nakahara H, Tsumura H, Okada T, Ishida K, Tojo T, Mukai M, Nakamoto K, Kotajima Y, Shinoda H, Fukuhara M, Kouno N, Yamaguchi N, Mori H: Report on the results of the 18th medical examination of atomic bomb survivors resident in North America. *Hiroshima Igaku [J Hiroshima Med Assoc]* 2012 (May); 65(5):357–82. (English and Japanese)

### Clinical Studies, Nagasaki

- ◆ Imaizumi M: Radiation and thyroid diseases—Knowledge of atomic-bomb survivors. *Saishin Igaku [Mod Med] Extra Issue* 2012 (October); 235–41. (Japanese)
- ◆ Imaizumi M, Yamashita S: Radiation exposure and thyroid function disorder. *Curr Ther* 2013 (January); 31(1):92. (Japanese)

### Radiobiology/Molecular Epidemiology

- ◆ Fujiki H, Imai K, Nakachi K, Shimizu M, Moriwaki H, Suganuma M: Challenging the effectiveness of green tea in primary and tertiary cancer prevention. *J Cancer Res Clin Oncol* 2012 (August); 138(8):1259–70.
- ◆ Otonari J, Nagano J, Morita M, Budhathoki S, Tashiro N, Toyomura K, Kono S, Imai K, Ohnaka K, Takayanagi R: Neuroticism and extraversion personality traits, health behaviours, and subjective well-being: the Fukuoka Study (Japan). *Qual Life Res* 2012 (December); 21(10):1847–55.
- ◆ Taga M, Eguchi H, Shinohara T, Takahashi K, Ito R, Yasui W, Nakachi K, Kusunoki Y, Hamatani K: Improved PCR amplification for molecular analysis using DNA from long-term preserved formalin-fixed, paraffin-embedded lung cancer tissue specimens. *Int J Clin Exp Pathol* 2013 (January); 6(1):76–9. (RR 6-12)
- ◆ Taga M, Mechanic LE, Hagiwara N, Vähäkangas KH,

Bennett WP, Alavanja MCR, Welsh JA, Khan MA, Lee A, Diasio R, Edell E, Bungum A, Jang JS, Yang P, Jen J, Harris CC: EGFR somatic mutations in lung tumors: Radon exposure and passive smoking in former- and never-smoking U.S. women. *Cancer Epidemiol Biomarkers Prev* 2012 (June); 21(6):988–92.

- ◆ Watanabe T, Kuramochi H, Takahashi A, Imai K, Katsuta N, Nakayama T, Fujiki H, Suganuma M: Higher cell stiffness indicating lower metastatic potential in B16 melanoma cell variants and in (–)-epigallocatechin gallate-treated cells. *J Cancer Res Clin Oncol* 2012 (May); 138(5):859–66.

### Epidemiology, Hiroshima

- ◆ Sakata R, Kleinerman RA, Mabuchi K, Stovall M, Smith SA, Weathers R, Wactawski-Wende J, Cookfair DL, Boice JD, Jr., Inskip PD: Cancer mortality following radiotherapy for benign gynecologic disorders. *Radiat Res* 2012 (October); 178(4):266–79.

### Epidemiology, Nagasaki

- ◆ Kondo H, Soda M, Mine M, Yokota K: Comparison by bombing status and changes of cancer incidence among the A-bomb survivors in Nagasaki City (1970–2007). *Nagasaki Igakkai Zasshi [Nagasaki Med J]* 2012 (September); 87(Special issue):191–4. (Proceedings of the 53rd Late A-bomb Effects Research Meeting, 2012) (Japanese)

### Information Technology

- ◆ Katayama H: RERF databases and implications for future studies. *Radiat Prot Dosimetry* 2012 (October); 151(4):677–81.

## Collaborative and Institutional Oral Presentations

*The following oral presentations were not linked to specific research protocols but based on pilot studies, or represent collaborative work with outside organizations and general research activities. They are arranged by department.*

### Directors and Chief Scientists

- ❖ Douple EB. Lessons learned from RERF and from Fukushima and other nuclear accidents for more effective communication of radiation risks. 58th Annual Meeting of the Radiation Research Society, 30 September–3 October 2012, San Juan, Puerto Rico
- ❖ Kodama K. Radiation Research Partnership Program—Cooperation between RERF and Biostatistics Center of Kurume University. 11th Kurume International Biostatistics Forum, 18–19 January 2013, Kurume
- ❖ Nakamura N. Lessons learned from Hiroshima and Nagasaki. Symposium of the Japan Environmental Mutagen Society, 26 May 2012, Tokyo
- ❖ Okubo T. Cancer risk by radiation exposure. 50th Annual Meeting of Japan Society of Clinical Oncology, 26 October 2012, Yokohama

### Epidemiology, Hiroshima

- ❖ Ozasa K, Fukushima W, Oofuji S. Advocacy of the prevention and control of influenza by vaccination. 71st Annual Meeting of the Japanese Society of Public Health, 24–26 October 2012, Yamaguchi

### Statistics

- ❖ Nakashima E. Statistical analyses of radiation risk among atomic-bomb survivors: The efforts at Radiation Effects Research Foundation and Fukushima Daiichi atomic reactors accident. 2012 Joint Statistics Meeting, 9–12 September 2012, Sapporo

### Information Technology

- ❖ Katayama H, Ioka A, Tsukuma H. Use of socio-economic indexes and GIS for targeting the areas for medical colon cancer screenings. 34th Annual Meeting of the International Association of Cancer Registries, 17–19 September 2012, Cork, Ireland

## Scientific Lectures and Seminars Presented at RERF

1 April 2012–31 March 2013

*The following presentations were made during the fiscal year by researchers internal and external to RERF at the Hiroshima Laboratory. They appear in chronological order.*

16 April 2012, **Alina V. Brenner**, Staff Scientist, Radiation Epidemiology Branch, Division of Cancer Epidemiology and Genetics, National Cancer Institute (NCI), U.S.A.: “Molecular genetic studies of post-Chernobyl thyroid cancer at NCI”

11 May 2012, **Munehika Misumi**, Research Scientist, Department of Statistics, Radiation Effects Research Foundation, The 269th Hiroshima Statistics Study Group Meeting: “Effect of radiation dose uncertainty on the risk estimate in radiation epidemiological studies”

6 July 2012, **Ke-Hai Yuan**, Professor, Department of Psychology, University of Notre Dame, U.S.A., The 270th Hiroshima Statistics Study Group Meeting: “Empirical correction to the likelihood ratio statistic for structural equation modeling with many variables”

13 July 2012, **Atsuko Sadakane**, Assistant Professor, Department of Public Health, Center for Community Medicine, Jichi Medical University: “Amount, frequency, and patterns of alcohol consumption and risk of mortality”

3 September 2012, **Brandy M. Ringham**, Graduate Student Assistant, Department of Biostatistics and Informatics, Colorado School of Public Health, University of Colorado, U.S.A.: “Reducing decision errors in the paired comparison of the diagnostic accuracy of continuous screening tests”

7 September 2012, **Daniel O. Stram**, Professor, Division of Biostatistics, Department of Preventive Medicine, University of Southern California, U.S.A.: “Analysis of cancer risks in populations near nuclear facilities: Phase I”

21 September 2012, **Harry M. Cullings**, Chief, Department of Statistics, Radiation Effects Research Foundation, The 271st Hiroshima Statistics Study Group Meeting: “Exploratory spatial analysis of stable chromosomal aberrations in a subset of the Life Span Study cohort of atomic-bomb survivors”

24 September 2012, **Chih-Chieh Wu**, Assistant Professor, Department of Epidemiology, University of Texas MD Anderson Cancer Center, U.S.A.: “Modeling of susceptibility genes for cancer risk estimation in family studies”

2 November 2012, **Shinpei Imori**, Department of Mathematics, Graduate School of Science, Hiroshima University, The 272nd Hiroshima Statistics Study Group Meeting: “On some properties of QIC in generalized estimating equations”

5 November 2012, **Peter W.S. Chang**, Professor, Taipei Medical University & Hospitals, Chairman, Taiwan Radiation Protection Association, Taiwan: “Follow-up study of cohort population with low dose/low dose-rate radiation exposure

in Taiwan, 1992–2012”

12 November 2012, **Young Min Kim**, Post-doctoral Associate, Department of Biostatistics, The University at Buffalo, SUNY, U.S.A.: “A progressive block empirical likelihood for time series”

30 November 2012, **Keisuke Fukui**, Department of Mathematics, Graduate School of Science, Hiroshima University, The 273rd Hiroshima Statistics Study Group Meeting: “Selection of high-dimensional multivariate linear regression models by cross-validation”

3 December 2012, **Reid D. Landes**, Associate Professor, Biostatistics, University of Arkansas for Medical Sciences (UAMS), U.S.A.: “Recommendations for estimators of dose reduction factors in animal lethality experiments”

10 December 2012, **Richard Wakeford**, Visiting Professor in Epidemiology, Dalton Nuclear Institute, The University of Manchester, U.K. (Member of ICRP Committee 1; Editor-in-Chief of Journal of Radiation Protection): “The risk of cancer from low-level exposure to radiation—some recent results and future prospects”

21 December 2012, **Kyoji Furukawa**, Associate Senior Scientist, Department of Statistics, Radiation Effects Research Foundation, The 274th Hiroshima Statistics Study Group Meeting: “Handling incomplete data in epidemiology—some guidelines and an application”

1 February 2013, **Mariko Yamamura**, Lecturer, Graduate School of Education, Hiroshima University, The 275th Hiroshima Statistics Study Group Meeting: “Interpretation of the estimation result by logistic regression model”

25 March 2013, **Daisuke Haruta**, Medical Staff, Cardiovascular Medicine, Shunkaikai Inoue Hospital: “Epidemiology of J wave syndrome (early repolarization syndrome and Brugada syndrome)”

## RERF Colloquia (FY2012)

*Rather than formal seminars, RERF Colloquia are presentations mainly focused on preliminary or ongoing studies, with the aim of obtaining constructive ideas from RERF researchers.*

20 April 2012, **Masazumi Akahoshi**, Chief, Department of Clinical Studies, Nagasaki: “Electrocardiographic Studies in RERF”

1 June 2012, **Eric J. Grant**, Assistant Chief, Department of Epidemiology: “Effects of radiation and lifestyle factors on risks of urothelial carcinoma in the LSS”

8 June 2012, **Harry M. Cullings**, Chief, Department of Statistics: “Estimation of Survivors’ Doses from Residual Radiation”

28 September 2012, **Jun-ichi Asakawa**, Senior Scientist, Department of Genetics: “Is whole-genome-sequencing applicable to RERF genetic study?”

26 October 2012, **Seishi Kyoizumi**, NIAID Project Research Scientist, Department of Radiobiology/Molecular Epidemiology: “Stem cells, aging, and radiation”

16 November 2012, **Ritsu Sakata**, Associate Senior Scientist, Department of Epidemiology: “The effects of fallout rain: An analysis based on information from baseline surveys for LSS subjects”

21 December 2012, **Ikuno Takahashi**, Research Scientist, Department of Clinical Studies: “Radiation Effects on microcirculation: Cross-sectional analysis in the AHS”

25 January 2013, **Kyoji Furukawa**, Research Scientist, Department of Statistics: “Improving dose-response estimation in risk analysis—Why is the ‘LNT’ model inconvenient?”

## Awards Received by RERF Employees

**1 April 2012–31 March 2013**

15 June 2012, **Kazunori Kodama**, Chief Scientist, received the Japanese Association for Cerebro-cardiovascular Disease Control (JACD)/Japan Heart Foundation’s Prevention Award at the 48th Annual Scientific Meeting on Cardiovascular Disease Prevention of JACD, held in Tokyo.

20–22 September 2012, **Ikuno Takahashi**, Research Scientist, Department of Clinical Studies, Hiroshima (concurrently, Department of Epidemiology), received the 3rd Hypertension Research Award at the 35th Annual Scientific Meeting of the Japanese Society of Hypertension, held in Nagoya.

1 November 2012, **Waka Ohishi**, Acting Chief, Department of Clinical Studies, Hiroshima, received the 2012 Encouragement Award for Medical Research at the 65th Anniversary Convention of the Japan Medical Association, held in Tokyo.

24 November 2012, **Ikuno Takahashi**, Research Scientist, Department of Clinical Studies, Hiroshima (concurrently, Department of Epidemiology), received the Incentive Award for Young Researchers at the 24th Meeting of the Japan Geriatrics Society Chugoku-district Branch, held in Hiroshima.

11 March 2013, **RERF** received a certificate of appreciation from the Health, Labour and Welfare Minister for its contributions to the Ministry of Health, Labour and Welfare Health Service Bureau’s projects related to the 11 March 2011 Great East Japan Earthquake.

**Hiroyuki Ryukaku**, Senior Technician, Division of Clinical Laboratories, Department of Clinical Studies, Hiroshima, received the FY2012 Hiroshima Prefectural Award for Distinguished Hazardous Materials Officer.

## FY2012 External Research Funds

Name of Outside Organization	Number of Grants	Research Funds (Amount of Funds from Funding Organizations)
Ministry of Health, Labour and Welfare (MHLW)	8	¥7,450,000
Ministry of Education, Culture, Sports, Science and Technology (MEXT)	12	¥32,500,000
Ministry of the Environment (MOE)	1	¥2,200,000
Japan Arteriosclerosis Prevention Fund	1	¥2,000,000
National Cancer Center	1	¥1,040,000
Smoking Research Foundation	1	¥2,000,000
Japan Osteoporosis Foundation	1	¥737,030
Japan Chemical Industry Association	1	¥3,611,367
National Institute of Radiological Sciences	1	Supplies only
U.S. National Cancer Institute (NCI) Contract	1	¥19,646,517
U.S. National Institute of Allergy and Infectious Diseases	1	¥177,597,554
<b>Grand Total</b>	<b>29</b>	<b>¥248,782,468</b>

Notes) · These amounts include indirect cost.

· These amounts may include subsidies allocated to collaborators.

· In a few cases, persons from multiple departments were independently funded under an umbrella grant. In such cases, the numbers of grants include this funding as multiple grants.

## FY2012 Externally Funded Research

Title of Research	Name and Location of Entrusting Outside Organization and Chief of Research Group or Principal Investigator in Charge	Collaborator(s) at RERF	Study Period	Research Funds
<p><b>Department of Clinical Studies, Hiroshima</b> A prospective cohort study of factors contributing to accelerate the progress of fatty liver disease</p>	<p>MEXT Grant-in-Aid for Scientific Research Scientific Research (C) Waka Ohishi, Acting Chief, Department of Clinical Studies, RERF</p>		1 April 2012–31 March 2013	Direct cost ¥1,500,000 Indirect cost ¥450,000
<p>Longitudinal/cross-sectional studies to generate evidence for diagnosis/management of metabolic syndrome to be used for specified medical checkup and health guidance</p>	<p>MHLW Scientific Research Grant Comprehensive Research on Lifestyle-related Diseases including Cardiovascular Diseases and Diabetes Mellitus Takashi Kadowaki, Professor, Graduate School of Medicine, The University of Tokyo</p>	Michiko Yamada Cooperative Investigator: Yoshimi Tatsukawa	1 April 2012–31 March 2013	¥1,150,000
<p>Understanding risk-factor management priorities and establishing individual risk-assessment evidence through development of large-scale cohort-based collaborative studies</p>	<p>MHLW Scientific Research Grant Comprehensive Research on Lifestyle-related Diseases including Cardiovascular Diseases and Diabetes Mellitus Tomonori Okamura, Professor, School of Medicine, Keio University</p>	Michiko Yamada	1 April 2012–31 March 2013	¥1,800,000
<p>Atherosclerosis, dementia and ADL evaluations among the Adult Health Study subjects</p>	<p>Japan Arteriosclerosis Prevention Fund Scientific Research Grant Chief of Research Group: Hirotsugu Ueshima, Special Contract Professor, Lifestyle-related Disease Prevention Center, Shiga University of Medical Science Principal Investigator: Michiko Yamada, Chief, Division of Health Examinations, Department of Clinical Studies, RERF</p>		1 April 2012–31 March 2013	¥2,000,000 The above amount includes funds allocated to the collaborator(s) at Hiroshima University.
<p>The effect of radiation dose on body composition and the association with atherosclerotic diseases</p>	<p>MEXT Grant-in-Aid for Scientific Research Young Scientists (B) Yoshimi Tatsukawa, Associate Senior Scientist, Division of Health Examinations, Department of Clinical Studies, RERF</p>		1 April 2012–31 March 2013	Direct cost ¥700,000 Indirect cost ¥210,000
<p>Study of atherosclerotic disease and bone fracture risk among the elderly—Hiroshima cohort survey</p>	<p>Japan Osteoporosis Foundation Lily Scientific Research Fund Ikuno Takahashi, Research Scientist, Division of Clinical Laboratories, Department of Clinical Studies, RERF</p>		1 January 2012–31 December 2012	¥737,030
<p><b>Department of Genetics</b> Establishment of cytogenetic study network for radiation accident</p>	<p>Chromosome Network Committee, National Institute of Radiological Sciences (NIRS) Yumiko Suto, Head, Biodosimetry Section, Department of Radiation Dosimetry, Research Center for Radiation Emergency Medicine, NIRS</p>	Yoshiaki Kodama	15 June 2012–31 March 2013	Expenses for supplies (¥350,000 equivalent)

## FY2012 Externally Funded Research

Title of Research	Name and Location of Entrusting Outside Organization and Chief of Research Group or Principal Investigator in Charge	Collaborator(s) at RERF	Study Period	Research Funds
<b>Department of Genetics</b> Analysis of the <i>in vivo</i> mechanisms to establish radiation-induced mutagenesis	MEXT Grant-in-Aid for Scientific Research Scientific Research (S) Hiroshi Mitani, Professor, Graduate School of Frontier Sciences, The University of Tokyo	Asao Noda	1 April 2012– 31 March 2013	Direct cost ¥1,900,000 Indirect cost ¥570,000
Study of genetic effects of atomic-bomb radiation using high-density microarray CGH	MEXT Grant-in-Aid for Scientific Research Scientific Research (B) Mieko Kodaira, Chief, Biochemical Genetics Laboratory, Department of Genetics, RERF	Jun-ichi Asakawa Kyoji Furukawa (Department of Statistics) Associate Investigator: Nori Nakamura (Consultant of the Department)	1 April 2012– 31 March 2013	Direct cost ¥6,700,000 Indirect cost ¥2,010,000
Evaluation of the skin cancer risk among heterozygotes bearing a founder mutation allele unique to a Japanese population at xeroderma pigmentosum group A (XPA) gene	MEXT Grant-in-Aid for Scientific Research Scientific Research (C) Yuko Hirai, Research Scientist, Cytogenetics Laboratory, Department of Genetics, RERF	Yoshiaki Kodama Nori Nakamura (Consultant of the Department)	1 April 2012– 31 March 2013	Direct cost ¥1,200,000 Indirect cost ¥360,000
Estimation of genetic risk of radiation on immature oocytes of rats by using next generation sequencer	MEXT Grant-in-Aid for Scientific Research Scientific Research (C) Yasunari Satoh, Research Scientist, Biochemical Genetics Laboratory, Department of Genetics, RERF	Mieko Kodaira Jun-ichi Asakawa Associate Investigator: Nori Nakamura (Consultant of the Department)	1 April 2012– 31 March 2013	Direct cost ¥3,800,000 Indirect cost ¥1,140,000
Elucidation of tissue-dependent chromosome aberration frequencies induced by ionizing radiation exposure to the mouse fetus	MEXT Grant-in-Aid for Scientific Research Young Scientists (B) Kanya Hamasaki, Research Scientist, Cytogenetics Laboratory, Department of Genetics, RERF	Kanya Hamasaki Yuko Hirai Yoshiaki Kodama Nori Nakamura (Consultant of the Department)	1 April 2012– 31 March 2013	Direct cost ¥1,300,000 Indirect cost ¥390,000
Development of recombinant mouse systems for <i>in situ</i> measuring somatic and germ line mutations	Japan Chemical Industry Association Long-range Research Initiative Asao Noda, Assistant Chief, Department of Genetics, RERF	Kanya Hamasaki Yuko Hirai Yoshiaki Kodama Nori Nakamura (Consultant of the Department)	1 September 2011– 31 August 2012	¥3,611,367

## FY2012 Externally Funded Research

Title of Research	Name and Location of Entrusting Outside Organization and Chief of Research Group or Principal Investigator in Charge	Collaborator(s) at RERF	Study Period	Research Funds
<p><b>Department of Radiobiology/Molecular Epidemiology</b>            Studies of immunosenescence and other late effects of acute ionizing radiation exposure in atomic-bomb survivors</p>	<p>U.S. National Institute of Allergy and Infectious Diseases            Principal Investigator: Kei Nakachi, RERF Consultant and Project Principal Scientist            Co-principal Investigators:            Yoichiro Kusunoki, Chief, Department of Radiobiology/Molecular Epidemiology, RERF            Tomonori Hayashi, Assistant Chief, Department of Radiobiology/Molecular Epidemiology, RERF</p>	<p>Evan B. Double (Associate Chief of Research)            Seishi Kyoizumi            Kazue Imai            Reiko Ito            Junko Kajimura            Kengo Yoshida            Waka Ohishi (Department of Clinical Studies)            Kotaro Ozasa (Department of Epidemiology)            Kyoji Furukawa (Department of Statistics)            Munechika Misumi (Department of Statistics)</p>	<p>1 October 2009–            30 September 2014</p>	<p>Direct cost            ¥156,151,128            Indirect cost            ¥21,446,426</p>
<p>Molecular epidemiology study of inflammation-associated disease development on the basis of long-term follow-up of atomic-bomb survivors</p>	<p>MEXT Grant-in-Aid for Scientific Research            Scientific Research (B)            Tomonori Hayashi, Assistant Chief, Department of Radiobiology/Molecular Epidemiology, RERF</p>	<p>Associate Investigators: Kei Nakachi (RERF Consultant and Project Principal Scientist), Takahiko Ogawa</p>	<p>1 April 2012–            31 March 2013</p>	<p>Direct cost            ¥4,500,000            Indirect cost            ¥1,350,000            The above amount includes funds allocated to the collaborator at The University of Tokyo.</p>
<p>Study on molecular mechanism and clinical application in carcinogenesis in relation to radiation disorder and host genetic factors</p>	<p>MHLW Scientific Research Grant            Third Term Comprehensive Control Research for Cancer            Wataru Yasui, Professor, Department of Molecular Pathology, Hiroshima University Institute of Biomedical and Health Sciences</p>	<p>Yoichiro Kusunoki            Tomonori Hayashi</p>	<p>1 April 2012–            31 March 2013</p>	<p>¥2,500,000</p>
<p>Molecular epidemiology study of cigarette smoking effects on immunity- and inflammation-related biomarkers and lifestyle-related disease development</p>	<p>Smoking Research Foundation            Tomonori Hayashi, Assistant Chief, Department of Radiobiology/Molecular Epidemiology, RERF</p>		<p>1 April 2012–            31 March 2013</p>	<p>¥2,000,000</p>



## FY2012 Externally Funded Research

Title of Research	Name and Location of Entrusting Outside Organization and Chief of Research Group or Principal Investigator in Charge	Collaborator(s) at RERF	Study Period	Research Funds
<p><b>Department of Radiobiology/Molecular Epidemiology</b> Can lower-dose radiation cause the cardiovascular disease?—Assessment using animal models</p>	<p>MOE Research Project for Nuclear-power Disaster Influence in FY2012 (Research Regarding the Health Effects of Radiation) Yasuharu Niwa, Associate Senior Scientist, Cell Biology Laboratory, Department of Radiobiology/Molecular Epidemiology, RERF</p>	<p>Norio Takahashi (Consultant attached to Vice Chairman's Office) Waka Ohishi (Department of Clinical Studies) Munehika Misumi (Department of Statistics) Hideko Murakami</p>	<p>18 October 2012– 7 March 2013</p>	<p>¥2,200,000</p>
<p><b>Department of Epidemiology, Hiroshima</b> Immunohistological epidemiologic study of breast cancer among atomic-bomb survivors</p>	<p>MEXT Grant-in-Aid for Scientific Research Scientific Research (C) Kotaro Ozasa, Chief, Department of Epidemiology, RERF</p>	<p>Associate Investigator: Kotaro Ozasa</p>	<p>1 April 2012– 31 March 2013</p>	<p>Direct cost ¥1,500,000 Indirect cost ¥450,000</p>
<p>A cohort study of lifestyle associated with oldest-old longevity</p>	<p>MEXT Grant-in-Aid for Scientific Research Scientific Research (B) Akiko Tamakoshi, Professor, Department of Public Health, Hokkaido University Graduate School of Medicine</p>	<p>Associate Investigator: Kotaro Ozasa</p>	<p>1 April 2012– 31 March 2013</p>	<p>Since this person is an associate investigator, research funds were not allocated to him. ¥1,040,000</p>
<p>Study on the molecular mechanism of carcinogenesis due to radiation exposure</p>	<p>National Cancer Center Funds for Cancer-related Research and Technology Development Shunichi Yamashita, Professor, Department of Molecular Medicine, Atomic Bomb Disease Institute, Nagasaki University Graduate School of Biomedical Sciences</p>	<p>Kotaro Ozasa</p>	<p>1 April 2012– 31 March 2013</p>	<p>¥400,000</p>
<p>Analytical epidemiologic study of effectiveness, safety, and other aspects of vaccination</p>	<p>MHLW Scientific Research Grant Research on Emerging and Re-emerging Infectious Diseases as New Influenza Yoshio Hirota, Professor, Graduate School of Medicine, Osaka City University</p>	<p>Kotaro Ozasa</p>	<p>1 April 2012– 31 March 2013</p>	<p>¥800,000</p>
<p>Study concerning grasping the actual state of cancer and release of information regarding cancer</p>	<p>MHLW Scientific Research Grant Third Term Comprehensive Control Research for Cancer Tomotaka Sobue, Professor, Department of Social and Environmental Medicine, Graduate School of Medicine/Faculty of Medicine, Osaka University</p>	<p>Hiromi Sugiyama Cooperative Investigator: Hiroaki Katayama (Department of Information Technology)</p>	<p>1 April 2012– 31 March 2013</p>	<p>¥800,000</p>

## FY2012 Externally Funded Research

Title of Research	Name and Location of Entrusting Outside Organization and Chief of Research Group or Principal Investigator in Charge	Collaborator(s) at RERF	Study Period	Research Funds
<p><b>Department of Epidemiology, Nagasaki</b> Study concerning grasping the actual state of cancer and release of information regarding cancer</p>	<p>MHLW Scientific Research Grant Third Term Comprehensive Control Research for Cancer Tomotaka Sobue, Professor, Department of Social and Environmental Medicine, Graduate School of Medicine/Faculty of Medicine, Osaka University</p>	<p>Midori Soda Cooperative Investigator: Hiroaki Katayama (Department of Information Technology)</p>	<p>1 April 2012– 31 March 2013</p>	<p>¥800,000</p>
<p>Empirical study on methods for evaluation of progress in cancer measures on the basis of existing statistical data</p>	<p>MHLW Scientific Research Grant Clinical Cancer Research Hideaki Tsukuma, Chief, Department of Cancer Control and Statistics, Osaka Medical Center for Cancer and Cardiovascular Diseases</p>	<p>Cooperative Investigator: Midori Soda</p>	<p>1 April 2012– 31 March 2013</p>	<p>Since this person is a cooperative investigator, research funds were not allocated to her.</p>
<p><b>Department of Information Technology</b> Studies of radiation doses and effects for the residents living near the Semipalatinsk nuclear test site and uranium mines in Kazakhstan</p>	<p>MEXT Grant-in-Aid for Scientific Research Scientific Research (B) Masaharu Hoshi, Professor Emeritus, Research Institute for Radiation Biology and Medicine, Hiroshima University</p>	<p>Hiroaki Katayama</p>	<p>1 April 2012– 31 March 2013</p>	<p>Direct cost ¥300,000 Indirect cost ¥90,000</p>
<p><b>Other Office</b> Support for epidemiological studies of cancer among atomic-bomb survivors</p>	<p>National Cancer Institute (NCI) Contract National Cancer Institute, Bethesda, Maryland, USA NCI Contract N01-CP-31012 Principal Investigator: Kazunori Kodama, Chief Scientist, RERF Co-principal Investigator: Roy E. Shore, Vice Chairman and Executive Director, RERF</p>	<p>Nori Nakamura (Consultant, Department of Genetics) Midori Soda (Department of Epidemiology, Nagasaki) Harry M. Cullings (Department of Statistics) Kyoji Furukawa (Department of Statistics) Hiroaki Katayama (Department of Information Technology) Yuko Hirai (Department of Genetics) Yoichiro Kusunoki (Department of Radiobiology/Molecular Epidemiology) Kiyohiro Hamatani (Department of Radiobiology/Molecular Epidemiology)</p>	<p>1 December 2008– 30 November 2013</p>	<p>Direct cost ¥13,671,902 Indirect cost ¥5,974,615</p>

## FY2012 Externally Funded Research

Title of Research	Name and Location of Entrusting Outside Organization and Chief of Research Group or Principal Investigator in Charge	Collaborator(s) at RERF	Study Period	Research Funds
<b>Other Office</b> Can radiation increase the risk of cardiovascular diseases?—Evaluation by animal model studies	MEXT Grant-in-Aid for Scientific Research Scientific Research (C) Norio Takahashi, Consultant attached to Vice Chairman's Office, RERF	Waka Ohishi (Department of Clinical Studies) Yasuharu Niwa (Department of Radiobiology/Molecular Epidemiology) Associate Investigators: Wan-Ling Hsu (Department of Statistics), Hideko Murakami (Department of Radiobiology/Molecular Epidemiology)	1 April 2012– 31 March 2013	Direct cost ¥1,600,000 Indirect cost ¥480,000
<b>Grand Total</b>				¥248,782,468

## FY2012 Collaborative Studies (Without External Funds)

Title of Research	Name of Chief of Research Group	Investigator(s) at RERF	Investigator(s) outside RERF	Initiation Year
<b>Department of Clinical Studies, Hiroshima NI-HON-SEA</b> (Nippon-Honolulu-Seattle) Study (Prevalence and incidence of dementia)	Yamada M		Kasagi F (Radiation Effects Association) Sasaki H (Hiroshima Atomic Bomb Casualty Council) Mimori Y (Hiroshima International University) White L (Honolulu Aging Study) Larson E (Center for Health Studies at Group Health Cooperative, Seattle, USA)	1992
Ophthalmologic follow-up study in atomic-bomb survivors	Hida A (Department of Clinical Studies, Nagasaki)	Tatsukawa Y Nakashima E (Department of Statistics) Ohishi W Akahoshi M (Department of Clinical Studies, Nagasaki)	Neriishi K (Yachiyo Hospital) Yokoyama T (Hiroshima University) Takamatsu M (Hiroshima University) Yanagi M (Hiroshima University) Kiuchi Y (Hiroshima University) Kumagami T (Nagasaki University) Uematsu M (Nagasaki University) Tsuiki E (Nagasaki University) Fukazawa S (Nagasaki University) Kitaoka T (Nagasaki University) Minamoto A (Minamoto Eye Clinic)	2010
A nested case-control study of breast and endometrial cancer in the cohort of Japanese atomic-bomb survivors	Ohishi W	Grant EJ (Department of Epidemiology) Cologne JB (Department of Statistics) Nakachi K (RERF Consultant and Project Principal Scientist) Nakashima E (Department of Statistics) Akahoshi M (Department of Clinical Studies, Nagasaki)	Neriishi K (Yachiyo Hospital) Sharp GB (U.S. National Institute of Allergy and Infectious Diseases) Eguchi H (Saitama Medical University) Izumi S (Oita University) Fujiwara S (Hiroshima Atomic Bomb Casualty Council) Key TJ (Imperial Cancer Research Fund, UK) Stevens RG (University of Connecticut Health Center, USA) Berrington de Gonzalez A (U.S. National Cancer Institute)	2002

## FY2012 Collaborative Studies (Without External Funds)

Title of Research	Name of Chief of Research Group	Investigator(s) at RERF	Investigator(s) outside RERF	Initiation Year
<p><b>Department of Clinical Studies, Hiroshima</b> A case-control study of atrophic gastritis and gastric cancer using frozen sera and genome DNA: Identification of new biomarkers for chronic gastritis associated with gastric cancer</p>	Ohishi W	Ueda K Cullings HM (Department of Statistics) Hayashi T (Department of Radiobiology/ Molecular Epidemiology) Akahoshi M (Department of Clinical Studies, Nagasaki)	Fujiwara S (Hiroshima Atomic Bomb Casualty Council) Tahara E (Hiroshima Cancer Seminar)	2004
<p>Could genetic factors cause population bias among proximal A-bomb survivors?—A test of whether the same genetic factors are risk factors for high inflammatory status and myocardial infarction among A-bomb survivors 40–50 years later</p>	Ohishi W	Takahashi I Cologne JB (Department of Statistics) Akahoshi M (Department of Clinical Studies, Nagasaki)	Fujiwara S (Hiroshima Atomic Bomb Casualty Council)	2005
<p>Glaucoma study in atomic-bomb survivors</p>	Kiuchi Y (Hiroshima University)	Nakashima E (Department of Statistics) Hida A (Department of Clinical Studies, Nagasaki) Akahoshi M (Department of Clinical Studies, Nagasaki)	Yokoyama T (Hiroshima University) Uematsu M (Nagasaki University) Tsuiki E (Nagasaki University) Kitaoka T (Nagasaki University) Neriishi K (Yachiyo Hospital) Fujiwara S (Hiroshima Atomic Bomb Casualty Council)	2005
<p>Inflammation and cancer incidence in atomic-bomb survivors</p>	Tatsukawa Y	Hsu WL (Department of Statistics) Nakashima E (Department of Statistics) Kotaro Ozasa (Department of Epidemiology) Soda M (Department of Epidemiology, Nagasaki) Yamada M Cologne JB (Department of Statistics) Akahoshi M (Department of Clinical Studies, Nagasaki)	Neriishi K (Yachiyo Hospital) Little MP (U.S. National Institutes of Health) Fujiwara S (Hiroshima Atomic Bomb Casualty Council)	2005
<p>Assessment of statistical methods for intermediate risk factors in noncancer disease and mortality</p>	Williams L (University of Washington, USA)	Hsu WL (Department of Statistics) Takahashi I Cologne JB (Department of Statistics) Akahoshi M (Department of Clinical Studies, Nagasaki) Kodama K (Chief Scientist)	Fujiwara S (Hiroshima Atomic Bomb Casualty Council) Kopecky KJ (University of Washington, Fred Hutchinson Cancer Research Center, USA) Davis S (University of Washington, Fred Hutchinson Cancer Research Center, USA)	2006

## FY2012 Collaborative Studies (Without External Funds)

Title of Research	Name of Chief of Research Group	Investigator(s) at RERF	Investigator(s) outside RERF	Initiation Year
<p><b>Department of Clinical Studies, Hiroshima</b> Body mass index (BMI) and mortality</p>	<p>Thun M (American Cancer Society)</p>	<p>Ohishi W Hida A (Department of Clinical Studies, Nagasaki) Shore RE (Vice Chairman)</p>	<p>2008</p>	
<p>Investigation of storage conditions for cataract tissue of A-bomb survivors, and its collection and storage program</p>	<p>Hida A (Department of Clinical Studies, Nagasaki)</p>	<p>Tatsukawa Y Nakashima E (Department of Statistics) Ohishi W Akahoshi M (Department of Clinical Studies, Nagasaki) Hayashi T (Department of Radiobiology/Molecular Epidemiology) Ito R (Department of Radiobiology/Molecular Epidemiology) Nakachi K (RERF Consultant and Project Principal Scientist)</p>	<p>2008</p> <p>Neriishi K (Yachiyo Hospital) Blakely EA (Berkeley National Laboratory, USA) Chang P (SRI International, USA) Minamoto A (Minamoto Eye Clinic) Yokoyama T (Hiroshima University) Toda S (Toda Eye Clinic) Uematsu M (Nagasaki University) Tsuiki E (Nagasaki University) Kiuchi Y (Hiroshima University) Kitaoka T (Nagasaki University) Shirai A (Shirai Ophthalmologic Clinic) Cucinotta FA (NASA Johnson Space Center, USA) Chylack LT (Harvard University, USA)</p>	
<p>Evaluation of retinal arteriosclerosis and age-related macular degeneration using stored retina images with standardized measurements in relation to glaucoma development in atomic-bomb survivors and to association with aortic arteriosclerosis</p>	<p>Takahashi I</p>	<p>Misumi M (Department of Statistics) Nakashima E (Department of Statistics) Hsu WL (Department of Statistics) Hida A (Department of Clinical Studies, Nagasaki) Akahoshi M (Department of Clinical Studies, Nagasaki)</p>	<p>2010</p> <p>Yanagi M (Hiroshima University) Itakura K (Hiroshima University) Kawasaki R (University of Melbourne, Australia) Yokoyama T (Hiroshima University) Takamatsu M (Hiroshima University) Kinoshita H (Nagasaki University) Tsuiki E (Nagasaki University) Uematsu M (Nagasaki University) Kumagami T (Nagasaki University) Kiuchi Y (Hiroshima University) Kitaoka T (Nagasaki University) Fujiwara S (Hiroshima Atomic Bomb Casualty Council) Neriishi K (Yachiyo Hospital)</p>	

## FY2012 Collaborative Studies (Without External Funds)

Title of Research	Name of Chief of Research Group	Investigator(s) at RERF	Investigator(s) outside RERF	Initiation Year
<b>Department of Clinical Studies, Hiroshima</b> Study of body composition of the Hiroshima Adult Health Study population	Tatsukawa Y	Misumi M (Department of Statistics) Ohishi W Yamada M	Fujiwara S (Hiroshima Atomic Bomb Casualty Council) Harris TB (U.S. National Institute on Aging) Kasagi F (Radiation Effects Association)	2010
<b>Department of Clinical Studies, Nagasaki</b> Relationship between Brugada-type electrocardiogram and prostate cancer	Haruta D (Nagasaki University)	Akahoshi M Hida A Sera N Imaizumi M Nakashima E (Department of Statistics)	Seto S (Nagasaki University)	2007
Cardiovascular disease and atomic-bomb radiation—From view point of risk factor clustering	Sera N	Akahoshi M Hida A Imaizumi M Nakashima E (Department of Statistics)	Seto S (Nagasaki University)	2007
Incidence and risk factors of fatty liver	Tsuneto A (Nagasaki University)	Nakashima E (Department of Statistics) Akahoshi M		2008
The association between subclinical thyroid dysfunction and cardiovascular disease and mortality: An individual participant pooled analysis of large international cohort studies	Rodondi N (University of Lausanne, Switzerland)	Imaizumi M	Gussekloo J (Leiden University Medical Center, the Netherlands)	2008
Prognostic significance of VPCs in taking consideration of their origins	Haruta D (Nagasaki University)	Nakashima E (Department of Statistics) Akahoshi M	Fujiwara S (Hiroshima Atomic Bomb Casualty Council)	2008
The incidence and prognostic value of the early repolarization electrocardiogram pattern	Haruta D (Nagasaki University)	Nakashima E (Department of Statistics) Akahoshi M	Tsuneto A (Nagasaki University)	2008

## FY2012 Collaborative Studies (Without External Funds)

Title of Research	Name of Chief of Research Group	Investigator(s) at RERF	Investigator(s) outside RERF	Initiation Year
<p><b>Department of Clinical Studies, Nagasaki</b> The association between chronic kidney disease and cardiovascular disease among atomic-bomb survivors</p>	Tsuneto A (Nagasaki University)	<p>Takahashi I (Department of Clinical Studies, Hiroshima) Hida A Sera N Imaizumi M Yamada M (Department of Clinical Studies, Hiroshima) Ohishi W (Department of Clinical Studies, Hiroshima) Tatsukawa Y (Department of Clinical Studies, Hiroshima) Nakashima E (Department of Statistics) Hsu WL (Department of Statistics) Misumi M (Department of Statistics) Akahoshi M</p>	<p>Neriishi K (Yachiyo Hospital) Fujiwara S (Hiroshima Atomic Bomb Casualty Council)</p>	2009
Study on the genetic background of short QT	Makita N (Nagasaki University)	Akahoshi M	<p>Haruta D (Nagasaki University) Maemura K (Nagasaki University) Fujiwara S (Hiroshima Atomic Bomb Casualty Council)</p>	2011
Study for the epidemiological and genetic basis of progressive cardiac conduction defect	Makita N (Nagasaki University)	<p>Akahoshi M Nakashima E (Department of Statistics)</p>	<p>Haruta D (Nagasaki University) Maemura K (Nagasaki University) Fujiwara S (Hiroshima Atomic Bomb Casualty Council)</p>	2012
Weight fluctuation and cancer and cardiovascular disease incidence and mortality in Japanese	Nanri A (National Center for Global Health and Medicine)	<p>Sera N Takahashi I (Department of Clinical Studies, Hiroshima) Soda M (Department of Epidemiology, Nagasaki) Ozasa K (Department of Epidemiology) Cologne JB (Department of Statistics) Hsu WL (Department of Statistics) Cullings HM (Department of Statistics) Akahoshi M</p>	<p>Mizoue T (National Center for Global Health and Medicine) Suyama A (Osaka Saiseikai Izuu Hospital) Araki Y (Kurume University) Fujiwara S (Hiroshima Atomic Bomb Casualty Council)</p>	2012



## FY2012 Collaborative Studies (Without External Funds)

Title of Research	Name of Chief of Research Group	Investigator(s) at RERF	Investigator(s) outside RERF	Initiation Year
<b>Department of Clinical Studies, Nagasaki</b> MRI-based study of importance of diagnosis of fatty infiltration of the salivary glands among patients with xerostomia	Takagi Y (Nagasaki University)	Hida A Akahoshi M	Nakamura H (Nagasaki University) Sumi M (Nagasaki University) Nakamura T (Nagasaki University)	2012
<b>Department of Genetics</b> Molecular alterations in early-onset breast and ovarian cancers among atomic-bomb survivors	Mabuchi K (U.S. National Cancer Institute) Land CE (U.S. National Cancer Institute)	Hirai Y		2001
Mutation detection in rat oocytes	Kamiguchi Y (Asahikawa Medical College)	Asakawa J		2003
ESR measurements of tooth samples from Nagasaki survivors	Mine M (Nagasaki University)	Hirai Y Nakamura N (Consultant of the Department)		2005
ES cell targeting	Suemori H (Kyoto University)	Noda A		2007
Cytogenetic test of the epithelial cells from mammary glands of rats exposed <i>in utero</i>	Shimada Y (National Institute of Radiological Sciences)	Kodama Y		2008
Establishment of a recombinant mouse model for assessment of genetic effects of radiation at low doses	Mitani H (The University of Tokyo Graduate School)	Noda A		2009
Estimation of genetic effects of radiation in male germ cells of mice: Study for assessment of high-density microarray CGH platform	Shimada Y (National Institute of Radiological Sciences)	Asakawa J		2009
Evaluation of the nonmelanoma skin cancer risk among heterozygotes bearing a founder mutation allele unique to a Japanese population at xeroderma pigmentosum group A (XPA) gene	Mabuchi K (U.S. National Cancer Institute) Kraemer KH (U.S. National Cancer Institute)	Hirai Y Nakamura N (Consultant of the Department)		2009

## FY2012 Collaborative Studies (Without External Funds)

Title of Research	Name of Chief of Research Group	Investigator(s) at RERF	Investigator(s) outside RERF	Initiation Year
<b>Department of Radiobiology/Molecular Epidemiology</b> Study on gene alterations and genetic susceptibility in sporadic lung carcinogenesis (SNP)	Shimizu K (Okayama University)	Nakachi K (RERF Consultant and Project Principal Scientist) Hayashi T Yoshida K Imai K		2002
Study on gene alterations and expression in sporadic lung carcinogenesis	Sueoka E (Saga University) Aragane N (Saga University)	Nakachi K (RERF Consultant and Project Principal Scientist) Hayashi T Yoshida K Imai K		2002
Survey on frequencies of SNPs of various genes in a Japanese population	Yoshida T (National Cancer Center)	Nakachi K (RERF Consultant and Project Principal Scientist) Kusunoki Y Hayashi T Yoshida K Imai K		2002
Study on genetic susceptibility to stomach cancer	Yasui W (Hiroshima University)	Hayashi T Nakachi K (RERF Consultant and Project Principal Scientist) Ito R Imai K		2002
Study on the role of hypoxia-responsive gene, <i>HIF1<math>\alpha</math></i> , in radiation effects on cells	Tanimoto K (Hiroshima University)	Nakachi K (RERF Consultant and Project Principal Scientist) Imai K	Sueoka E (Saga University) Aragane N (Saga University) Eguchi H (Saitama Medical University)	2002
Study on thyroid cancer among A-bomb survivors (Hiroshima)	Hamatani K	Taga M Ito R	Arhiro K (Hiroshima University) Hayashi Y (Hiroshima City Asa Hospital)	2002
Study on the cytotoxic distending toxin-induced apoptosis in peripheral lymphocytes	Sugai M (Hiroshima University) Ohara M (Hiroshima University)	Kusunoki Y Hayashi T Nakachi K (RERF Consultant and Project Principal Scientist)		2001

## FY2012 Collaborative Studies (Without External Funds)

Title of Research	Name of Chief of Research Group	Investigator(s) at RERF	Investigator(s) outside RERF	Initiation Year
<b>Department of Radiobiology/Molecular Epidemiology</b> Study on the role of gap junctions in apoptosis induced by anticancer drugs combined with radiation	Ogawa T (Hiroshima Prefectural Hospital) Hayashi T	Nakachi K (RERF Consultant and Project Principal Scientist)	Trosko JE (Michigan State University, USA)	1998
Analyses of <i>TCR</i> and <i>HPRT</i> mutations in gene-targeted mice	Sasatani M (Research Institute for Radiation Biology and Medicine, Hiroshima University)	Kusunoki Y Nakachi K (RERF Consultant and Project Principal Scientist)	Kamiya K (Research Institute for Radiation Biology and Medicine, Hiroshima University)	2004
Study on the role of gene methylation in sporadic stomach carcinogenesis	Yuasa Y (Tokyo Medical and Dental University)	Imai K Nakachi K (RERF Consultant and Project Principal Scientist)		2003
Molecular biological study on the genesis and development of sporadic breast cancer	Hayashi S (Tohoku University)	Nakachi K (RERF Consultant and Project Principal Scientist) Imai K Hayashi T	Eguchi H (Saitama Medical University)	2002
Study on the role of cell-to-cell communication in apoptosis of cancer cells	Hayashi T		Ogawa T (Hiroshima Prefectural Hospital)	2005
Collection of cancer tissue specimens from A-bomb survivors	Nakachi K (RERF Consultant and Project Principal Scientist)	Hamatani K Taga M Ito R	Yasui W (Hiroshima University)	2004
Study on the radiation effects on immunological aging and intracellular reactive oxygen species	Hayashi T		Hayashi I (Hiroshima University)	2006
Study on lung and colorectal cancers developed among atomic-bomb survivors	Hamatani K	Taga M Ito R Nakachi K (RERF Consultant and Project Principal Scientist)	Yasui W (Hiroshima University) Eguchi H (Saitama Medical University)	2004
Study on gastric cancer developed among atomic-bomb survivors	Yasui W (Hiroshima University)	Hamatani K Taga M Ito R Nakachi K (RERF Consultant and Project Principal Scientist)		2006

## FY2012 Collaborative Studies (Without External Funds)

Title of Research	Name of Chief of Research Group	Investigator(s) at RERF	Investigator(s) outside RERF	Initiation Year
<b>Department of Radiobiology/Molecular Epidemiology</b> Study on the mechanisms of radiation-induced genetic instability using peripheral lymphocytes	Homma M (National Institute of Health Sciences)	Kusunoki Y Hamasaki K (Department of Genetics)		2008
Clinico- and molecular-pathological analysis of sporadic gastric cancer	Yasui W (Hiroshima University)	Ito R Nakachi K (RERF Consultant and Project Principal Scientist)		2004
Development of new statistical models for RERF case-studies	Izumi S (Oita University)	Nakachi K (RERF Consultant and Project Principal Scientist) Furukawa K (Department of Statistics)		2006
Study on thyroid cancer among A-bomb survivors (Nagasaki)	Hamatani K	Soda M (Department of Epidemiology, Nagasaki)	Nakashima M (Nagasaki University) Sekine I (Nagasaki Red Cross Blood Center) et al.	2005
Role of inflammatory cytokines in sporadic stomach cancer	Suganuma M (Saitama Cancer Center)	Imai K Hayashi T Nakachi K (RERF Consultant and Project Principal Scientist)		2006
Study on molecular epidemiological characteristics of lung cancer development among A-bomb survivors	Taga M	Hamatani K Ito R	Harris CC (U.S. National Cancer Institute) Yasui W (Hiroshima University) Tahara E (Hiroshima Cancer Seminar)	2004
A collaboration study on cardiovascular disease between cohort studies throughout the Asian-Pacific region	Asian Pacific Cohort Studies Collaboration (The George Institute for International Health, Australia)	Nakachi K (RERF Consultant and Project Principal Scientist) Imai K		1996
Cytogenetic and molecular epidemiological differences in breast cancer between German and Japanese patients	Brandt B (University of Munster, Germany)	Nakachi K (RERF Consultant and Project Principal Scientist) Imai K		1998
Stem cell biology with special reference to radiation and drug effects	Hayashi T	Nakachi K (RERF Consultant and Project Principal Scientist)	Trosko JE (Michigan State University, USA) Hayashi I (Hiroshima University)	2002

## FY2012 Collaborative Studies (Without External Funds)

Title of Research	Name of Chief of Research Group	Investigator(s) at RERF	Investigator(s) outside RERF	Initiation Year
<b>Department of Radiobiology/Molecular Epidemiology</b> Molecular analysis of thyroid tumors	Takeichi N (Takeichi Clinic)	Hamatani K Nakachi K (RERF Consultant and Project Principal Scientist) Kusunoki Y		2008
The study of circulatory diseases using animal models irradiated with lower doses	Inaba T (Hiroshima University)	Niwa Y Takahashi N (Consultant attached to Vice Chairman's Office) Kusunoki Y		2012
The study of radiation-induced circulatory diseases using animal models	Inaba T (Hiroshima University)	Niwa Y Takahashi N (Consultant attached to Vice Chairman's Office) Kusunoki Y		2011
The study of radiation-induced circulatory diseases using animal models	Tanaka K (Institute for Environmental Sciences)	Takahashi N (Consultant attached to Vice Chairman's Office) Murakami H Niwa Y Kusunoki Y	Ogiso Y (Institute for Environmental Sciences) Tanaka S (Institute for Environmental Sciences)	2011
<b>Department of Epidemiology, Hiroshima</b> Task group of epidemiology on radiological protection standard	Kasagi F (Radiation Effects Association)	Sakata R	Akiba S (Kagoshima University) Yoshinaga S (National Institute of Radiological Sciences) Doi K (National Institute of Radiological Sciences) Mizuno S (National Institute of Health and Nutrition) Sasagawa S (Institute for Environmental Sciences) Iwasaki T (Central Research Institute of Electric Power Industry) Kunukita N (National Institute of Public Health) Yoshimoto K (Radiation Effects Association)	2005

## FY2012 Collaborative Studies (Without External Funds)

Title of Research	Name of Chief of Research Group	Investigator(s) at RERF	Investigator(s) outside RERF	Initiation Year
<p><b>Department of Epidemiology, Hiroshima</b> Second cancer risk after radiation therapy among A-bomb survivors</p>	<p>Yoshinaga S (National Institute of Radiological Sciences)</p>	<p>Soda M (Department of Epidemiology, Nagasaki) Moriwaki H Hsu WL (Department of Statistics) Hida A (Department of Clinical Studies, Nagasaki) Yamada M (Department of Clinical Studies) Katayama H (Department of Information Technology) Akehoshi M (Department of Clinical Studies, Nagasaki)</p>	<p>Kasagi F (Radiation Effects Association) Nishi N (National Institute of Health and Nutrition) Akahane K (National Institute of Radiological Sciences) Doi K (National Institute of Radiological Sciences) Shimada Y (National Institute of Radiological Sciences) Fujiwara S (Hiroshima Atomic Bomb Casualty Council) Suyama A (Osaka Saiseikai Izuo Hospital)</p>	<p>2007</p>
<p>Health effect of smoking and ex-smoking in Japan</p>	<p>Darby S (University of Oxford, UK)</p>	<p>Sakata R Grant EJ Sugiyama H Soda M (Department of Epidemiology, Nagasaki) Shimizu Y (Part-time Professional) Tatsukawa Y (Department of Clinical Studies) Yamada M (Department of Clinical Studies) Moriwaki H Kodama K (Chief Scientist)</p>	<p>McGale P (University of Oxford, UK) Boreham J (University of Oxford, UK) Peto R (University of Oxford, UK)</p>	<p>2007</p>
<p>Confounding or interaction of anthropometric factors with radiation on colon cancer incidence in the Life Span Study (LSS)</p>	<p>Semmens E (University of Washington, USA)</p>	<p>Grant EJ Sugiyama H Moriwaki H Sakata R Soda M (Department of Epidemiology, Nagasaki) Yamada M (Department of Clinical Studies) Akehoshi M (Department of Clinical Studies, Nagasaki) Kodama K (Chief Scientist)</p>	<p>Nishi N (National Institute of Health and Nutrition) Li CI (University of Washington, USA) Kasagi F (Radiation Effects Association) Fujiwara S (Hiroshima Atomic Bomb Casualty Council) Davis S (University of Washington, USA) Kopecky KJ (University of Washington, USA) Mabuchi K (U.S. National Cancer Institute)</p>	<p>2008</p>

## FY2012 Collaborative Studies (Without External Funds)

Title of Research	Name of Chief of Research Group	Investigator(s) at RERF	Investigator(s) outside RERF	Initiation Year
<b>Department of Epidemiology, Hiroshima</b> Esophageal and gastric cancers: Patterns and predictors of risk in Hiroshima and Nagasaki, Japan	Kennedy BS (Georgetown University, USA)	Grant EJ Shimizu Y (Part-time Professional) Sugiyama H Soda M (Department of Epidemiology, Nagasaki) Sakata R Cologne JB (Department of Statistics) Cullings HM (Department of Statistics) Yamada M (Department of Clinical Studies)	Mabuchi K (U.S. National Cancer Institute) Chow WH (U.S. National Cancer Institute) Kasagi F (Radiation Effects Association) Suyama A (Osaka Saiseikai Izuo Hospital) Nishi N (National Institute of Health and Nutrition)	2008
Relationship between radiation exposure and kidney disease among A-bomb survivors	Adams MJ (University of Rochester, USA)	Grant EJ Kodama K (Chief Scientist) Shimizu Y (Part-time Professional) Sakata R Akahoshi M (Department of Clinical Studies, Nagasaki)	Kasagi F (Radiation Effects Association) Suyama A (Osaka Saiseikai Izuo Hospital) Fujiwara S (Hiroshima Atomic Bomb Casualty Council)	2008
Second collaborative analysis of radiation-associated thyroid cancers	Veiga L (U.S. National Cancer Institute) Lubin J (U.S. National Cancer Institute)	Sakata R Shore RE (Vice Chairman)		2008
A proposal to join the Asia Cohort Consortium. Project 1: Tobacco smoking, alcohol drinking, body mass index and risk of rare cancers, Project 2: BMI and total mortality (Phase II), Project 3: Body mass index and risk of intermediate and low rate cancers in Asia populations, Project 4: Diet and mortality among Asians	Potter J (Fred Hutchinson Cancer Research Center, USA) Kang D (Seoul National University College of Medicine, Korea)	Grant EJ Ozasa K Ohishi W (Department of Clinical Studies) Akahoshi M (Department of Clinical Studies, Nagasaki) Shore RE (Vice Chairman)		2010
A proposal to join the diet and bladder cancer pooling project	Zeegers M (Maastricht University, the Netherlands)	Grant EJ Ozasa K Ohishi W (Department of Clinical Studies) Akahoshi M (Department of Clinical Studies, Nagasaki)		2012

## FY2012 Collaborative Studies (Without External Funds)

Title of Research	Name of Chief of Research Group	Investigator(s) at RERF	Investigator(s) outside RERF	Initiation Year
<b>Department of Epidemiology, Hiroshima</b> Risk of radiation for cancer incidence in the RERF LSS cohort, 1958-2005 (including some site-specific cancer studies)	Mabuchi K (U.S. National Cancer Institute) Ozasa K	Cullings HM (Department of Statistics) Furukawa K (Department of Statistics) Misumi M (Department of Statistics) Funamoto S (Department of Statistics) Grant EJ Sugiyama H Sakata R Sadakane A	Brenner A (U.S. National Cancer Institute) Neta G (U.S. National Cancer Institute) Cahoon EK (U.S. National Cancer Institute) Berrington de Gonzalez A (U.S. National Cancer Institute) Preston DL (Hirosoft International Corporation, USA)	2012
<b>Department of Epidemiology, Nagasaki</b> Histopathological identification of multiple primary cancers occurring in Nagasaki atomic-bomb survivors	Nakashima M (Nagasaki University)	Soda M		2007
Relationship between radiotherapy facilities and breast cancer survival: Database linkage study in Nagasaki	Ono Y (Osaka University)	Soda M		2008
Medical service area for cancer patients in Nagasaki	Ono Y (Osaka University)	Soda M		2008
The concentration of treatment facilities for childhood cancer from the viewpoint of Pareto curve and the number of patients treated per hospital in Nagasaki	Ono Y (Osaka University)	Soda M		2008
<b>Department of Statistics</b> Ophthalmologic study in atomic bomb survivors (Cataract study in AHS)	Minamoto A (Minamoto Eye Clinic)	Hida A (Department of Clinical Studies, Nagasaki) Tatsukawa Y (Department of Clinical Studies) Akahoshi M (Department of Clinical Studies, Nagasaki) Nakashima E	Yokoyama T (Hiroshima University) Mishima H (Hiroshima General Hospital of West Japan Railway Company) Kitaoka T (Nagasaki University) Neriishi K (Yachiyo Hospital) Fujiwara S (Hiroshima Atomic Bomb Casualty Council)	2007



## FY2012 Collaborative Studies (Without External Funds)

Title of Research	Name of Chief of Research Group	Investigator(s) at RERF	Investigator(s) outside RERF	Initiation Year
<b>Department of Statistics</b> Ophthalmologic study of children of atomic-bomb survivors (F <sup>1</sup> ophthalmologic study)	Minamoto A (Minamoto Eye Clinic)	Hida A (Department of Clinical Studies, Nagasaki) Tatsukawa Y (Department of Clinical Studies) Akahoshi M (Department of Clinical Studies, Nagasaki) Nakashima E	Yokoyama T (Hiroshima University) Mishima H (Hiroshima General Hospital of West Japan Railway Company) Kitaoka T (Nagasaki University) Neriishi K (Yachiyo Hospital) Fujiwara S (Hiroshima Atomic Bomb Casualty Council)	2002
Joint analysis of chromosomal aberrations, early effects of radiation, and late effects of radiation in the atomic-bomb survivors' data	Stram D (University of Southern California, USA)	Cologne JB Cullings HM Furukawa K Misumi M		2007
Design and power of epidemiologic studies and analyses conducted by sampling from a cohort	Cologne JB	Cullings HM	Izumi S (Oita University) Fujii Y (Miyazaki University) Langholz B (University of Southern California, USA)	2002
Mechanistic modeling of cancer risk	Dekkers F (National Institute for Public Health and Environment, the Netherlands) Bijwaard H (National Institute for Public Health and Environment, the Netherlands)	Hsu WL		2007
Mechanistic modeling of cancer risk	Kaiser JC (National Research Center for Environment and Health, Germany)	Cullings HM		2008
Molecular research on gastrointestinal cancers (DNA methylation, etc.)	Matsubara N (Okayama University)	Cullings HM		2004
Comparison of liver cancer risks between Thorotrast-admitted patients and A-bomb survivors in Japan	Mori T (National Institute of Radiological Sciences)	Cullings HM Cologne JB Shimizu Y (Part-time Professional, Department of Epidemiology) Tokunaka S (RERF Consultant)		2005

## FY2012 Collaborative Studies (Without External Funds)

Title of Research	Name of Chief of Research Group	Investigator(s) at RERF	Investigator(s) outside RERF	Initiation Year
<p><b>Department of Statistics</b> Bio-dosimeters as instrumental variables for assessing and dealing with uncertainty in atomic-bomb survivor dose estimates: Preliminary evaluation in the AHS sub-cohort</p>	Carter R (The State University of New York at Buffalo, USA)	<p>Cullings HM Kodama K (Chief Scientist) Kusunoki Y (Department of Radiobiology/Molecular Epidemiology) Nakamura N (Consultant, Department of Genetics) Ozasa K (Department of Epidemiology) Imaizumi M (Department of Clinical Studies, Nagasaki) Cologne JB Nakashima E Misumi M Funamoto S Douple EB (Associate Chief of Research)</p>	<p>Miller A (The State University of New York at Buffalo, USA) Tekwe C (The State University of New York at Buffalo, USA) Neriishi K (Yachiyo Hospital) Stram D (University of Southern California, USA)</p>	2007
Risk assessment of cancer incidence in persons exposed <i>in utero</i> or as young children	Preston DL (Hirosoft International Corporation, USA)	<p>Cullings HM Kodama K (Chief Scientist) Soda M (Department of Epidemiology, Nagasaki) Shore RE (Vice Chairman)</p>	Suyama A (Osaka Saiseikai Izuo Hospital)	2007
Specialized Monte Carlo calculations to convert tooth enamel ESR measurements to shielded kerma and organ doses	Nakamura N (Consultant, Department of Genetics) Egbert S (Science Applications International Corporation, USA)	Cullings HM	Wieser A (German Research Center for Environmental Health: Helmholtz Zentrum München, Germany)	2007
Update of RERF tooth ESR measurement data using spectral deconvolution and new methods and information	Nakamura N (Consultant, Department of Genetics) Egbert S (Science Applications International Corporation, USA)	Cullings HM	Wieser A (German Research Center for Environmental Health: Helmholtz Zentrum München, Germany)	2007
Bayesian approach to risk assessment using individual data	Little MP (U.S. National Institutes of Health)	<p>Cullings HM Furukawa K Soda M (Department of Epidemiology, Nagasaki) Sakata R (Department of Epidemiology)</p>	<p>Nishi N (National Institute of Health and Nutrition) Suyama A (Osaka Saiseikai Izuo Hospital) Kasagi F (Radiation Effects Association) Molitor J (University of Southern California, USA)</p>	2007

## FY2012 Collaborative Studies (Without External Funds)

Title of Research	Name of Chief of Research Group	Investigator(s) at RERF	Investigator(s) outside RERF	Initiation Year
<b>Department of Statistics</b> Functional methods for radiation exposure and biomarker data	Wang CY (Fred Hutchinson Cancer Research Center, USA)	Cullings HM		2007
Leukemia, lymphoma, and multiple myeloma incidence in the LSS cohort: 1950–2001	Preston DL (Hirosoft International Corporation, USA)	Hsu WL Soda M (Department of Epidemiology, Nagasaki) Funamoto S	Suyama A (Osaka Saiseikai Izuo Hospital) Kasagi F (Radiation Effects Association)	2004
Application of causal modeling on radiation, inflammation, and selected radiation/inflammation-induced health outcomes	Cologne JB	Nakashima E Sakata R (Department of Epidemiology) Takahashi I (Department of Clinical Studies) Yamada M (Department of Clinical Studies)	Neriishi K (Yachiyo Hospital) Fujiwara S (Hiroshima Atomic Bomb Casualty Council) Kakuma T (Kurume University) Araki Y (Kurume University)	2007
Prevalence of hyperthyroidism in the cohort study of thyroid cancer and other thyroid diseases after the Chernobyl accident	Hatch M (U.S. National Cancer Institute)	Furukawa K		2009
Cancer mortality following radioiodine treatment for adult hyperthyroidism in the U.S.	Mabuchi K (U.S. National Cancer Institute)	Furukawa K		2009
Interaction effects of radiation and smoking on lung cancer risks among atomic-bomb survivors	Preston DL (Hirosoft International Corporation, USA)	Furukawa K Funamoto S Tokuoka S (RERF Consultant)	Mabuchi K (U.S. National Cancer Institute) Egawa H (Hiroshima City Asa Hospital) Yonehara S (Welfare Association Onomichi General Hospital) Matsuo T (Nagasaki Health Promotion Corporation)	2006
Thyroid tumor incidence among the RERF LSS cohort	Mabuchi K (U.S. National Cancer Institute)	Tokuoka S (RERF Consultant) Sakata R (Department of Epidemiology) Furukawa K Funamoto S	Preston DL (Hirosoft International Corporation, USA) Hayashi Y (Hiroshima City Asa Hospital) Tsuda N (Nagasaki Health Promotion Corporation)	2009

## FY2012 Collaborative Studies (Without External Funds)

Title of Research	Name of Chief of Research Group	Investigator(s) at RERF	Investigator(s) outside RERF	Initiation Year
<p><b>Department of Statistics</b> Study of arteriosclerosis in the Adult Health Study (AHS) population (Part 1. Physiological indices of arteriosclerosis)</p>	Fujiwara S (Hiroshima Atomic Bomb Casualty Council)	Takahashi I (Department of Clinical Studies) Yamada M (Department of Clinical Studies) Hida A (Department of Clinical Studies, Nagasaki) Akahoshi M (Department of Clinical Studies, Nagasaki) Hsu WL Misumi M	Takahashi T (Hiroshima University Hospital) Kihara Y (Hiroshima University Hospital) Matsumoto M (Hiroshima University Hospital)	2009
<p>A semi-parametric survival extrapolation method: Model validation using RERF cohort</p>	Fang CT (Taiwan University)	Hsu WL Furukawa K Cullings HM Soda M (Department of Epidemiology, Nagasaki) Ozasa K (Department of Epidemiology)	Wang JD (College of Public Health, Taiwan University) Hwang JS (Academia Sinica, Taiwan) Kasagi F (Radiation Effects Association) Suyama A (Osaka Saiseikai Izuo Hospital)	2009
<p>Application of casual modeling on radiation, inflammation, and cataract surgery among the AHS population</p>	Kakuma T (Kurume University) Hsu WL	Nakashima E	Araki Y (Kurume University) Neriishi K (Yachiyo Hospital)	2009
<p>Cohort study on weight fluctuation and cancer and cardiovascular disease incidence and mortality</p>	Nanri A (Research Institute, International Medical Center of Japan) Mizoue T (Research Institute, International Medical Center of Japan) Cologne JB	Akahoshi M (Department of Clinical Studies, Nagasaki) Soda M (Department of Epidemiology, Nagasaki) Cologne JB	Araki Y (Kurume University)	2009
<p>Methods for assessing joint effects of radiation and intermediate risk factors in nested case-control studies</p>	Cologne JB	Furukawa K Hsu WL Grant EJ (Department of Epidemiology) Ohishi W (Department of Clinical Studies) Nakachi K (RERF Consultant and Project Principal Scientist) Cullings HM	Langholz B (University of Southern California, USA) Fuji Y (Miyazaki University) Izumi S (Oita University) Kopecky KJ (University of Washington, USA) Neriishi K (Yachiyo Hospital) Fujiwara S (Hiroshima Atomic Bomb Casualty Council)	2008

## FY2012 Collaborative Studies (Without External Funds)

Title of Research	Name of Chief of Research Group	Investigator(s) at RERF	Investigator(s) outside RERF	Initiation Year
<p><b>Department of Statistics</b> Study on estimability of waist circumference and its application to risk analysis for metabolic syndrome</p>	Nakamura T (Nagasaki University)	Soda M (Department of Epidemiology, Nagasaki) Akahoshi M (Department of Clinical Studies, Nagasaki) Cullings HM Nakashima E Misumi M	Ichimaru S (Nagasaki University) Ishida N (Preventive Clinical Lab. Co., Ltd.)	2008
Cancer risk estimation after acute radiation exposure: Impacts of the neutron dose and non-parametric analysis of risk coefficients	Cullings HM		Kaiser JC (National Research Center for Environment and Health, Germany) Jacob P (National Research Center for Environment and Health, Germany) Rühm W (Munich University/National Research Center for Environment and Health, Germany) Walsh L (Federal Office of Radiation Protection, Germany)	2008
Cancer risk estimation after acute radiation exposure: Impacts of radiobiological effects on the risk estimate	Cullings HM		Kaiser JC (National Research Center for Environment and Health, Germany) Eidemüller M (National Research Center for Environment and Health, Germany) Jacob P (National Research Center for Environment and Health, Germany)	2008
Role of visceral fat and its effects in the association between radiation dose and cardiovascular disease	Sera N (Department of Clinical Studies, Nagasaki)	Hida A (Department of Clinical Studies, Nagasaki) Imazumi M (Department of Clinical Studies, Nagasaki) Akahoshi M (Department of Clinical Studies, Nagasaki) Hsu WL Nakashima E Cullings HM	Carter R (The State University of New York at Buffalo, USA)	2011
<p><b>Department of Information Technology</b> Collaborative studies for the construction of databases and development of dictionary system for human genome analyses</p>	Slezak T (Lawrence Livermore National Laboratory, USA)	Katayama H		1996

## FY2012 Collaborative Studies (Without External Funds)

Title of Research	Name of Chief of Research Group	Investigator(s) at RERF	Investigator(s) outside RERF	Initiation Year
<p><b>Department of Information Technology</b>            Technical cooperation for the construction of comprehensive cancer registration system in Osaka Prefecture</p> <p>Research for health effects and dosimetry in Semipalatinsk nuclear test site</p>	<p>Tsukuma H (Osaka Medical Center for Cancer and Cardiovascular Diseases)</p> <p>Hoshi M (Research Institute for Radiation Biology and Medicine, Hiroshima University)</p>	<p>Katayama H</p> <p>Katayama H</p>		<p>2005</p> <p>2005</p>

## International Collaborative Activities

### Participation in International Collaborative Activities by RERF Directors and Staff Members

#### 1. World Health Organization (WHO)-related collaborative activities

RERF was designated as a collaborating center for radiation effects on humans by the WHO in 1979, and has been designated as a member of the WHO Radiation Emergency Medical Preparedness and Assistance Network (REMPAN) since 1988. Dr. Roy E. Shore, RERF Vice Chairman and Executive Director (Chief of Research), collaborated with WHO on the writing and editing of a report on the health risks associated with the Fukushima Dai-ichi nuclear power plant accident, April 2012–February 2013.

#### 2. United Nations Scientific Committee on the Effects of Atomic Radiation (UNSCEAR)-related activities

Dr. Shore, Vice Chairman, served on an UNSCEAR subcommittee established for collaboration on the writing and editing of a report on childhood radiation exposures, April 2012–March 2013.

Dr. Shore attended and made a presentation at an UNSCEAR meeting in Vienna, Austria, May 21–24, 2012.

#### 3. International Radiation Protection Association (IRPA)-related activities

IRPA's primary purpose is to improve communication among professionals engaged in radiation protection activities in countries throughout the world. Dr. Shore, Vice Chairman, gave an invited plenary lecture on RERF research to participants from many countries and participated in a panel discussion of radiation research needs at an IRPA meeting in Glasgow, Scotland, May 15, 2012.

#### 4. U.S. National Council on Radiation Protection and Measurements (NCRP)-related activities

Dr. Shore, Vice Chairman, gave an invited presentation to the U.S. NCRP annual meeting and participated in a committee meeting to determine research needs and plan reports on radiation and biological/health outcomes in Washington, D.C., March 10–12, 2013.

Dr. Shore reviewed and edited an NCRP report with respect to the uncertainties inherent in radiation risk estimation, April 2012–June 2012.

#### 5. U.S. National Cancer Institute (NCI)-related activities

Dr. Shore, Vice Chairman, participated in a series of meetings to plan collaborative research in the fields of radiation, genetics, and thyroid cancer at the U.S. NCI in Washington, D.C., November 9, 2012 and March 13, 2013.

#### 6. International Physicians for the Prevention of Nuclear War (IPPNW)-related activities

Dr. Shore, Vice Chairman, made a presentation outlining RERF's research findings to an international

audience participating in the 20th IPPNW World Congress in Hiroshima, August 24, 2012.

#### 7. Collaborative activities to provide A-bomb survivors in South Korea with health counseling

This project was commenced in FY2004 by the Nagasaki prefectural and city governments as part of the national government's overseas A-bomb survivor support project based on the aim of providing A-bomb survivors in South Korea with health counseling and guidance. Dr. Masazumi Akahoshi, Chief, Department of Clinical Studies, Nagasaki, participated in the 17th A-bomb survivor health examinations in Hapcheon, South Korea, May 20–25, 2012, as well as the 18th A-bomb survivor health examinations in Busan, South Korea, November 11–16, 2012.

#### 8. Other international collaborative activities

Dr. Shore, Vice Chairman, made an invited presentation to a meeting on collaborative studies with U.S. and European scientists on radiation, genetics, breast cancer, and heart disease in New York City, November 29–30, 2012.

### Acceptance of Visitors from Overseas for Briefing and Training

(Total in FY2012: 99 persons, excluding general visitors)

#### *Hiroshima: 87 persons*

#### Visitors related to Hiroshima International Council for Health Care of the Radiation-exposed (HICARE) (34 persons)

##### 1) International Atomic Energy Agency (IAEA)-related (2 persons)

Dr. Rethy Chhem, Director, and Dr. Soveacha Ros, Education and Training Consultant, Division of Human Health, Department of Nuclear Sciences and Applications, IAEA, visited RERF, May 23, 2012.

##### 2) South Korea-related (19 persons)

A group of three trainees from South Korea visited RERF, July 23, 2012, and 10 trainees from South Korea attended a training program on medical care for A-bomb survivors residing in South Korea, September 25, 2012. A group of six trainees attended training on medical care for the radiation-exposed in South Korea, November 27, 2012.

##### 3) Others (13 persons)

Two trainees from the U.S. visited RERF, July 23, 2012. One trainee from Brazil arrived to undergo training, August 22, 2012, with four trainees visiting from Sri Lanka, Finland, the U.S., and Brazil, January 21, 2013. Six trainees from the U.S., Brazil, and Belarus arrived for training, February 21, 2013.

#### Visitors related to Japan International Cooperation Agency (JICA) (28 persons)

##### 1) Research Institute of Tuberculosis, Japan Anti-tuberculosis Association

Seven trainees from Afghanistan, Cambodia, Kenya,

Myanmar, the Philippines, Zambia, and China visited RERF for a group training course on stopping TB/HIV, November 13, 2012.

#### 2) Kitakyushu International Techno-Cooperative Association

Eight trainees from Kosovo, Malaysia, Maldives, the Philippines, South Africa, and Vietnam visited RERF for a group training course on occupational health and preventive health care, October 24, 2012.

#### 3) National Cerebral and Cardiovascular Center

Five trainees from Albania, Argentina, Honduras, and Thailand visited RERF for a group training course on cardiovascular diseases, October 5, 2012.

#### 4) National Cancer Center

Eight trainees from Armenia, Costa Rica, Macedonia, Nigeria, Serbia, Sri Lanka, and Uruguay visited RERF for a practicum related to the latest cancer diagnosis and treatment methods, November 12, 2012.

#### Visitors related to RERF training program (1 person)

##### January 6–February 23, 2013

Seung Hyun Hong, Research Scientist, Cancer Genomics Branch, National Cancer Center, South Korea

Training in various studies regarding the effects of radiation exposure on immune function, using methods such as *HLA (human leukocyte antigen)* genotyping and FISH (fluorescence *in situ* hybridization) assay, at the Immunology Laboratory, Department of Radiobiology/Molecular Epidemiology, and the Cytogenetics Laboratory, Department of Genetics.

#### Visitors related to Ministry of Education, Culture, Sports, Science and Technology (MEXT) (12 persons)

Twelve participants in a young leaders program for FY2011–2012, Nagoya University Graduate School of Medicine, from Afghanistan, Kyrgyzstan, Mongolia, Thailand, Laos, Myanmar, Cambodia, Kazakhstan, Uzbekistan, Bangladesh, and Romania visited RERF, November 19, 2012.

#### Others (12 persons)

Through the IPPNW, during that organization's 20th World Congress in Hiroshima, six persons visited RERF, August 23, 2012. With support from the Hiroshima Prefectural Medical Association, two visitors from the U.S., including Susan Reynolds, Director, Los Angeles Medical Association, arrived to observe RERF's operations, September 7, 2012. Through the European Reporters Fellowship Program sponsored by the Japan Newspaper Publishers & Editors Association, four people from the Czech Republic, Denmark, Romania, and the United Kingdom visited RERF, November 26, 2012.

#### Nagasaki: 12 persons

#### Visitors related to Nagasaki Association for Hibakushas' Medical Care (NASHIM) (12 persons)

Six trainees from Russia, Ukraine, Belarus, and Kazakhstan visited the RERF Nagasaki Laboratory to participate in NASHIM's FY2012 summer training program, July 24, 2012. A team of three physicians from South Korea visited to participate in a training course related to health care of the radiation-exposed, September 12, 2012. A team of three physicians from South Korea and Brazil visited to participate in a training course involving health care of the radiation exposed, February 21, 2013.

#### Joint Programs between RERF and Overseas Researchers/Research Organizations

##### 1. Collaborative studies with U.S. NCI

- 1) Dr. Dale Preston, Principal Scientist, Hirosoft International Corporation, visited RERF to conduct collaborative studies on leukemia and other site-specific cancers (malignant lymphoma, solid cancer incidence, etc.) among A-bomb survivors, April 5–24, 2012, October 28–November 17, 2012.
- 2) Dr. Kiyohiko Mabuchi, Deputy Branch Chief, and Dr. Alina V. Brenner, Staff Scientist, Radiation Epidemiology Branch, NCI, visited RERF to conduct NCI-funded collaborative studies including a site-specific cancer study, April 16–20, 2012. Dr. Brenner presented a lecture to RERF scientists titled "Molecular genetic studies of post-Chernobyl thyroid cancer at NCI," April 16, 2012.
- 3) Dr. Kyoji Furukawa, Associate Senior Scientist, Department of Statistics, conducted collaborative research at NCI of a cohort study of thyroid diseases after the Chernobyl accident, June 13–24, 2012, Rockville, Maryland.
- 4) Dr. Kotaro Ozasa, Chief, Department of Epidemiology, Hiroshima, conducted collaborative research on cancer incidence in the Life Span Study (LSS) at NCI, June 14–15, 2012, Rockville, Maryland.
- 5) Dr. Ritsu Sakata, Associate Senior Scientist, Department of Epidemiology, Hiroshima, conducted collaborative research (site-specific cancer research: malignant lymphoma) at NCI, October 5–14, 2012, Rockville, Maryland. Dr. Sakata also published the following collaborative paper on cancer mortality following radiotherapy for benign gynecologic disorders (Sakata R, Kleinerman RA, Mabuchi K, Stovall M, Smith SA, Weathers R, Wactawski-Wende J, Cookfair DL, Boice JD Jr, Inskip PD. Cancer mortality following radiotherapy for benign gynecologic disorders. *Radiat Res* 2012; 178(3):266–79).
- 6) Dr. Wan-Ling Hsu, Associate Senior Scientist, Department of Statistics, published a paper in collaboration with Dr. Preston, Principal Scientist, Hirosoft International Corporation, Dr. Mabuchi, Deputy Branch Chief, Radiation Epidemiology Branch, NCI, and other researchers (Hsu WL, Preston DL, Soda M, Sugiyama H, Funamoto S, Kodama K, Kimura A, Kamada N, Dohy H, Tomonaga M, Iwanaga M, Miyazaki Y, Cullings HM,



Suyama A, Ozasa K, Shore RE, Mabuchi K. The incidence of leukemia, lymphoma and multiple myeloma among atomic bomb survivors: 1950–2001. *Radiat Res* 2013; 179(3):361–82).

- 7) Dr. Sakata, Associate Senior Scientist, Department of Epidemiology, Hiroshima, attended a collaborative study meeting on brain and nervous system tumors at NCI, March 21–22, 2013, Rockville, Maryland.

## 2. Collaborative studies with research grants from U.S. National Institute of Allergy and Infectious Diseases (NIAID)

- 1) Dr. Furukawa, Associate Senior Scientist, and Dr. Munechika Misumi, Research Scientist, Department of Statistics, conducted interim analyses for the semi-annual report in collaboration with Dr. Susan M. Geyer, the Ohio State University, Columbus, Ohio.
- 2) Eight RERF scientists attended the NIAID Project Program Review Meeting in Tokyo, July 28–31, 2012. A total of 28 collaborating scientists from 11 institutions participated in the third annual program review and discussed future plans.
- 3) NIAID collaborators held two focused workshop meetings in Tokyo, July 31, 2012, to discuss future plans of thymus and vaccination studies related to the NIAID project.
- 4) Dr. Junko Kajimura, Department of Radiobiology/Molecular Epidemiology, visited Dr. Gregory Sempowski's laboratory at Duke University, October 14–21, 2012, to discuss methodological details of immunological measurements related to the NIAID project, monitor the use and status of RERF's specimens, and consult with Duke University scientists and Dr. Geyer (principal statistician of NIAID project, the Ohio State University).
- 5) Ad hoc interactive teleconferences on statistical analyses and data transfer were held between Dr. Geyer, two RERF statisticians, and RERF scientists involved in the NIAID project, starting in January 2013.
- 6) The following paper was published (Wang C, Nakamura S, Oshima M, Mochizuki-Kashio M, Nakajima-Takagi Y, Osawa M, Kusunoki Y, Kyoizumi S, Imai K, Nakachi K, Iwama A. Compromised hematopoiesis and increased DNA damage following non-lethal ionizing radiation of a human hematopoietic system reconstituted in immunodeficient mice. *Int J Radiat Biol* 2013; 89(2):132–7).

## 3. RERF international collaborative studies on statistical analysis

- 1) A researcher from Oregon Health and Science University visited RERF to conduct a collaborative study on issues related to correction of RERF dose-response analysis for the effect of errors in dose in collaboration with the Department of Statistics, October 25–November 18, 2012.
- 2) A researcher from the University of Southern California visited RERF to discuss the possibility of a future joint research protocol, September 2–9, 2012.
- 3) Dr. Harry M. Cullings, Chief, Department of Statistics, collaborated with a researcher from the Fred Hutchinson Cancer Research Center, Seattle, Washington, on

preparation of a manuscript regarding semiparametric methods for using biodosimeter results in evaluating dosimetric uncertainty in RERF studies.

## 4. Partnership between RERF and University of Washington

Dr. Eric J. Grant, Assistant Chief, Department of Epidemiology, Hiroshima, instructed and provided guidance to a graduate student from the Department of Epidemiology, University of Washington, and a manuscript on the effects of anthropometric factors on the radiation risks of colon cancer was subsequently published, as indicated below (Semmens EO, Kopecky KJ, Grant E, Mabuchi K, Mathes RW, Nishi N, Sugiyama H, Moriwaki H, Sakata R, Soda M, Kasagi F, Yamada M, Fujiwara S, Akahoshi M, Davis S, Kodama K, Li CI. Relationship between anthropometric factors, radiation exposure, and colon cancer incidence in the Life Span Study cohort of atomic bomb survivors. *Cancer Causes Control* 2013; 24(1):27–37).

## 5. Collaboration with Asia Cohort Consortium (ACC)

Dr. Grant, Assistant Chief, Department of Epidemiology, Hiroshima, attended the 2012 ACC Fall Meeting, Taipei, Taiwan, October 19–20, 2012. Dr. Grant also currently holds weekly teleconferences with the Fred Hutchinson Cancer Research Center, which organizes the Consortium. The following paper was published online, October 30, 2012, in the *European Journal of Cancer Prevention* (Lin Y, Fu R, Grant E, Chen Y, Eun Lee J, Gupta PC, Ramadas K, Inoue M, Tsugane S, Gao YT, Tamakoshi A, Shu XO, Ozasa K, Tsuji I, Kakizaki M, Tanaka H, Chen CJ, Yoo KY, Ahn YO, Ahsan H, Pednekar MS, Sauvaget C, Sasazuki S, Yang G, Xiang YB, Ohishi W, Watanabe T, Nishino Y, Matsuo K, You SL, Park SK, Kim DH, Parvez F, Rolland B, McLerran D, Sinha R, Boffetta P, Zheng W, Thornquist M, Feng Z, Kang D, Potter JD. Association of body mass index and risk of death from pancreas cancer in Asians: findings from the Asia Cohort Consortium).

## 6. Collaboration with Oxford University

- 1) Dr. Grant, Assistant Chief, Department of Epidemiology, Hiroshima, attended a meeting on breast and prostate cancer at Oxford University by invitation, June 27–29, 2012.
- 2) Dr. Ozasa, Chief, and Dr. Sakata, Associate Senior Scientist, Department of Epidemiology, Hiroshima, attended the Richard Doll Centenary Meeting at Oxford University, October 29–31, 2012.
- 3) Dr. Sakata, Associate Senior Scientist, Dr. Grant, Assistant Chief, and Dr. Ozasa, Chief, Department of Epidemiology, Hiroshima, published a manuscript, indicated below, on the association of smoking and birth cohort with lung cancer among a Japanese population through a collaborative study with Professor Sarah Darby from Oxford University (Sakata R, McGale P, Grant EJ, Ozasa K, Peto R, Darby SC. Impact of smoking on overall mortality and life expectancy in Japanese smokers: A prospective cohort study. *BMJ* 2012; 345:e7093).

## 7. Collaboration with Maastricht University

Dr. Grant, Assistant Chief, Department of Epidemiology, Hiroshima, wrote a research protocol to share bladder cancer incidence data and dietary intake data from RERF as part of a pooled analysis conducted by Dr. Maurice Zeegers of Maastricht University, the Netherlands (formerly of the University of Birmingham, U.K.). A manuscript is anticipated in 2013.

## 8. Collaboration with University of Rochester

A researcher who previously worked at RERF as a Beebe Fellow and is now at the Public Health Sciences, University of Rochester Medical Center, New York, published a paper on radiation dose associated with renal failure mortality (Adams MJ, Grant EJ, Kodama K, Shimizu Y, Kasagi F, Suyama A, Sakata R, Akahoshi M. Radiation dose associated with renal failure mortality: A potential pathway to partially explain increased cardiovascular disease mortality observed after whole-body irradiation. *Radiat Res* 2012; 177(2):220–8).

## 9. Collaboration with University of Hong Kong

A researcher who previously visited RERF as a Beebe Fellow and is now at the Department of Orthopaedics & Traumatology, University of Hong Kong, China, published a paper on radiation effects with soft-tissue sarcomas (Samartzis D, Nishi N, Cologne JB, Funamoto S, Hayashi M, Kodama K, Miles EF, Suyama A, Soda M, Kasagi F. Ionizing radiation exposure and the development of soft-tissue sarcomas in atomic-bomb survivors. *J Bone Joint Surg Am* 2013; 95:222–9).

## 10. Collaboration with Monroe County Department of Public Health

A researcher who previously visited RERF as a Beebe Fellow and is now Deputy Director of the Monroe County Department of Public Health in Rochester, New York, is preparing manuscripts on the trend of esophageal and gastric cancer and the radiation risks of esophageal and gastric cancer.

## 11. RERF-organized international meetings (see “Workshop Report” section for details)

- 1) Hiroshima Laboratory held at its Auditorium the RERF International Workshop: Heavy Structural Shielding, February 4–5, 2013.
- 2) Hiroshima Laboratory held at its Auditorium the RERF International Workshop: Radiation and Cardiovascular Disease, February 5–6, 2013.
- 3) Hiroshima Laboratory held at its Auditorium the RERF International Workshop: RERF Radiation Research in the Post-genomic Era, March 7–8, 2013.