

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

- ◆ Shore RE: Lessons from Fukushima: Scientists need to communicate better. *Bull World Health Organ* 2013 (June); 91(6):396–7.
- ◆ Walsh L, Shore RE, Auvinen A, Jung T, Wakeford R: Re: Cancer risk in 680 000 people exposed to computed tomography scans in childhood or adolescence: Data linkage study of 11 million Australians [letter]. *BMJ* 2013 (June 4). Available from: <http://www.bmj.com/content/346/bmj.f2360/rr/648506>
- ◆ Wondergem J, Boerma M, Kodama K, Stewart FA, Trott KR: Cardiovascular effects after low-dose exposure and radiotherapy: What research is needed? *Radiat Environ Biophys* 2013 (November); 52(4):425–34.

Clinical Studies, Hiroshima

- ◆ Arataki K, Hayes CN, Akamatsu S, Akiyama R, Abe H, Tsuge M, Miki D, Ochi H, Hiraga N, Imamura M, Takahashi S, Aikata H, Kawaoka T, Kawakami H, Ohishi W, Chayama K: Circulating microRNA-22 correlates with microRNA-122 and represents viral replication and liver injury in patients with chronic hepatitis B. *J Med Virol* 2013 (May); 85(5):789–98.
- ◆ Hammer GP, Scheidemann-Wesp U, Samkange-Zeeb F, Wicke H, Neriishi K, Blettner M: Occupational exposure to low doses of ionizing radiation and cataract development: A systematic literature review and perspectives on future studies. *Radiat Environ Biophys* 2013 (August); 52(3):303–19.

Genetics

- ◆ Nakamura N, Suyama A, Noda A, Kodama Y: Radiation effects on human heredity. *Annu Rev Genet* 2013 (November); 47:33–50. **(CR 2-12)**

Radiobiology/Molecular Epidemiology

- ◆ Kusunoki Y: Key points and pitfalls of flow cytometry analysis—Basic tasks in practical clinical research. *Igaku no Ayumi [J Clin Exp Med]* 2013 (June); 245(12):981–5. (Japanese)
- ◆ Sueoka E, Sueoka-Aragane N, Sato A, Ide M, Nakamura H, Sotomaru Y, Taya C, Yonekawa H, Kitagawa T, Kubota Y, Kimura S, Nakachi K, Tanimoto K: Development of lymphoproliferative diseases by hypoxia inducible factor-1alpha is associated with prolonged lymphocyte survival. *PLoS ONE* 2013 (April); 8(4):e57833.
- ◆ Yoshida K: Human aging mechanisms and radiation exposure related to the mTOR signaling pathway. *Hoshasen Seibutsu Kenkyu [Radiat Biol Res Commun]* 2013 (September); 48(3):297–305. (Japanese)

Statistics

- ◆ Cologne JB: Probabilistic interpretation of data: A physicist's approach by Guthrie Miller [Book review].

Health Phys 2013 (December); 105(6):576–7.

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.

Associate Chief of Research

❖ Ullrich RL, Weil MM, Story M, Yu Y, Vargas G, Nilsson C, Emmett MR. The Radiation Carcinogenesis Specialized Center of Research. NASA Human Research Program Investigators' Workshop, 11–13 February 2014, Galveston, Texas, USA

Clinical Studies, Nagasaki

❖ Akahoshi M. Long-term atomic bomb survivors: The increased long-term non-cancer risk following Hiroshima and Nagasaki. 36th Annual Meeting of the European Group for Blood and Marrow Transplantation, 7–10 April 2013, London, UK

Genetics

❖ Asakawa J. Whole exome sequencing based genetic study of radiation. 3rd Research Meeting of the NGS Field, 4–5 September 2013, Kobe

Radiobiology/Molecular Epidemiology

❖ Taga M, Mukai M, Koyama K, Ito R, Misumi M, Nakachi K, Kusunoki Y, Yasui W, Hamatani K. Analysis of *ALK* gene rearrangements in lung adenocarcinoma among atomic-bomb survivors: A pilot study. 54th Late A-bomb Effects Research Meeting, 2 June 2013, Hiroshima

Epidemiology, Hiroshima

❖ Ozasa K, Sadakane A, Fukushima W, Oofuji S. Advocacy of the prevention and control of influenza by vaccination. 72nd Annual Meeting of the Japanese Society of Public Health, 23–25 October 2013, Tsu

Information Technology

❖ Katayama H. Trends of mortalities in the STNS and future plan for the risk analysis of thyroid cancer. Health risks from exposure to radioactive fallout from nuclear testing in Kazakhstan at the SNTS meeting, 6–8 May 2013, Lyon, France

❖ Katayama H, Ioka A, Tsukuma H, Matsuda T, the Japanese Cancer Surveillance Research Group (JCSRG). Strategy for the standardization of regional cancer registries and improvement of their quality in Japan. 5th International Cancer Control Congress, 3–6 November 2013, Lima, Peru

Attached to Associate Chief of Research's Office

❖ Takahashi N. Genetic effects of radiation—The findings from the studies of offspring of atomic bomb survivors. 2013 Seminar of Radiation Epidemiology, 19 December 2013, Tokyo

Scientific Lectures and Seminars Presented at RERF

1 April 2013–31 March 2014

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.

19 April 2013, **Eiji Nakashima**, Assistant Chief, Department of Statistics, Radiation Effects Research Foundation, The 276th Hiroshima Statistics Study Group Meeting: “Radiation dose response estimation with emphasis on low dose range: Applications of restricted cubic spline models to atomic-bomb survivors data”

22 April 2013, **Robert L. Ullrich**, John Sealy Distinguished Chair in Cancer Biology, Professor, Departments of Radiation Oncology and of Biochemistry and Molecular Biology, Director, Sealy Center for Cancer Biology, University of Texas Medical Branch, USA: “Of mice and men: Toward understanding radiation-induced cancer”

4 June 2013, **Olivia M. Pereira-Smith**, Professor Emeritus, Barshop Institute for Longevity and Aging Studies, University of Texas at San Antonio: “Studies of cell aging, past and future”

7 June 2013, **Shinpei Imori**, Department of Mathematics, Graduate School of Science, Hiroshima University, The 277th Hiroshima Statistics Study Group Meeting: “New model selection method in high-dimensional data”

20 June 2013, **Jennifer G. Le-Rademacher**, Assistant Professor, Division of Biostatistics, Medical College of Wisconsin, USA: “Symbolic data analysis—a principal component analysis example”

28 June 2013, **Hirofumi Wakaki**, Professor, Department of Mathematics, Graduate School of Science, Hiroshima University, The 278th Hiroshima Statistics Study Group Meeting: “A consistency property of the AIC for multivariate linear models when the dimension, the sample size and the number of explanation variables become large”

27 September 2013, **Ken Kurokawa**, Department of Biotechnology Information, Graduate School of Bioscience and Biotechnology, Tokyo Institute of Technology: “Metagenomics: Current situation and future prospects”

27 September 2013, **Takuji Yamada**, Department of Biotechnology Information, Graduate School of Bioscience and Biotechnology, Tokyo Institute of Technology: “Metagenomics for clinical studies”

27 September 2013, **John B. Cologne**, Senior Scientist, Department of Statistics, Radiation Effects Research Foundation, The 279th Hiroshima Statistics Study Group Meeting: “Primary time scale for Cox regression in cohort follow-up studies”

30 September 2013, **Helmut Durchschlag**, Senior Lecturer and Scientist (active), Academic Director (retired), Institute of Biophysics and Physical Biochemistry, Faculty of Biology and Preclinical Medicine, University of

Regensburg, Germany: “Radiation effects on biomolecules, with special emphasis on eye components”

30 October 2013, **William J. Schull**, President, Schull Institute, USA, Former RERF Director: “The gift (Contributions of ABCC-RERF to training Japanese and US scientists)”

14 November 2013, **Daniel O. Stram**, Consultant of RERF Department of Statistics, Professor, Division of Biostatistics, Department of Preventive Medicine, University of Southern California, USA: “Current issues in genome-wide association studies (GWAS)”

18 November 2013, **H. Dean Hosgood**, Assistant Professor, Department of Epidemiology and Population Health, Albert Einstein College of Medicine, USA: “Genetic risk factors and gene-environment interactions in cancer epidemiology”

27 November 2013, **Maria Blettner**, Director, Institute of Medical Biometry, Epidemiology and Informatics (IMBEI), Johannes Gutenberg-University Mainz, Germany: “Health effects of exposure to low dose radiation in children—results of recent cohort studies”

29 November 2013, **Hirokazu Yanagihara**, Associate Professor, Department of Mathematics, Graduate School of Science, Hiroshima University, The 280th Hiroshima Statistics Study Group Meeting: “Conditions for consistency of a log-likelihood-based information criterion in high-dimensional multivariate linear regression models under the violation of normality assumption”

13 December 2013, **Young Min Kim**, Research Scientist, Department of Statistics, Radiation Effects Research Foundation, The 281st Hiroshima Statistics Study Group Meeting: “A progressive block empirical likelihood method for time series”

25 December 2013, **Atsushi Ito**, Senior Professor, Department of Nuclear Engineering, School of Engineering, Tokai University: “Analysis of radiation effects in subcellular structures in terms of local energy deposition”

RERF Colloquia

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.

26 April 2013, **Asao Noda**, Assistant Chief, Department of Genetics: “Generation of recombinant mouse strains in which radiation-induced living mutant cells become fluorescent”

17 May 2013, **Reiko Ito**, Associate Senior Scientist, Laboratory of Cell Biology, Department of Radiobiology/Molecular Epidemiology: “Microsatellite instability (MSI) and its related gene alterations in colorectal cancer among A-bomb survivors”

21 June 2013, **Nobuko Sera**, Associate Senior Scientist, Department of Clinical Studies, Nagasaki: “Radiation and chronic kidney disease (CKD)”

23 August 2013, **Hiromi Sugiyama**, Acting Chief, Tumor and Tissue Registry Office, Department of Epidemiology: “Mortality risk among *in utero* exposure to atomic-bomb radiation, 1950–2008”

27 September 2013, **Munehika Misumi**, Research Scientist, Department of Statistics: “The scene of a current genomic research—for RERF future research”

4 October 2013, **Kazunori Kodama**, Chief Scientist, Director, Biosample Center: “Progress report on the work of Biosample Center”

15 November 2013, **Kanya Hamasaki**, Research Scientist, Department of Genetics: “Patterns of chromosome aberration frequency induced by fetal irradiation differ among different types of tissue”

20 December 2013, **Tomonori Hayashi**, Assistant Chief, Department of Radiobiology/Molecular Epidemiology: “Study on influenza vaccination effectiveness in A-bomb survivors: Results from a full-scale study”

17 January 2014, **Misa Imaizumi**, Chief, Divisions of Radiology and Clinical Laboratories, Department of Clinical Studies, Nagasaki: “Thyroid study in younger atomic-bomb survivors”

Awards Received by RERF Employees

1 April 2013–31 March 2014

14 June 2013, **Hiromi Sugiyama**, PhD, Acting Chief, Tumor and Tissue Registry Office, Department of Epidemiology, Hiroshima, received the 2013 Scientific Promotion Award at the 22nd meeting of the Japanese Association of Cancer Registries, held in Akita.

14 June 2013, **Saori Nakamura**, a staff of the Tumor and Tissue Registry Office, Department of Epidemiology, Hiroshima, received the Distinguished Clerical Service Award that is presented to those who have achieved a certain level of technical skill in a central office overseeing regional cancer registries.

FY2013 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)	7	¥7,400,000
Japan Society for the Promotion of Science (JSPS) [Independent administrative entity under the jurisdiction of the Ministry of Education, Culture, Sports, Science and Technology (MEXT)]	16	¥75,750,000
Nuclear Safety Research Association (NSRA) [Contract project organization commissioned by the Ministry of the Environment (MOE)]	1	¥4,412,869
Japan Arteriosclerosis Prevention Fund	1	¥1,879,667 (Balance carried over from previous year)*
Smoking Research Foundation	1	¥2,000,000
National Institute of Genetics	1	¥744,000
Japan Heart Foundation	1	¥300,000
U.S. National Cancer Institute (NCI) Contract	1	¥17,566,461
U.S. National Institute of Allergy and Infectious Diseases	1	¥154,606,042
Grand Total	30	¥264,659,039

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.

* Acceptance of the research fund ended in FY2012.

FY2013 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>Department of Clinical Studies, Hiroshima A prospective cohort study of factors contributing to accelerate the progress of fatty liver disease</p>	<p>JSPS Grant-in-Aid for Scientific Research Scientific Research (C) Waka Ohishi, Acting Chief, Department of Clinical Studies, RERF</p>		<p>1 April 2013– 31 March 2014</p>	<p>Direct cost ¥600,000 Indirect cost ¥180,000</p>
<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>	<p>Michiko Yamada Cooperative Investigator: Yoshimi Tatsukawa</p>	<p>1 April 2013– 31 March 2014</p>	<p>¥1,100,000</p>
<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>	<p>Michiko Yamada</p>	<p>1 April 2013– 31 March 2014</p>	<p>¥2,100,000</p>
<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>		<p>1 April 2013– 31 March 2014</p>	<p>¥1,879,667 Carryover from previous year (Acceptance of the research fund ended in FY2012) The above amount includes funds allocated to the collaborator(s) at Hiroshima University.</p>
<p>The effects of radiation exposure on the development of arteriosclerotic diseases</p>	<p>JSPS Grant-in-Aid for Scientific Research Young Scientists (B) Yoshimi Tatsukawa, Associate Senior Scientist, Division of Health Examinations, Department of Clinical Studies, RERF</p>		<p>1 April 2013– 31 March 2014</p>	<p>Direct cost ¥600,000 Indirect cost ¥180,000</p>
<p>Do benefits from quitting tobacco use on the cardiovascular disease incidence exceed the impact of weight gain following cessation of smoking?—A 30-year follow-up study</p>	<p>Japan Heart Foundation and Astellas/Pfizer Grant for Research on Atherosclerosis Update Ikuno Takahashi, Research Scientist, Division of Clinical Laboratories, Department of Clinical Studies, RERF</p>		<p>1 September 2013– 31 March 2014</p>	<p>¥300,000</p>

FY2013 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>Department of Genetics Analysis of the <i>in vivo</i> mechanisms to establish radiation-induced mutagenesis</p>	<p>JSPS Grant-in-Aid for Scientific Research Scientific Research (S) Hiroshi Mitani, Professor, Graduate School of Frontier Sciences, The University of Tokyo</p>	<p>Asao Noda</p>	<p>1 April 2013– 31 March 2014</p>	<p>Direct cost ¥1,800,000 Indirect cost ¥540,000</p>
<p>Study of genetic effects of atomic-bomb radiation using high-density microarray CGH</p>	<p>JSPS Grant-in-Aid for Scientific Research Scientific Research (B) Mieko Kodaira, Chief, Biochemical Genetics Laboratory, Department of Genetics, RERF</p>	<p>Jun-ichi Asakawa Kyoji Furukawa (Department of Statistics) Associate Investigator: Nori Nakamura (Consultant of the Department)</p>	<p>1 April 2013– 31 March 2014</p>	<p>Direct cost ¥2,100,000 Indirect cost ¥630,000</p>
<p>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</p>	<p>JSPS Grant-in-Aid for Scientific Research Scientific Research (C) Yuko Hirai, Research Scientist, Cytogenetics Laboratory, Department of Genetics, RERF</p>	<p>Yoshiaki Kodama Nori Nakamura (Consultant of the Department)</p>	<p>1 April 2013– 31 March 2014</p>	<p>Direct cost ¥1,100,000 Indirect cost ¥330,000</p>
<p>Estimation of genetic risk of radiation on immature oocytes of rats by using next generation sequencer</p>	<p>JSPS Grant-in-Aid for Scientific Research Scientific Research (C) Yasunari Satoh, Research Scientist, Biochemical Genetics Laboratory, Department of Genetics, RERF</p>	<p>Mieko Kodaira Jun-ichi Asakawa Associate Investigator: Nori Nakamura (Consultant of the Department)</p>	<p>1 April 2013– 31 March 2014</p>	<p>Direct cost ¥100,000 Indirect cost ¥30,000</p>
<p>Elucidation of tissue-dependent chromosome aberration frequencies induced by ionizing radiation exposure to the mouse fetus</p>	<p>JSPS Grant-in-Aid for Scientific Research Young Scientists (B) Kanya Hamasaki, Research Scientist, Cytogenetics Laboratory, Department of Genetics, RERF</p>	<p>Kanya Hamasaki</p>	<p>1 April 2013– 31 March 2014</p>	<p>Direct cost ¥1,200,000 Indirect cost ¥360,000</p>
<p><i>In vivo, in situ</i> mutagenic risk evaluation of radiation and environmental chemicals using newly developed knock-in mouse systems</p>	<p>JSPS Grant-in-Aid for Scientific Research Scientific Research (S) Asao Noda, Assistant Chief, Department of Genetics, RERF</p>	<p>Kanya Hamasaki</p>	<p>1 April 2013– 31 March 2014</p>	<p>Direct cost ¥35,900,000 Indirect cost ¥10,770,000 The above amount includes funds allocated to the collaborators at other institutes (The University of Tokyo, Osaka University, and Ibaraki University).</p>

FY2013 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>Department of Genetics Development of new methods that specifically detect and measure radiation-induced unrepairable DSBs</p>	<p>JSPS Grant-in-Aid for Scientific Research Challenging Exploratory Research Asao Noda, Assistant Chief, Department of Genetics, RERF</p>		<p>1 April 2013– 31 March 2014</p>	<p>Direct cost ¥1,700,000 Indirect cost ¥510,000</p>
<p>Department of Radiobiology/Molecular Epidemiology 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 Co-principal Investigators: Yoichiro Kusunoki, Chief, Department of Radiobiology/Molecular Epidemiology, RERF Tomonori Hayashi, Assistant Chief, Department of Radiobiology/Molecular Epidemiology, RERF</p>	<p>Robert L. Ulrich (Associate Chief of Research) Seishi Kyoizumi Reiko Ito Junko Kajimura Kengo Yoshida Waka Ohishi (Department of Clinical Studies) Kotaro Ozasa (Department of Epidemiology) Kyoji Furukawa (Department of Statistics) Munehika Misumi (Department of Statistics)</p>	<p>1 October 2009– 30 September 2014</p>	<p>Direct cost ¥136,510,819 Indirect cost ¥18,095,223</p>
<p>Molecular epidemiology study of inflammation-associated disease development on the basis of long-term follow-up of atomic-bomb survivors</p>	<p>JSPS 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), Takahiko Ogawa</p>	<p>1 April 2013– 31 March 2014</p>	<p>Direct cost ¥4,400,000 Indirect cost ¥1,320,000 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 2013– 31 March 2014</p>	<p>¥2,200,000</p>

FY2013 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>Department of Radiobiology/Molecular Epidemiology Molecular epidemiology study of cigarette smoking effects on immunity- and inflammation-related biomarkers and lifestyle-related disease development</p> <p>Can lower-dose radiation cause the cardiovascular disease? —Assessment using animal models</p>	<p>Smoking Research Foundation Tomonori Hayashi, Assistant Chief, Department of Radiobiology/Molecular Epidemiology, RERF</p> <p>Nuclear Safety Research Association MOE Research Project for Nuclear-power Disaster Influence in FY2013 (Research Regarding the Health Effects of Radiation) Yasuharu Niwa, Associate Senior Scientist, Cell Biology Laboratory, Department of Radiobiology/Molecular Epidemiology, RERF</p>	<p>Cooperative Investigators: Norio Takahashi (Consultant attached to Associate Chief of Research's Office) Waka Ohishi (Department of Clinical Studies) Munehika Misumi (Department of Statistics) Research Participant: Hideko Murakami</p>	<p>1 April 2013– 31 March 2014</p> <p>18 June 2013– 20 March 2014</p>	<p>¥2,000,000</p> <p>¥4,412,869</p>
<p>Biological significance of <i>EML4-ALK</i> fusion gene in radiation thyroid carcinogenesis</p>	<p>JSPS Grant-in-Aid for Scientific Research Scientific Research (C) Kiyohiro Hamatani, Research Scientist, Cell Biology Laboratory, Department of Radiobiology/Molecular Epidemiology, RERF</p>	<p>Reiko Ito</p>	<p>1 April 2013– 31 March 2014</p>	<p>Direct cost ¥1,700,000 Indirect cost ¥510,000</p>
<p>Molecular epidemiological study on gynecologic cancer and its correlation with radiotherapy outcome in Korean and Japanese populations</p>	<p>JSPS Bilateral Programs Japan-Korea Joint Research Project (NRF) Tomonori Hayashi, Assistant Chief, Department of Radiobiology/Molecular Epidemiology, RERF</p>	<p>Associate Investigators: Waka Ohishi (Department of Clinical Studies), Kei Nakachi (RERF Consultant) Cooperative Investigators: Hu Yiqun, Kim Young Min (Department of Statistics)</p>	<p>1 July 2013– 31 March 2014</p>	<p>¥1,000,000</p>
<p>Establishment of method for exploring molecular pathways involving genome damage response and hematopoietic stem cell function</p>	<p>National Institute of Genetics (Japan) FY2013 Collaborative University/Institutional Use, Research Organization of Information and Systems Collaborative Research (B) Kengo Yoshida, Research Scientist, Immunology Laboratory, Department of Radiobiology/Molecular Epidemiology, RERF</p>	<p>Yoichiro Kusunoki Tomonori Hayashi Munehika Misumi (Department of Statistics)</p>	<p>1 April 2013– 31 March 2014</p>	<p>¥744,000</p>
<p>Department of Epidemiology, Hiroshima Immunohistological epidemiologic study of breast cancer among atomic-bomb survivors</p>	<p>JSPS Grant-in-Aid for Scientific Research Scientific Research (C) Kotaro Ozasa, Chief, Department of Epidemiology, RERF</p>		<p>1 April 2013– 31 March 2014</p>	<p>Direct cost ¥100,000 Indirect cost ¥30,000</p>

FY2013 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>Department of Epidemiology, Hiroshima 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>	Kotaro Ozasa	1 April 2013– 31 March 2014	¥400,000
<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>	Hiromi Sugiyama	1 April 2013– 31 March 2014	¥800,000
<p>Department of Epidemiology, Nagasaki 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>	Midori Soda	1 April 2013– 31 March 2014	¥800,000
<p>Department of Information Technology Construction of the integrated database of an epidemiological analysis for the people living in Semipalatinsk test site area</p>	<p>JSPS Grant-in-Aid for Scientific Research Scientific Research (B) Hiroaki Katayama, Chief, Department of Information Technology, RERF</p>		1 April 2013– 31 March 2014	<p>Direct cost ¥4,100,000 Indirect cost ¥1,230,000 The above amount includes funds allocated to the collaborators at other institutes (Hiroshima University, Kanazawa University, and Shimane University).</p>
<p>Studies of radiation doses and effects for the residents living near the Semipalatinsk nuclear test site and uranium mines in Kazakhstan</p>	<p>JSPS Grant-in-Aid for Scientific Research Scientific Research (B) Masaharu Hoshi, Professor Emeritus, Research Institute for Radiation Biology and Medicine, Hiroshima University</p>	Hiroaki Katayama	1 April 2013– 31 March 2014	<p>Direct cost ¥300,000 Indirect cost ¥90,000</p>

FY2013 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>Department of Information Technology Research on monitoring of cancer incidence/mortality and disseminating cancer information</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>Cooperative Investigator: Hiroaki Katayama</p>	<p>1 April 2013– 31 March 2014</p>	<p>Since this person is a cooperative investigator, research funds were not allocated to him.</p>
<p>Other Office 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 Epi- demiology, 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– 31 January 2014</p>	<p>Direct cost ¥12,224,433 Indirect cost ¥5,342,028</p>
<p>Can radiation increase the risk of cardiovascular diseases? —Evaluation by animal model studies</p>	<p>JSPS Grant-in-Aid for Scientific Research Scientific Research (C) Norio Takahashi, Consultant attached to Associate Chief of Research's Office, RERF</p>	<p>Waka Ohishi (Department of Clinical Studies) Yasuharu Niwa (Department of Radiobiology/Molecular Epi- demiology) Associate Investigator: Hideko Murakami (Department of Radiobiology/Molecular Epi- demiology)</p>	<p>1 April 2013– 31 March 2014</p>	<p>Direct cost ¥1,800,000 Indirect cost ¥540,000</p>
Grand Total				¥264,659,039

FY2013 Collaborative Studies (Without External Funds)

Title of Research	Name of Chief of Research Group	Investigator(s) at RERF	Investigator(s) outside RERF	Initiation Year
Department of Clinical Studies, Hiroshima NHON-SEA (Nippon-Honolulu-Seattle) Study (Prevalence and incidence of dementia)	Yamada M		Kasagi F (Radiation Effects Association) Sasaki H (Yasuda Women's University) 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	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) Akahoshi M (Keiju Hospital)	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) Ozasa K (Department of Epidemiology) Nakachi K (RERF Consultant) Nakashima E (Department of Statistics)	Neriishi K (Yachiyo Hospital) Sharp GB (U.S. National Institute of Allergy and Infectious Diseases) Eguchi H (Saitama Medical University) Izumi S (Oita University) 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
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	Ohishi W	Ueda K Cullings HM (Department of Statistics) Hayashi T (Department of Radiobiology/Molecular Epidemiology) Hida A (Department of Clinical Studies, Nagasaki) Ozasa K (Department of Epidemiology)	Fujiwara S (Hiroshima Atomic Bomb Casualty Council) Tahara E (Hiroshima Cancer Seminar)	2004

FY2013 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>Department of Clinical Studies, Hiroshima 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>	<p>Ohishi W</p>	<p>Takahashi I Cologne JB (Department of Statistics) Hida A (Department of Clinical Studies, Nagasaki)</p>	<p>Fujiwara S (Hiroshima Atomic Bomb Casualty Council)</p>	<p>2005</p>
<p>Glaucoma study in atomic-bomb survivors</p>	<p>Kiuchi Y (Hiroshima University)</p>	<p>Nakashima E (Department of Statistics) Hida A (Department of Clinical Studies, Nagasaki)</p>	<p>Yokoyama T (Hiroshima University) Uematsu M (Nagasaki University) Tsuchi E (Nagasaki University) Kitaoka T (Nagasaki University) Khattree R (Oakland University, USA) Neriishi K (Yachiyo Hospital) Fujiwara S (Hiroshima Atomic Bomb Casualty Council) Akahoshi M (Keiju Hospital)</p>	<p>2005</p>
<p>Inflammation and cancer incidence in atomic-bomb survivors</p>	<p>Tatsukawa Y</p>	<p>Nakashima E (Department of Statistics) Ozasa K (Department of Epidemiology) Soda M (Department of Epidemiology, Nagasaki) Yamada M Cologne JB (Department of Statistics)</p>	<p>Little MP (U.S. National Institutes of Health)</p>	<p>2005</p>
<p>Assessment of statistical methods for intermediate risk factors in noncancer disease and mortality</p>	<p>William L (University of Washington, USA)</p>	<p>Takahashi I Cologne JB (Department of Statistics) Kodama K (Chief Scientist)</p>	<p>Fujiwara S (Hiroshima Atomic Bomb Casualty Council) Akahoshi M (Keiju Hospital) Kopecky KJ (University of Washington, Fred Hutchinson Cancer Research Center, USA) Davis S (University of Washington, Fred Hutchinson Cancer Research Center, USA)</p>	<p>2006</p>
<p>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 and Executive Director)</p>		<p>2008</p>

FY2013 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>Department of Clinical Studies, Hiroshima 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 Hayashi T (Department of Radiobiology/ Molecular Epidemiology) Nakachi K (RERF Consultant)</p>	<p>Neriishi K (Yachiyo Hospital) Blakeley EA (Berkeley National Laboratory, USA) Chang P (SRI International, USA) Akahoshi M (Keiju Hospital) Minamoto A (Minamoto Eye Clinic) Yokoyama T (Hiroshima University) Toda S (Toda Eye Clinic) Uematsu M (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>2008</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) Hida A (Department of Clinical Studies, Nagasaki)</p>	<p>Yanagi M (Hiroshima University) Itakura K (Hiroshima University) Kawasaki R (Yamagata University) 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) Akahoshi M (Keiju Hospital) Neriishi K (Yachiyo Hospital)</p>	<p>2010</p>
<p>Study of body composition of the Hiroshima Adult Health Study population</p>	<p>Tatsukawa Y</p>	<p>Misumi M (Department of Statistics) Ohishi W Yamada M</p>	<p>Fujiwara S (Hiroshima Atomic Bomb Casualty Council) Harris TB (U.S. National Institute on Aging) Kasagi F (Radiation Effects Association)</p>	<p>2010</p>

FY2013 Collaborative Studies (Without External Funds)

Title of Research	Name of Chief of Research Group	Investigator(s) at RERF	Investigator(s) outside RERF	Initiation Year
Department of Clinical Studies, Nagasaki Relationship between Brugada-type electrocardiogram and prostate cancer	Haruta D	Hida A Sera N Imaizumi M Nakashima E (Department of Statistics)	Akahoshi M (Keiju Hospital) Seto S (Nagasaki University)	2007
The association between subclinical thyroid dysfunction and cardiovascular disease and mortality. An individual participant pooled analysis of large international cohort studies	Rodondi N (Inselspital University Hospital, University of Bern, Switzerland)	Imaizumi M	Gusselkoo J (Leiden University Medical Center, the Netherlands)	2008
The association between chronic kidney disease and cardiovascular disease among atomic-bomb survivors	Haruta D	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) Misumi M (Department of Statistics)	Tsuneto A (Nagasaki University) Neriishi K (Yachiyo Hospital) Fujiwara S (Hiroshima Atomic Bomb Casualty Council) Akahoshi M (Keiju Hospital)	2009
Role of visceral fat and its effects in the association between radiation dose and cardiovascular disease	Sera N	Nakashima E (Department of Statistics) Hida A Imaizumi M Cullings HM (Department of Statistics)	Carter RL (The State University of New York University at Buffalo, USA) Akahoshi M (Keiju Hospital)	2011
Study on the genetic background of short QT	Makita N (Nagasaki University)	Haruta D Ohishi W (Department of Clinical Studies, Hiroshima) Hida A	Akahoshi M (Keiju Hospital) Maemura K (Nagasaki University)	2011
Study for the epidemiological and genetic basis of progressive cardiac conduction defect	Makita N (Nagasaki University)	Haruta D Ohishi W (Department of Clinical Studies, Hiroshima) Hida A Nakashima E (Department of Statistics)	Akahoshi M (Keiju Hospital) Maemura K (Nagasaki University)	2012

FY2013 Collaborative Studies (Without External Funds)

Title of Research	Name of Chief of Research Group	Investigator(s) at RERF	Investigator(s) outside RERF	Initiation Year
Department of Clinical Studies, Nagasaki Weight fluctuation and cancer and cardiovascular disease incidence and mortality in Japanese	Nanri A (National Center for Global Health and Medicine)	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) Cullings HM (Department of Statistics) Ohishi W (Department of Clinical Studies, Hiroshima) Hida A	Mizoue T (National Center for Global Health and Medicine) Araki Y (Kurume University) Akahoshi M (Keiju Hospital)	2012
MRI-based study of importance of fatty infiltration of the salivary glands among patients with xerostomia	Takagi Y (Nagasaki University)	Hida A	Nakamura H (Nagasaki University) Sumi M (Nagasaki University) Akahoshi M (Keiju Hospital) Nakamura T (Nagasaki University)	2012
Serum TSH within the reference range and the risk of coronary heart disease	Åsvold BO (Norwegian University of Science and Technology)	Imaizumi M		2012
Serum TSH levels and the risk of stroke—Addendum to “The association between subclinical thyroid dysfunction and cardiovascular disease and mortality: An individual participant pooled analysis of large international cohort studies”	van Dijk B (Erasmus Medical Center, the Netherlands)	Imaizumi M	Chaker L (Erasmus Medical Center, the Netherlands) Peeters RP (Erasmus Medical Center, the Netherlands) Franco O (Erasmus Medical Center, the Netherlands)	2013
Subclinical thyroid dysfunction and adverse bone outcomes—Addendum to “The association between subclinical thyroid dysfunction and cardiovascular disease and mortality: An individual participant pooled analysis of large international cohort studies”	Blum MR (Inselspital University Hospital, University of Bern, Switzerland)	Imaizumi M	da Costa B (Institute of Social and Preventive Medicine, University of Bern, Switzerland) Rodondi N (Inselspital University Hospital, University of Bern, Switzerland)	2013
The association between thyroid status and the progression of renal function over time	den Elzen W (Leiden University Medical Center, the Netherlands)	Imaizumi M Ohishi W (Department of Clinical Studies, Hiroshima)	Meuwese CL (Leiden University Medical Center, the Netherlands) Gussekloo J (Leiden University Medical Center, the Netherlands) Rodondi N (Inselspital University Hospital, University of Bern, Switzerland)	2013

FY2013 Collaborative Studies (Without External Funds)

Title of Research	Name of Chief of Research Group	Investigator(s) at RERF	Investigator(s) outside RERF	Initiation Year
Department of Genetics 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
Biological dosimetry in the residents of Namie-town in Fukushima prefecture	Yoshida M (Hirotsuki University)	Kodama Y		2013
Estimation of genetic risk of radiation on mature oocytes of mice by using next generation sequencer	Shimada Y (National Institute of Radiological Sciences)	Satoh Y		2013

FY2013 Collaborative Studies (Without External Funds)

Title of Research	Name of Chief of Research Group	Investigator(s) at RERF	Investigator(s) outside RERF	Initiation Year
Department of Radiobiology/Molecular Epidemiology Study on gene alterations and expression in sporadic lung carcinogenesis	Sueoka E (Saga University) Aragane N (Saga University)	Nakachi K (RERF Consultant) Hayashi T Yoshida K Imai K (Consultant of the Department)		2002
Survey on frequencies of SNPs of various genes in a Japanese population	Yoshida T (National Cancer Center)	Nakachi K (RERF Consultant) Kusunoki Y Hayashi T Yoshida K Imai K (Consultant of the Department)		2002
Study on genetic susceptibility to stomach cancer	Yasui W (Hiroshima University)	Hayashi T Nakachi K (RERF Consultant) Ito R Imai K (Consultant of the Department)		2002
Study on the role of hypoxia-responsive gene, <i>HIF1α</i> in radiation effects on cells	Tanimoto K (Hiroshima University)	Nakachi K (RERF Consultant) Imai K (Consultant of the Department)	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	Arihiro 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)		2001
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)	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)	Kaniya K (Research Institute for Radiation Biology and Medicine, Hiroshima University)	2004
Molecular biological study on the genesis and development of sporadic breast cancer	Hayashi S (Tohoku University)	Nakachi K (RERF Consultant) Imai K (Consultant of the Department) Hayashi T	Eguchi H (Saitama Medical University)	2002

FY2013 Collaborative Studies (Without External Funds)

Title of Research	Name of Chief of Research Group	Investigator(s) at RERF	Investigator(s) outside RERF	Initiation Year
Department of Radiobiology/Molecular Epidemiology Study on the role of cell-to-cell communication in apoptosis of cancer cells	Hayashi T		Ogawa T (Hiroshima Prefectural Hospital)	2005
Study on the radiation effects on immunological aging and intracellular reactive oxygen species	Hayashi T	Hu Yiqun	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)	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)		2006
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)		2004
Development of new statistical models for RERF case-studies	Izumi S (Oita University)	Nakachi K (RERF Consultant) 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 (Consultant of the Department) Hayashi T Nakachi K (RERF Consultant)		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

FY2013 Collaborative Studies (Without External Funds)

Title of Research	Name of Chief of Research Group	Investigator(s) at RERF	Investigator(s) outside RERF	Initiation Year
Department of Radiobiology/Molecular Epidemiology 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) Imai K (Consultant of the Department)		1996
Stem cell biology with special reference to radiation and drug effects	Hayashi T	Nakachi K (RERF Consultant)	Hayashi I (Hiroshima University)	2002
Molecular analysis of thyroid tumors	Taketchi N (Takeichi Clinic)	Hamatani K Nakachi K (RERF Consultant) 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 Associate Chief of Research'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 Associate Chief of Research'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 Associate Chief of Research's Office) Murakami H Niwa Y Kusunoki Y	Ogiso Y (Institute for Environmental Sciences) Tanaka S (Institute for Environmental Sciences)	2011
Establishment of method for exploring molecular pathways involving genome damage response and hematopoietic stem cell function	Yoshida K	Kyoizumi S Hayashi T Kajimura J Misumi M (Department of Statistics) Nakachi K (RERF Consultant) Kusunoki Y	Matsui H (Hiroshima University) Kanai A (Hiroshima University) Inaba T (Hiroshima University) Ikeo K (National Institute of Genetics) Gojobori T (National Institute of Genetics)	2013

FY2013 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>Department of Epidemiology, Hiroshima 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 Hida A (Department of Clinical Studies, Nagasaki) Yamada M (Department of Clinical Studies) Katayama H (Department of Information Technology)</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)</p>	2007
<p>Esophageal and gastric cancers: Patterns and predictors of risk in Hiroshima and Nagasaki, Japan</p>	<p>Kennedy BS (Monroe County Department of Public Health in Rochester, NY, USA)</p>	<p>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)</p>	<p>Mabuchi K (U.S. National Cancer Institute) Chow WH (U.S. National Cancer Institute) Kasagi F (Radiation Effects Association) Suyama A (Tomimaga Hospital) Nishi N (National Institute of Health and Nutrition)</p>	2008
<p>Second collaborative analysis of radiation-associated thyroid cancers</p>	<p>Veiga L (U.S. National Cancer Institute) Lubin J (U.S. National Cancer Institute)</p>	<p>Sakata R Shore RE (Vice Chairman and Executive Director)</p>		2008
<p>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</p>	<p>Potter J (Fred Hutchinson Cancer Research Center, USA) Kang D (Seoul National University College of Medicine, Korea)</p>	<p>Grant EJ Ozasa K Ohishi W (Department of Clinical Studies) Hida A (Department of Clinical Studies, Nagasaki) Shore RE (Vice Chairman and Executive Director)</p>		2010

FY2013 Collaborative Studies (Without External Funds)

Title of Research	Name of Chief of Research Group	Investigator(s) at RERF	Investigator(s) outside RERF	Initiation Year
Department of Epidemiology, Hiroshima 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) Hida A (Department of Clinical Studies, Nagasaki)		2012
A proposal to join the biliary tract cancers pooling project	Koshiol J (U.S. National Cancer Institute)	Grant EJ Ozasa K Ohishi W (Department of Clinical Studies) Hida A (Department of Clinical Studies, Nagasaki)		2013
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
Department of Epidemiology, Nagasaki 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

FY2013 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>Department of Statistics Joint analysis of chromosomal aberrations, early effects of radiation, and late effects of radiation in the atomic-bomb survivors' data</p>	Stram D (University of Southern California, USA)	Cologne JB Cullings HM Furukawa K Misumi M		2007
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)	Cullings HM		2007
Mechanistic modeling of cancer risk	Kaiser JC (National Research Center for Environment and Health, Germany)	Cullings HM		2008
Simulation methods for evaluating the impact of dose uncertainty on risk regression	Pierce D (Oregon Health Sciences University, USA)	Cullings HM		2008
Comparison of liver cancer risks between Thorotrast-admitted patients and atomic-bomb survivors in Japan	Mori T (National Institute of Radiological Sciences)	Cullings HM Cologne JB Shimizu Y (Part-time Professional, Department of Epidemiology)		2005
Bio-dosimeters as instrumental variables for assessing and dealing with uncertainty in atomic-bomb survivor dose estimates: Preliminary evaluation in the AHS sub-cohort	Carter R (The State University of New York University at Buffalo, USA)	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)	Miller A (The State University of New York University at Buffalo, USA) Tekwe C (The State University of New York University at Buffalo, USA) Neriishi K (Yachiyo Hospital) Stram D (University of Southern California, USA)	2007

FY2013 Collaborative Studies (Without External Funds)

Title of Research	Name of Chief of Research Group	Investigator(s) at RERF	Investigator(s) outside RERF	Initiation Year
Department of Statistics Risk assessment of cancer incidence in persons exposed <i>in utero</i> or as young children	Preston DL (Hirosoft International Corporation, USA)	Cullings HM Kodama K (Chief Scientist) Soda M (Department of Epidemiology, Nagasaki) Shore RE (Vice Chairman and Executive Director)	Suyama A (Tomimaga 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)	Cullings HM Furukawa K Soda M (Department of Epidemiology, Nagasaki) Sakata R (Department of Epidemiology)	Nishi N (National Institute of Health and Nutrition) Suyama A (Tomimaga Hospital) Kasagi F (Radiation Effects Association) Molitor J (University of Southern California, USA)	2007
Functional methods for radiation exposure and biomarker data	Wang CY (Fred Hutchinson Cancer Research Center, USA)	Cullings HM		2007
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
Cancer mortality following radioiodine treatment for adult hyperthyroidism in the U.S.	Mabuchi K (U.S. National Cancer Institute)	Furukawa K		2009

FY2013 Collaborative Studies (Without External Funds)

Title of Research	Name of Chief of Research Group	Investigator(s) at RERF	Investigator(s) outside RERF	Initiation Year
Department of Statistics Interaction effects of radiation and smoking on lung cancer risks among atomic-bomb survivors	Preston DL (Hirosoft International Corporation, USA)	Furukawa K Funamoto S	Mabuchi K (U.S. National Cancer Institute) Egawa H (Hiroshima City Asa Hospital) Yonehara S (JA 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)	Sakata R (Department of Epidemiology) Furukawa K Funamoto S	Preston DL (Hirosoft International Corporation, USA) Hayashi Y (Geriatric Health Services Facility "Hidamari") Tsuda N (Nagasaki Health Promotion Corporation)	2009
A semi-parametric survival extrapolation method: Model validation using RERF cohort	Fang CT (Taiwan University)	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 (Tomimaga Hospital)	2009
Application of casual modeling on radiation, inflammation, and cataract surgery among the AHS population	Kakuma T (Kurume University) Hsu WL	Nakashima E	Araki Y (Kurume University) Neriishi K (Yachiyo Hospital)	2009
Cohort study on weight fluctuation and cancer and cardiovascular disease incidence and mortality	Nanri A (Research Institute, International Medical Center of Japan) Mizoue T (Research Institute, International Medical Center of Japan)	Soda M (Department of Epidemiology, Nagasaki) Cologne JB	Akahoshi M (Keiju Hospital) Araki Y (Kurume University)	2009
Methods for assessing joint effects of radiation and intermediate risk factors in nested case-control studies	Cologne JB	Furukawa K Grant EJ (Department of Epidemiology) Ohishi W (Department of Clinical Studies) Nakachi K (RERF Consultant) Cullings HM	Langholz B (University of Southern California, USA) Fujii 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

FY2013 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>Department of Statistics Cancer risk estimation after acute radiation exposure: Impacts of the neutron dose and non-parametric analysis of risk coefficients</p>	Cullings HM		<p>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)</p>	2008
<p>Cancer risk estimation after acute radiation exposure: Impacts of radiobiological effects on the risk estimate</p>	Cullings HM		<p>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)</p>	2008
<p>Department of Information Technology Collaborative studies for the construction of databases and development of dictionary system for human genome analyses</p>	Slezak T (Lawrence Livermore National Laboratory, USA)			1996
<p>Technical cooperation for the construction of comprehensive cancer registration system in Osaka Prefecture</p>	Tsukuma H (Osaka Medical Center for Cancer and Cardiovascular Diseases)			2005

International Collaborative Activities

Participation in International Collaborative Activities by RERF Directors and Staff Members

1. Collaborative activities to provide A-bomb survivors in North America with health examinations

This biennial project was commenced in 1977, incorporated into the national government's overseas A-bomb survivor support project in FY2007, and entrusted from the national government to Hiroshima Prefecture, which further entrusted the project to the Hiroshima Prefectural Medical Association. In the 19th cycle of this project in FY2013, the first medical team visited Los Angeles and Honolulu during the period June 26–July 8, 2013, and the second team San Francisco and Seattle, July 17–31, 2013. Dr. Yoshimi Tatsukawa, Associate Senior Scientist, Department of Clinical Studies in Hiroshima, participated in the first team.

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

This semi-annual 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. Daisuke Haruta, Research Scientist, Department of Clinical Studies in Nagasaki, participated in the 20th cycle of this project to conduct health examinations and counseling in Gwangju and Daejeon, South Korea, November 10–13, 2013.

3. 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. Kazunori Kodama, Chief Scientist, and Dr. Hiroaki Katayama, Chief, Information Technology Department (ITD), visited WHO headquarters in Vienna, Austria, March 24, 2014, to exchange opinions regarding radiation emergency medicine (REM).

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

Dr. Roy E. Shore, Vice Chairman, made a presentation on cancer risk following childhood radiation exposure at the 60th meeting of UNSCEAR in Vienna, Austria, May 27–30, 2013. Dr. Kazunori Kodama, Chief Scientist, and Dr. Kotaro Ozasa, Chief, Department of Epidemiology, also attended the meeting.

Furthermore, Dr. K. Kodama attended an UNSCEAR Fukushima assessment draft committee meeting during his stay in Vienna and another meeting of an UNSCEAR domestic response committee, held in Tokyo, March 28, 2014.

5. International Commission on Radiological Protection (ICRP)-related activities

Dr. Shore, Vice Chairman, made a presentation on epidemiologic studies of low-dose or low dose-rate radiation exposures at an ICRP task group on dose and dose-rate effectiveness factor (DDREF) assessment in Munich, Germany, December 10–11, 2013.

6. International Atomic Energy Agency (IAEA)-related activities

Dr. K. Kodama, Chief Scientist, and Dr. Katayama, Chief, ITD, visited IAEA headquarters, located in Geneva, Switzerland, March 19–21, 2014, to discuss collaboration between RERF and IAEA.

7. IAEA and Hiroshima International Council for the Radiation-exposed (HICARE) collaboration-related activities

Dr. Yoshiaki Kodama, Chief, Department of Genetics, and Dr. Ozasa, Chief, Department of Epidemiology, participated in and gave a lecture on HICARE for the IAEA collaborative project "Training Meeting on Biodosimetry in the 21st Century," held in Hiroshima, June 10–14, 2013. As part of this collaborative project, Dr. K. Kodama, Chief Scientist, attended and gave a lecture at a workshop on radiation emergency, held in Hiroshima, October 28–November 1, 2013. Furthermore, Dr. Y. Kodama and Dr. Asao Noda, Assistant Chief, Department of Genetics, participated in and gave a lecture on HICARE for the IAEA collaborative project "International Workshop on Medical Response to Radiation Accidents and Disasters," held in Hiroshima, October 29, 2013.

8. International Agency for Research on Cancer-related activities

Dr. Katayama, Chief, ITD, participated as an external advisor in a meeting on the SEMI-NUC project (hosted by the International Agency for Research on Cancer to assess the feasibility of establishing a united cohort of residents around the Semipalatinsk site) in Lyon, France, and then made a courtesy visit to the London School of Hygiene in London, U.K.

9. Semipalatinsk (Kazakhstan)-related activities

With regard to risk analysis relating to thyroid dysfunction due to low-dose radiation exposure in Semipalatinsk, Dr. Katayama, Chief, ITD, held a preparatory meeting with Dr. Bernd Grosche at the Federal Office for Radiation Protection in Munich, Germany, July 8–10, 2013. Dr. Katayama also visited the Kazakhstan Scientific Research Institute of Radiation Medicine and Ecology in Semipalatinsk, September 16–19, 2013, to hold a preparatory meeting for this analysis.

10. Other international collaborative activities

(1) Dr. Shore, Vice Chairman, participated in a meeting with investigators from numerous American and European institutions pertaining to the modification of radiation effects on breast cancer risk by genetic and environmental factors, focused on the WECARE study of breast cancers after radiotherapy, in New York,

U.S.A., May 21–22, 2013.

- (2) Dr. Midori Soda, Adjunct Specialist, Department of Epidemiology in Nagasaki, visited Philippine General Hospital in Manila, December 11–15, 2013, and had scientific meetings with the representatives from the Philippine Cancer Society at the request of the Graduate School of International Health Development, Nagasaki University. Dr. Soda also visited St. Luke's Hospital to learn about the hospital-based cancer registries.
- (3) Dr. Shore, Vice Chairman, made a presentation on RERF findings regarding radiation exposure and thyroid disease risks at the International Workshop on Radiation and Thyroid Cancer, in Tokyo, February 21–23, 2014.

Acceptance of Visitors from Overseas for Briefing and Training

(Total in FY2013: 90 persons, excluding general visitors)

Hiroshima: 84 persons

Visitors related to Hiroshima International Council for Health Care of the Radiation-exposed (HICARE) (13 persons)

1) *South Korea-related (8 persons)*

A group of two trainees from South Korea attended training on medical care for the radiation-exposed in South Korea, July 11, 2013. A group of six trainees from South Korea attended a training program on medical care for A-bomb survivors residing in South Korea, November 28, 2013.

2) *Others (5 persons)*

One trainee from Latvia visited RERF, January 14–February 14, 2014. Four trainees from Brazil, U.S., and Algeria arrived for training, February 21, 2014.

Visitors related to Japan International Cooperation Agency (JICA) (8 persons)

Japan Anti-Tuberculosis Association (8 persons)

Eight trainees from Afghanistan, Bangladesh, Cambodia, Kenya, Myanmar, and the Philippines visited RERF for the “Group Training Course in Tuberculosis Laboratory Management for Achievement of MDGs Targets, FY2013,” November 6, 2013.

Visitors related to RERF (MHLW International Exchange Research Program) (2 persons)

One trainee, Riga Stradins University, from Latvia visited RERF, January 14–February 14, 2014. One trainee, National Cancer Center, from South Korea visited RERF, February 3–28, 2014.

Visitors related to Japan Atomic Energy Agency (JAEA) (48 persons)

- 1) 28 trainees from Bangladesh, Cambodia, Indonesia, Jordan, Laos, Lithuania, Malaysia, Mongolia, Singapore, Thailand, Turkish, Ukraine, and Vietnam visited RERF for JAEA's “Regional Training Course on the Physical Protection of Nuclear Material and Facilities,” July 26, 2013.

- 2) 20 trainees from Australia, Bangladesh, Cambodia, Indonesia, Jordan, Malaysia, Moldova, Myanmar, Nepal, Thailand, Republic of Turkey, UAE, Ukraine, Uzbekistan, Vietnam, and Australia visited RERF for JAEA's “International Training Course on State Systems of Accounting for and Control of Nuclear Material,” November 29, 2013.

Visitors related to Ministry of Education, Culture, Sports, Science and Technology (MEXT) (10 persons)

Ten participants in a young leaders program for FY2013–2014, Nagoya University Graduate School of Medicine, from Mongolia, Laos, Kyrgyz, Bangladesh, and Afghanistan visited RERF, January 17, 2014.

Visitors related to meeting for collaboration between RERF and Kuakini Medical Center (Ni-Hon-San [Nippon-Honolulu-San Francisco] Study) (3 persons)

Dr. Gary K. Kajiwara, President and CEO, Dr. Ellen T. Knight, Special Project Consultant, and Dr. Nobuyuki Miki, Vice President, Kuakini Medical Center, visited RERF, November 12, 2013, to hold a meeting regarding collaborative Ni-Hon-San research on the circulatory system.

Nagasaki: 6 persons

Visitors related to Nagasaki Association for Hibakushas' Medical Care (NASHIM) (6 persons)

Six trainees from Russia, Ukraine, Belarus, and Kazakhstan visited the RERF Nagasaki Laboratory to participate in NASHIM's FY2013 training program, July 23, 2013.

List of Long-term Trainees (1 month or more)

October 24, 2013–October 23, 2014

Caitlin M. Milder, master's student, Johns Hopkins University Bloomberg School of Public Health, U.S.A.

Furthered working knowledge of epidemiology, Stata Data and Statistical Analysis Software, Microsoft Excel, and the Japanese language within the field of radiation epidemiology, and gained insights into radiation biology and epidemiology, Epicure, and the history of RERF, under supervision provided by the Department of Epidemiology. In addition, as a member of the Facebook Development Team, advised RERF on radiation risk communication through social media.

January 14–February 14, 2014

Tatjana Bogdanova, resident pathologist, Department of Pathology, Riga Stradins University Hospital, Latvia
Svetlana Lakisa, researcher, Institute of Occupational Safety and Environmental Health, Riga Stradins University, Latvia

Drs. Bogdanova and Lakisa underwent training to study effects of radiation exposure on immune function, including methods for separation of monocytes from whole blood

samples and for measurement of reactive oxygen species (ROS) in immune cells, at the Immunology Laboratory, Department of Radiobiology/Molecular Epidemiology. At the Cell Biology Laboratory of the department, the two trainees also learned methods for the study of radiation-related cancer, including techniques for cell collection from cancer tissues by means of microdissection and for DNA mutation analysis. Furthermore, they underwent training in multicolor fluorescence *in situ* hybridization (FISH) at the Cytogenetics Laboratory, Department of Genetics.