

**1) Published and in-press reports (2020 - Current):**

**<2022 - Current>**

Cologne J, Sugiyama H, Hamasaki K, Tatsukawa Y, French B, Sakata R, Misumi M. Chromosome aberrations among atomic-bomb survivors exposed in utero: Updated analysis accounting for revised radiation doses and smoking. *Radiat Environ Biophys*, 2022; 61(1): 59-72.

Farne KK, Tsuruyama T. Epidermal growth factor receptor cascade prioritizes the maximization of signal transduction. *Sci Rep*, 2022; 12(1):16950.

Fukunaga Y, Fukuda A, Omatsu M, Namikawa M, Sono M, Masuda T, Araki O, Nagao M, Yoshikawa T, Ogawa S, Hiramatsu Y, Muta Y, Tsuda M, Maruno T, Nakanishi Y, Ferrer J, Tsuruyama T, Masui T, Hatano E, Seno H. Loss of Arid1a and Pten in pancreatic ductal cells induces intraductal tubulopapillary neoplasm via the YAP/TAZ pathway. *Gastroenterol*, 2022; 163(2):466-80.

Gon Y, Kandou T, Tsuruyama T, Iwasaki T, Kitagori K, Murakami K, Nakashima R, Akizuki S, Morinobu A, Hikida M, Mimori T, Yoshifuji H. Increased number of T cells and exacerbated inflammatory pathophysiology in a human IgG4 knock-in MRL/lpr mouse model. *PLoS One*, 2023; 18(2): e0279389. doi: 10.1371.

Hamasaki K, Matsumoto T, Cologne JB, Mukai M, Kodama Y, Noda A, Nakamura N. Translocations are induced in hematopoietic stem cells after irradiation of fetal mice. *J Radiat Res*, 2023; 64(1):99-104.

Hiratsuka T, Yamamoto T, Yoshizawa A, Toyokuni S, Tsuruyama T. RhoA and vigilin are candidates for immunohistochemical markers for epithelioid malignant mesothelioma. *Sci Rep*, 2022; 12(1):18519.

Mizutani T, Ano T, Yoshioka Y, Mizuta S, Takemoto K, Ouchi Y, Morita D, Kitano S, Miyachi H, Tsuruyama T, Fujiwara N, Sugita M. Neutrophil S100A9 supports M2 macrophage niche formation in granulomas. *i Science*, 2023; 26(3):106081.

Nagao M, Fukuda A, Omatsu M, Namikawa M, Sono M, Fukunaga Y, Masuda T, Araki O, Yoshikawa T, Ogawa S, Masuo K, Goto N, Hiramatsu Y, Muta Y, Tsuda M, Maruno T, Nakanishi Y, Taketo MM, Ferrer J, Tsuruyama T, Nakanuma Y, Taura K, Uemoto S, Seno H. Concurrent activation of Kras and canonical Wnt signaling induces premalignant lesions that progress to extrahepatic biliary cancer in mice. *Cancer Res*, 2022; 82(9):1803-17.

Nakamura N. Radiation-induced increases in cancer mortality result from an earlier onset of the disease in mice and atomic bomb survivors. *Int J Radiat Biol*, [Epub]:1-18.

Nakamura N. Mechanisms of radiation carcinogenesis: What is really induced? *Radiat Prot Dosimetry*, 2022; 198(13-15):1090-7.

Pugh JL, Coplen CP, Sukhina AS, Uhrlaub JL, Padilla-Torres J, Hayashi T, Nikolich-Žugich J.

Lifelong cytomegalovirus and early-LIFE irradiation synergistically potentiate age-related defects in response to vaccination and infection. *Aging Cell*, 2022; 21(7):e13648.

Shirakashi R, Kozlakidis Z, Yadav BK, Ng W, Fachiroh J, Vu H, Tsuruyama T, Furuta K. Decarbonization in biobanking: A potential new scientific area. *Biopreserv Biobank*, 2022; 20(5):446-50.

Sposto R, Cordova KA, Hamasaki K, Nakamura N, Noda A, Kodama Y. The association of radiation exposure with stable chromosome aberrations in atomic bomb survivors based on DS02R1 dosimetry and FISH methods. *Radiat Res*, 2023; 199 (2):170-81.

Takase Y, Shirakashi M, Nishida Y, Katsushima M, Onizawa H, Hiwa R, Tsuji H, Kitagori K, Akizuki S, Onishi A, Nakashima R, Murakami K, Yoshifuji H, Tanaka M, Tsuruyama T, Morinobu A, Hashimoto M. Enteric Toll-like receptor 7 stimulation causes acute exacerbation in lupus-susceptible mice. *Clin Rheumatol*, 2022; [Epub]:1-10.

Toda R, Seo S, Uemoto Y, Morino K, Nishino H, Nakamura N, Okuno M, Iguchi K, Sato M, Nakamura K, Taura K, Nakagawa S, Nakagawa T, Tsuruyama T, Manabe T, Kawaguchi H, Iwaisako K, Ikegawa M, Uemoto S, Hatano E. Clinically relevant model of oxaliplatin-induced sinusoidal obstruction syndrome. *Hepatol Res*, 2023; 53(2):145-59.

Tsuruyama T. Kullback-Leibler divergence of an open-queuing network of a cell-signal-transduction cascade. *Entropy*, 2023; 25(2):326.

Tsuruyama T. Critical factors of infection wavy curve oscillation of COVID-19 and future predictions in Japan. *J Infect Dis Ther*, 2023; 11(1):526.

Tsuruyama T. Nonlinear model of infection wavy oscillation of COVID-19 in Japan based on diffusion kinetics. *Sci Rep*, 2022; 12:19177.

Uchimura A, Matsumoto H, Satoh Y, Minakuchi Y, Wakayama S, Wakayama T, Higuchi M, Hashimoto M, Fukumura R, Toyoda A, Gondo Y, Yagi T. Early embryonic mutations reveal dynamics of somatic and germ cell lineages in mice. *Genome Res*, 2022; 32(5):945-55

Uemoto Y, Taura K, Nakamura D, Xuefeng L, Nam NH, Kimura Y, Yoshino K, Fuji H, Yoh T, Nishio T, Yamamoto G, Koyama Y, Seo S, Tsuruyama T, Iwaisako K, Uemoto S, Tabata Y, Hatano E. Bile duct regeneration with an artificial bile duct made of gelatin hydrogel nonwoven fabrics. *Tissue Eng Part A*, 2022; 28(17-18):737-48.

Yadav BK, Ng W, Vu H, Fachiroh J, Tsuruyama T, Zhou L, Henderson MK, Gokhale S, Furuta K. Improving public trust in biobanking: Roundtable discussions from the 2021 ISBER annual meeting. *Biopreserv Biobank*, 2022; [Epub]:1-5.

Yoshida K, Satoh Y, Uchimura A, Misumi M, Kyoizumi S, Taga M, Matsuda Y, Noda A, Kusunoki Y. Massive expansion of multiple clones in the mouse hematopoietic system long after whole-body X-irradiation. *Sci Rep*, 2022; 12(1):17276.

Yoshinaga M, Han K, Morgens DW, Horii T, Kobayashi R, Tsuruyama T, Hia F, Yasukura S, Kajiya A, Cai T, Cruz PHC, Vandenbon A, Suzuki Y, Kawahara Y, Hatada I, Bassik MC, Takeuchi O. The N6-methyladenosine methyltransferase METTL16 enables erythropoiesis through safeguarding genome integrity. *Nat Commun*, 2022; 13(1):6435.

Nakamura N. Cancer 1 (Risk, Animal experiments, Epidemiology). *JART [J Japan Association of Radiological Technologists]*, 2022; 69(1):96-9. (in Japanese)

Nakamura N. Cancer 2 (Mechanism of radiation inflammation). *JART [J Japan Association of Radiological Technologists]*, 2022; 69(2):61-6. (in Japanese)

Nakamura N. Radiation and heredity: The basics of genetics. *JART [J Japan Association of Radiological Technologists]*, 2022; 69(3):66-70. (in Japanese)

Nakamura N. Radiation and heredity: Effects of radiation. *JART [J Japan Association of Radiological Technologists]*, 2022; 69(4):86-90. (in Japanese)

Nakamura N. Abnormalities at birth as genetic effects caused by A-bomb radiation. *JART [J Japan Association of Radiological Technologists]*, 2022; 69(11):52-8. (in Japanese)

Nakamura N. Radiation-induced mutation and cancer. *Radiation Effects Association News*, 2022; (110):7-12. (in Japanese)

Nakamura N, Yoshida N, Suwa T. Why mouse resting oocytes are resistant to radiation mutagenesis. *Hoshasen Seibutsu Kenkyu [Radiat Biol Res Commun]*, 2022; 57(2):152-63. (in Japanese)

Noda A, Nakamura N. Analysis of in vivo, in situ occurring mutations with genetically modified mice. *Hoshasen Seibutsu Kenkyu [Radiat Biol Res Commun]*, 2022; 57(3):192-201. (in Japanese)

Noda A. RERF future genome studies on atomic bomb survivors and their children. *Hiroshima Igaku [J Hiroshima Med assoc]*, 2022; 75(4):173-7. (in Japanese)

Uchimura A. Radiation and genetics, exposure and health. --Keisyo to tayosei no minamoto [Origin of inheritance and diversity] *Idengaku no hyakkajiten [Encyclopedia of genetics]*, 2022; 16-7. (in Japanese)

**<In press>**

Spoto R, Sugiyama H, Tsuruyama T, Brenner AV. Effect of radiation exposure on survival after first solid cancer diagnosis in A-bomb survivors. *Cancer Epidemiol*, 2023.

**<Submitted>**

Farne KK, Tsuruyama T. Signal transduction rate conservation in EGFR signaling based on information thermodynamics.

Hiratsuka T, Tsuruyama T. Management accounting for the sustainability of biobanks: sample

storage and distribution.

Hiratsuka T, Miyagi Y, Tsuruyama T. Proteome analysis using FFPE tissue reveals unique phenotypes of CD5-positive diffuse large B-cell lymphoma.

Hiratsuka T, Ito S, Yamamoto T, Yoshizawa A, Toyokuni S, Tsuruyama T. FFPE proteomics and RhoA and Vigilin immunohistochemistry of malignant mesothelioma.

Matsuda-Y, Uchimura A, Satoh-Y, Kato N, Toshishige M, Kajimura J, Hamasaki-K, Yoshida-K, Noda-A, Tanabe O. Spectra and characteristics of somatic mutations induced by ionizing radiation in hematopoietic stem cells.

Mika J, Yoshida K, Kusunoki Y, Candéias SM, Polanska J. Sex-specific aspects of human peripheral T-cell repertoire aging.

Nagao M, Mizukoshi K, Nakayama S, Namikawa M, Hiramatsu Y, Maruno T, Nakanishi Y, Tsuruyama T, Fukuda A, Seno H. p53 protects against formation of extrahepatic biliary precancerous lesions in the context of oncogenic Kras.

Nakamura N, Yoshida N, Suwa T. Three major reasons why transgenerational effects of radiation are difficult to detect in humans.

Namikawa M, Fukuda A, Tsuruyama T. Simultaneous activation of Kras and Notch pathways induces biliary cancer via mTORC1 pathway.

Nishida Y, Tsuruyama T. Pathogenicity of IgG desialylation in an animal model of systemic lupus erythematosus.

Noda A, Muramoto K, Mishima S. ATM-dependent phosphorylation of CHD7 regulates morphogenesis-coupled DSB stress response in fetal radiation exposure.

Sasatani M, Xi Y, Kajimura J, Piao J, Masuda Y, Honda H, Karamfilova Zaharieva EK, Hamasaki K, Kusunoki Y, Shimura T, Shizuko Kakinuma S, Shimada Y, Sotomaru Y, Kamiya K. Rev1 overexpression increases the incidence and shortens the latency period of N-methyl-N-nitrosourea (MNU)-induced thymic lymphoma via acceleration of mutagenesis.

Tsuruyama T. Fluctuation theorem in signal transduction systems by biochemical chain-reaction sequence.

Tsuruyama T. Capacity of cell signal transduction cascades.

Tsuruyama T. Open queuing network model of cell signal transduction cascade.

Tsuruyama T, Hiratsuka T, Suzuki M, Sato K. Trustee-beneficiary relation between biobank and donor.

Tsuruyama T. Signal transduction cascade model to predict the entropy production rate based

on stochastic thermodynamics.

Tsuruyama T. RNA transcription system converts the template DNA genetic information into RNA polymerase translocation work.

Nakamura N. Series 10: Variations in somatic cell radiosensitivity among individuals. *JART [J Japan Association of Radiological Technologists]* (in Japanese)

Tsuruyama T. Biobank history and future. *Yo-do sha* (in Japanese)

<2021>

Hayashi T, Furukawa K, Morishita Y, Hayashi I, Kato N, Yoshida K, Kusunoki Y, Kyoizumi S, Ohishi W. Intracellular reactive oxygen species level in blood cells of atomic bomb survivors is increased due to aging and radiation exposure. *Free Radical Biol Med*, 2021; 171:126-34.

Nakamura N. Re-examining the role of tissue inflammation in radiation carcinogenesis: A hypothesis to explain an earlier onset of cancer. *Int J Radiat Biol*, 2021; 97(10):1341-51.

Noda A, Kato K, Tamura C, Biesecker LG, Imaizumi M, Inoue Y, Henderson GE, Wilfond B, Muto K, Naito M, Kayukawa J. Ethical, legal and social implications of human genome studies in radiation research: a workshop report for studies on atomic bomb survivors at the Radiation Effects Research Foundation. *J Radiat Res (Tokyo)*, 2021; 62(4):656-61.

Yeager M, Machiela MJ, Kothiyal P, Dean M, Bodelon C, Suman S, Wang M, Mirabello L, Nelson CW, Zhou W, Palmer C, Ballew B, Colli L, Freedman ND, Dagnall C, Hutchinson A, Vij V, Maruvka Y, Hatch M, Illienko I, Belayev Y, Nakamura N, Chumak V, Bakhanova E, Belyi D, Kryuchkov V, Golovanov I, Gudzenko N, Cahoon EK, Albert P, Drozdovitch V, Little MP, Mabuchi K, Stewart C, Getz G, Bazyka D, Berrington A, Chanock SJ. Lack of transgenerational effects of ionizing radiation exposure from the Chernobyl accident. *Science*, 2021; 372(6543):725-29.

Yoshida K, Misumi M, Kusunoki Y, Yamada M. Longitudinal changes in red blood cell distribution width decades after radiation exposure in atomic-bomb survivors. *Br J Haematol*, 2021; 193(2):406-9.

Nakamura N. Bridging radiation epidemiology and radiation biology. *Hoshasen Seibutsu Kenkyu [Radiat Biol Res Commun]*, 2021; 56(1):86-102. (in Japanese)

Nakamura N. Chernobyl accident and genome study: A brief review. *JART [J Japan Association of Radiological Technologists]*, 2021; 68(827):47-9. (in Japanese)

Nakamura N. Radiation-induced DNA damage, repair and chromosome aberration. *JART [J Japan Association Radiological Technologists]*, 2021; 68(827):50-2. (in Japanese)

Nakamura N. Radiation-induced cell death and mutagenesis. *JART [J Japan Association of*

*Radiological Technologists*], 2021; 68(828):66-8. (in Japanese)

Nakamura N. Cancer 1 (Risk, Animal experiments, Epidemiology). *JART [J Japan Association of Radiological Technologists]*, 2022; 69(831):96-9. (in Japanese)

Satoh Y, Uchimura A. Analysis of transgenerational effects of radiation exposure using whole genome sequencing. *Isotope News [Japan Radioisotope Association]*, 2021;773:44-6. (in Japanese)

**<2020>**

Applegate KE, Ruhm W, Wojcik A, et al. (RERF: Brenner AV, Hamasaki K, Imaizumi M, Ozasa K, Sadakane A, Sakata R, Yoshida K) Individual response of humans to ionizing radiation: Governing factors and importance for radiological protection *Radiat Environ Biophys*, 2020; 59(2):185-209.

Aziz F, Hisatsune J, Yu L, Kajimura J, Sato'o Y, Ono HK, Masuda K, Yamaoka M, Salasia SIO, Nakane A, Ohge H, Kusunoki Y, Sugai M. *Staphylococcus aureus* isolated from skin from atopic-dermatitis patients produces staphylococcal enterotoxin Y, which predominantly induces T-cell receptor V $\alpha$ -specific expansion of T cells. *Infect Immun*, 2020; 88(2):e00360-19

Nakamura N. A hypothesis: Radiation carcinogenesis may result from tissue injuries and subsequent recovery processes which can act as tumor promoters and lead to an earlier onset of cancer. *Br J Radiol*, 2020; 93(1115):20190843

Satoh Y, Asakawa J, Nishimura M, Kuo T, Shinkai N, Cullings HM, Minakuchi Y, Sese J, Toyoda A, Shimada Y, Nakamura N, Uchimura A. Characteristics of induced mutations in offspring derived from irradiated mouse spermatogonia and mature oocytes. *Sci Rep*, 2020; 10(1):37

Takahashi N, Misumi M, Niwa Y, Murakami H, Ohishi W, Inaba T, Nagamachi A, Tanaka S, Tanaka I, Suzuki G. Effects of radiation on blood pressure and body weight in the spontaneously hypertensive rat model. Are radiation effects on blood pressure affected by genetic background? *Radiat Res*, 2020; 193(6):552-9

Takahashi N, Misumi M, Murakami H, Niwa Y, Ohishi W, Inaba T, Nagamachi A, Suzuki G. Association between low doses of ionizing radiation, administered acutely or chronically, and time to onset of stroke in a rat model. *J Radiat Res*, 2020; 61(5):666-73

Ueda K, Ohishi W, Cullings HM, Fujiwara S, Suzuki G, Hayashi T, Mitsui F, Hida A, Ozasa K, Ito M, Chayama K, Tahara E. Modifying effect of chronic atrophic gastritis on radiation risk for noncardia gastric cancer according to histological type. *Radiat Res*, 2020;194(2):180-7

Nakamura N. Questions on the oncogenic mutation theory of radiation carcinogenesis. *Hiroshima Igaku [J Hiroshima Med Assoc]*, 2020; 73(4):211-4 (in Japanese)

Satoh Y, Uchimura A. Analysis of transgenerational genetic effects of radiation exposure using laboratory mice. *Hiroshima Igaku [J Hiroshima Med Assoc]*, 2020; 73(4):228-31 (in Japanese)

**2) Meeting presentations (January 2022 - December 2022):**

Nakamura N, Yoshida N, Suwa T. Why genetic effects of radiation are observed in mice but not in humans? Effects of Ionising Radiation Exposure in Offspring and Next Generations Workshop, 2022, 31 May-2 June 2022, Budapest, Hungary (Online)

Uchimura A. Analysis of de novo germline mutations. Environmental Epigenomics 2022 Symposium (Spring), 18 June 2022 (Online)

Matsumoto R, Nakayama H, Matsumoto T, Fujimoto S, Satoh Y, Wakayama S, Wakayama T, Uchimura A, Yagi T, Sugo N. Loss of DNA polymerase B increases somatic mutations in developing cortical neurons. NEURO2022, 30 June -3 July 2022, Okinawa

Tanabe O, Hayashi T, Imaizumi M, Kajimura J, Matsuda Y. Biorepository of A-bomb survivors and their offspring. HPS 2022, The 67<sup>th</sup> Annual meeting, 17-21 July 2022, Spokane, Washington, USA

Hayashi T, Kato N, Furukawa K, Imaizumi M, Hida A, Ohishi W. Effects of radiation exposure on reactive oxygen species in blood cells of atomic bomb survivors. The 53<sup>rd</sup> Environmental Mutagenesis and Genomics Society Annual Meeting/13<sup>th</sup> International Conference on Environmental Mutagens, 27 August-1 September 2022, Ottawa, Canada

Hamasaki K, Matsumoto T, Cologne JB, Mukai M, Kodama Y, Noda A, Nakamura N. mFISH analysis of hematopoietic stem cells isolated from pregnant mice exposed to X-rays. The 65<sup>th</sup> Annual Meeting of the Japanese Radiation Research Society. 15-17 September 2022, Osaka

Hayashi T, Kato N, Maki M, Morishita Y, Yoshida N, Ohishi W. Preliminary study of the applicability of DNA extracted from blood smears to genomic studies. The 65<sup>th</sup> Annual Meeting of the Japanese Radiation Research Society, 15-17 September 2022, Osaka

Matsuda Y, Uchimura A, Satoh Y, Kato N, Toshishige M, Kajimura J, Kubo Y, Yamaoka M, Hamasaki K, Yoshida K, Noda A, Tanabe O. Frequencies and characteristics of somatic mutations induced by X-irradiation in mouse hematopoietic stem cells. The 65<sup>th</sup> Annual Meeting of the Japanese Radiation Research Society, 15-17 September 2022, Osaka

Satoh Y, Toshishige M, Nishimura M, Minakuchi Y, Higuchi M, Shimada Y, Toyoda A, Yagi T, Uchimura A. Development of mutation detection systems to analyze the transgenerational effects of radiation exposure. The 65<sup>th</sup> Annual Meeting of the Japanese Radiation Research Society, 15-17 September 2022, Osaka

Tanabe O, Hayashi T, Imaizumi M, Kajimura J, Matsuda Y. Biorepository of atomic bomb survivors and their offspring. The 65<sup>th</sup> Annual Meeting of the Japanese Radiation Research Society, 15-17 September 2022, Osaka

Uchimura A, Satoh Y, Noda A. Genome-wide analysis of the hereditary effects of radiation. The 65<sup>th</sup> Annual Meeting of the Japanese Radiation Research Society, 15-17 September 2022, Osaka

Yoshida K, Satoh Y, Uchimura A, Kyoizumi S, Misumi M, Koyama K, Nagamura H, Yamaoka M, Kubo Y, Toshishige M, Taga M, Matsuda Y, Noda A, Kusunoki Y. Somatic deletion mutations characterize clonal hematopoiesis in X-irradiated mice. The 65<sup>th</sup> Annual Meeting of the Japanese Radiation Research Society, 15-17 September 2022, Osaka

Kusunoki Y, Kyoizumi S, Satoh Y, Uchimura A, Misumi M, Taga M, Matsuda Y, Noda A, Yoshida K. Clonal hematopoiesis and blood cell count in mice long after sublethal whole-body X-irradiation. The 84<sup>th</sup> Annual Meeting of the Japanese Society of Hematology, 14-16 October 2022, Fukuoka

Sposto R, Cordova KA, Hamasaki K, Nakamura N, Noda A, Kodama Y, Liu Z. The association of radiation exposure with stable chromosome aberrations in atomic bomb survivors based on DS02R1 dosimetry and FISH methods. The 68<sup>th</sup> Annual Meeting of the Radiation Research Society, 16-19 October 2022, Hawaii, USA

Uchimura A, Satoh Y, Noda A. Analysis of the transgenerational effects of radiation using next-generation sequencers. The 68<sup>th</sup> Annual Meeting of the Radiation Research Society, 16-19 October 2022 Hawaii, USA

Tanabe O, Matsuda Y. Frequencies and characteristics of somatic mutations in hematopoietic stem cells from mice exposed to X-ray radiation. The 51<sup>st</sup> Annual Meeting of the Japanese Environmental Mutagen and Genome Society, 15-16 November 2022, Hiroshima

Uchimura A, Satoh Y. Germline de novo mutations and radiation effects. The 51<sup>st</sup> Annual Meeting of the Japanese Environmental Mutagen and Genome Society, 15-16 November 2022, Hiroshima

Hayashi T, Kato N, Maki M, Morishita Y, Yoshida N, Ohishi W. SNP analysis of blood smear-derived DNA in two different SNP arrays. The 45<sup>th</sup> Annual Meeting of the Molecular Biology Society of Japan, 30 November-2 December 2022, Chiba

Noda A, Muramoto K, Mishima S. Role of CHD7 in radiation-induced fetal malformations. Joint Meeting of the American Society for Cell Biology 2022 & European Molecular Biology Organization 2022, 3-7 December 2022, Washington, DC, USA

Hayashi T, Kato N, Furudo K, Kyoizumi S, Furukawa K, Imaizumi M, Hida A, Ohishi W. Effects of radiation exposure on the relationship between intracellular ROS of blood cells and immune-related cell frequencies in atomic bomb survivors. The 51<sup>st</sup> Annual Meeting of the Japanese Society for Immunology, 7-9 December 2022, Kumamoto



Yoshida K, Misumi M, Ohishi W, Hayashi T, Kusunoki Y. Naive CD4 T cells expressing a high level of CXCR3 increase with age and radiation exposure in atomic-bomb survivors. The 51<sup>st</sup> Annual Meeting of the Japanese Society for Immunology, 7-9 December 2022, Kumamoto