

# **APPENDIX**

## **PUBLICATIONS**

**List of Keywords**

**Author Index**

**Organization and Staff**

## APPENDIX PUBLICATIONS

This list includes publications by the staff members issued during the period from April 1, 2002 to March 31, 2003

### Low Dose Radiation Effects Project

Masami Yamamoto\*, Chie Furihata\*, Toshiaki Ogiu, Tetsuya Tsukamoto\*, Kenichi Inada\*, Kazuyuki Hirano\*, Masae Tatematsu\*: Independent variation in susceptibilities of six different mouse strains to induction of pepsinogen-altered pyloric glands and gastric tumor intestinalization by N-methyl-N-nitrosourea, Cancer Letters, 179, 121-132, 2002

Kazuei Mita, Mitsuoki Morimyo, Kazuhiro Okano\*, Yoshiko Koike\*, Junko Nohata\*, Masataka Suzuki\*, Toru Shimada\*: Construction of an EST database for Bombyx mori and its application, Current Science, 83, 426-431, 2002

Yasushi Ohmachi, et al.: Role of endotoxin in 6-Sulfanilamidoindazole(6SAI)-induced arthritis in rats, Experimental and Toxicologic Pathology, 53(6), 447-452, 2002

Masatake Yamauchi, Mayumi Nishimura, Satsuki Tsuji, Minako Terada, Motoe Sasanuma\*, Yoshiya Shimada: Effect of SCID mutation on the occurrence of mouse Pc-1 (Ms6-hm) germline mutations, Fundamental and Molecular Mechanisms of Mutagenesis : A Section of Mutation Research, 503, 43-49, 2002

Yasushi Ohmachi, et al.: Recovery process of arthritis induced by 6-Sulfanilamidoindazole(6SAI) in rats, Histology and Histopathology, 17(2), 437-444, 2002

Yuri Miura\*, K Abe\*, Shiro Urano\*, Takeshi Furuse, Yuko Noda, Kouichi Tatsumi, Shozo Suzuki\*: Adaptive response and the influence of ageing: effects of low-dose irradiation on cell growth of cultured glial cells, International Journal of Radiation Biology, 78, 913-921, 2002

Hideki Ukai, Maki Ukai-tadenuma\*, Toshiaki Ogiu, Hideo Tsuji: A new technique to prevent self-ligation of DNA., Journal of Biotechnology, 97, 233-242, 2002

Shimada: Spectrum of Zfn1a1(Ikaros) inactivation and its association with loss of heterozygosity in radiogenic T-cell lymphomas in susceptible B6C3F1 mice, Radiation Research, 157, 331-340, 2002

Tatsuhiko Imaoka, Nelson D. Horseman\*, Jason A. Lockefeer\*, Takao Mori\*, Manabu Matsuda\*: Cortactin-Binding Protein 90 (CBP90) Expression in the Mouse Mammary Glands during Prolactin-Induced Lobuloalveolar Development., Zoological Science, 19, 443-448, 2002

## International Space Radiation Laboratory

Jun Sato, Keiji Okada\*, Satoshi Fukuda, Reeko Sato\*, Jun Yasuda\*, Yoshihisa Naito\*: Serum activities of tartarate-resistant acid phosphatase and bone specific alkaline phosphatase as indices of bone metabolism in the cow., 64, 653-655, 2002

Hiroshi Yasuda, Tatsuto Komiyama\*, Kazunobu Fujitaka: Probability of cell hits in selected organs and tissues by high-LET particles at the ISS orbit., Advances in Space Research, 30, 1011-1015, 2002

Hiroshi Yasuda, Kazunobu Fujitaka: Solid-state integrating detectors as an indicator of biological doses from HZE particles., Advances in Space Research, 30, 927-932, 2002

Yuanlin Peng\*, Qinming Zhang\*, Hatsumi Nagasawa\*, Ryuichi Okayasu, Howard L. Liber\*, Joel S. Bedford\*: Silencing expression of the catalytic subunit of DNA-dependent protein kinase by small interfering RNA sensitizes human Cells for radiation-induced chromosome damage, cell killing and mutation, Cancer Research, 62, 6400-6404, 2002

Hongning Zhou\*, Masao Suzuki, Charles R Geard\*, Tom K Hei\*: Effects of irradiated medium with or without cells on bystander cell responses., Fundamental and Molecular Mechanisms of Mutagenesis : A Section of Mutation Research, 499, 135-141, 2002

Hiroshi Yasuda, Ikuo Kobayashi\*, Hiroshige Morishima\*: Decay patterns of optically stimulated luminescence from Al<sub>2</sub>O<sub>3</sub>: C for different quality radiations, Journal of Nuclear Science and Technology, 39, 211-213, 2002

Eiji Kotani\*, Toshiharu Furusawa\*, Shunji Nagaoka\*, Kumie Nojima, Yukio Sugimura\*, Aiko Nagamatsu\*, Takeshi Todo\*, Mituo Ikenaga\*: Somatic Mutation in Larvae of the Silkworm, Bombyx mori, induced by Heavy Ion Irradiation to Diapause Eggs, Journal of Radiation Research, 43(Suppl.), S193-S198, 2002

Satoshi Fukuda, Haruzo Iida, Xueming Yan\*: Preventive Effects of Running Exercise on Bones in Heavy Ion Particle Irradiated Rats, Journal of Radiation Research, 43(Suppl.), S233-S238, 2002

Hiroshi Yasuda, Tatsuyo Ishidoya\*: A Simplified System for Reading Time-resolved Photoluminescence, Journal of Radiation Research, 43(Suppl.), S63-S65, 2002

Yukio Uchihori, Kazunobu Fujitaka, Nakahiro Yasuda, Eric Benton\*: Intercomparison of Radiation Instruments for Cosmic-ray with Heavy Ion Beams at NIRS (ICCHIBAN Project), Journal of Radiation Research, 43(Suppl.), S81-S85, 2002

Hiroshi Yamaguchi, Yukio Satou, Hitoshi Imaseki, Nakahiro Yasuda, Tsuyoshi Hamano, Masao Suzuki, Takahiro Ishikawa, Teiji Mori, Kenichi Matsumoto, Teruaki Konishi, Masae Yukawa, Fuminori Soga: Single particle irradiation system to cell (SPICE) at NIRS, Nuclear Instruments & Methods in Physics Research Section B, 210, 292-295, 2003

Yukio Uchihori, Hisashi Kitamura, Kazunobu Fujitaka, Tsvetan Dachev\*, Borislav Tomov\*, Plamen Dimitrov\*, Yura Matviichuk\*: Analysis of the calibration results obtained with Liulin-4J spectrometer-dosimeter on protons and heavy ions, Radiation Measurements, 35, 127-134, 2002

Hiroshi Yasuda: Application of solid-state integrating dosimeters to biological experiments in space., Radiation Protection Dosimetry, 100, 499-502, 2002

Hiroshi Yasuda, Kazunobu Fujitaka: Efficiency of a radiophotoluminescence glass dosimeter for low-Earth-orbit space radiation., Radiation Protection Dosimetry, 100, 545-548, 2002

Hongning Zhou\*, Masao Suzuki, Gerhard Randers Pehrson\*, Charles Waldren\*, Tom K Hei\*: Genotoxic damage in non-irradiated cells: Contribution from the bystander effect., Radiation Protection Dosimetry, 99, 227-232, 2002

Masashi Takada, Hiroshi Yamaguchi, Hisashi Kitamura, Yukio Uchihori, Kazunobu Fujitaka: Microdosimetric Distribution of Protons, Ep=19-65MeV, Measured with a Low-Pressure Proportional Counter., Radiation Protection Dosimetry, 99(1-4), 391-392, 2002

Kenji Shinozaki\*, Michiyuki Chikawa\*, Masaki Fukushima\*, Naoaki Hayashida\*, Naoya Inoue\*, Ken Honda\*, Kenji Kadota\*, Fumio Kakimoto\*, Kouichi Kamata\*, Setsuo Kawaguchi\*, Saburo Kawakami\*, Yoshiya Kawasaki\*, Norio Kawasumi\*, A Mahrous\*, Keiichi Mase\*, Tomoko Mizobuchi\*, Yuichirou Morizane\*, Motohiko Nagano\*, Hideyuki Ohoka\*, Satoko Osone\*, Naoto Sakaki\*, Nobuyuki Sakurai\*, Makoto Sasaki\*, Masahiko Sasano\*, Masahiro Takeda\*, Masahiro Teshima\*, Itsuro Tsushima\*, Reiko Torii\*, Yukio Uchihori, R Vazquez\*, Tokonatsu Yamamoto\*, Shigeru Yoshida\*, Hisashi Yoshii\*: UPPER LIMIT ON GAMMA-RAY FLUX

ABOVE 1019 eV ESTIMATED BY THE AKENO  
GIANT AIR SHOWER ARRAY  
EXPERIMENT, The Astrophysical  
Journal, 57, L117-L120, 2002

Kenichi Kuge\*, Nakahiro Yasuda, Hiroshi  
Kumagai\*, Naokazu Aoki\*, Akira Hasegawa\*: Colored  
tracks of heavy ion particles using photographic color  
film, Nuclear Instruments & Methods in Physics  
Research Section A, 482, 558-564, 2002

### Environmental Radiation Protection Research Group

Masatoshi Yamada, Tatsuo Aono: <sup>210</sup>Pb and <sup>234</sup>Th in  
settling particles collected by time-series sediment  
traps in the Okinawa Trough, Deep-Sea Research Part  
II, 50(2), 487-501, 2003

Kazumasa Oguri\*, Eiji Matsumoto\*, Masatoshi  
Yamada, Yosiki Saito\*, Kazuo Iseki\*: Sediment  
accumulation rates and budgets of depositing particles  
of the East China Sea, Deep-Sea Research Part  
II, 50(2), 513-528, 2003

E.T. Natera\*, D. Valdez\*, Hisao Kawamura\*, L.  
Palad\*, Kunio Shiraishi: Estimation of daily  
micronutrient intake of Filipinos, Food and nutrition  
bulletin, 23, 222-226, 2002

Shino Takeda, Yusuke Hiraku\*, Yasuhiro Ohkuma\*, Shinji  
Oikawa\*, Mariko Murata\*, Kazuhiko Ogawa\*, Taeko  
Iwamuro\*, Song Li\*, Gui Fan Sun\*, Yoshito  
Kumagai\*, Nobuhiro Shimojo\*, Shosuke  
Kawanishi\*: 2,4,6-Trinitrotoluene-induced  
reproductive toxicity via oxidative DNA damage by  
its metabolite, Free Radical  
Research, 36, 555-566, 2002

Shino Takeda, Yoshikazu Nishimura, Yoshito  
Watanabe, Hitoshi Imaseki, Masae  
Yukawa: Application of microPIXE to elemental  
imaging of the rat testis, International Journal of  
PIXE, 11, 103-110, 2001

Masae Yukawa, Yuuji Ishikawa, Hitoshi Imaseki, Kazuko  
Aoki: Elemental Distribution in organs of Medaka,  
*Oryzias latipes*, burdened with X-ray irradiation and  
salty water (Part II), International Journal of  
PIXE, 11, 119-124, 2001

Yoshito Watanabe, Shino Takeda, Masae  
Yukawa, Yoshikazu Nishimura: Application of  
micro-PIXE and ICP-MS to analysis of elemental  
distribution in root apex of plants, International  
Journal of PIXE, 11, 125-131, 2001

Motoi Murata\*, Toshio Miyake\*, Yasushi Inoue\*, Sumio  
Oshima\*, Shinichi Kudo\*, Takesumi  
Yoshimura\*, Suminori Akiba\*, Toshiro  
Tango\*, Yasuhiko Yoshimoto, Yukiko  
Shimizu\*, Tomotaka Sofue\*, Shizuyo Kusumi\*, Tamiko  
Iwasaki\*, Chikao Yamagishi\*, Hiromichi  
Matudaira\*: Life-style and Other Characteristics of  
Radiation Workers at Nuclear Facilities in  
Japan: Base-line Data of a Questionnaire  
Survey, Journal of Epidemiology, 12, 310-319, 2002

Kunio Shiraishi, Midori Iwasaki\*, Chyuzo  
Miyazawa\*, Hidenori Yonehara, Masaki  
Matsumoto: Dose estimation by ESR on tooth enamel  
from two workers exposed to radiation due to the  
JCO accident, Journal of Radiation  
Research, 43, 331-335, 2002

Sarata Kumar Sahoo, Hidenori Yonehara, Katsumi  
Kurotaki, Kenzo Fujimoto, Yuuji Nakamura: Precise  
determination of <sup>235</sup>U/<sup>238</sup>U isotope ratio in soil  
samples by using thermal ionization mass  
spectrometry, Journal of Radioanalytical and Nuclear  
Chemistry, 252, 241-245, 2002

Chushiro Yonezawa\*, H Matsue\*, Masae  
Yukawa: Non-destructive determination of trace  
amounts of iodine in biological samples by  
epithermal neutron activation and Compton  
suppression gamma-ray spectrometry, Journal of  
Radioanalytical and Nuclear  
Chemistry, 255, 105-109, 2003

Yoshikazu Nishimura, Hiroshi Takeda, Kiriko  
Miyamoto, Yoshito Watanabe, Fuyuki Kouno, Noriko  
Kuroda, Hee Sun Kim\*, Masae  
Yukawa: Determination of P-32 in urine for early  
estimation of the neutron exposure level for three  
victims of the JCO criticality accident, Journal of  
Radiological Protection, 22, 25-29, 2002

Sarata Kumar Sahoo, Shinzo Kimura, Yoshito  
Watanabe, Kunio Shiraishi, Akimasa  
Masuda\*: Detection of <sup>236</sup>U and variation of uranium  
isotope composition in the soil samples affected by  
the JCO criticality accident, Proceedings of the Japan  
Academy. Ser. B, 78, 196-200, 2002

Kazutoshi Suzuki, Hiroshi Sekimoto\*, Nobuhito  
Ishigure: Effect of Uncertainty in Transfer Rates for  
the ICRP Publication 67 Biokinetic Model on Dose  
Estimation for <sup>239</sup>Pu From Results of Individual  
Monitoring, Radiation Protection  
Dosimetry, 102, 333-341, 2002

## Environmental and Toxicological Sciences Research Group

- Tetsuya Sakashita, Masahiro Doi, Hiroshi Yasuda, Shoichi Fuma, Donat P. Haeder\*: Effects of gamma-ray and high energy carbon ion irradiation on swimming velocity of *Euglena gracilis*. *Advances in Space Research*, 30(4), 1023-1030, 2002
- Tetsuya Sakashita, Masahiro Doi, Hiroshi Yasuda, Hiroshi Takeda, Shoichi Fuma, Yuuji Nakamura, Donat P. Haeder\*: Gamma irradiation effect Variation of photosynthetic activity of *Euglena*. *Biomedical and Environmental Sciences*, 15, 261-267, 2002
- Usha Rao\*, Udo Fehn\*, Yasuyuki Muramatsu, Heather Mcneil\*, Pankaj Sharma\*, David Elmore\*: Tracing the history of nuclear release: Determination of <sup>129</sup>I in tree rings. *Environmental science & technology*, 36, 1271-1275, 2002
- Hiroshi Takeda, Shoichi Fuma, Kiriko Miyamoto, Kei Yanagisawa, Nobuyoshi Ishii, Noriko Kuroda: Estimation of internal dose by blood analyses for exposure to tritium in various chemical forms. *Fusion Science and Technology*, 41, 445-449, 2002
- Tetsuya Sakashita, Masahiro Doi, Hiroshi Yasuda, Hiroshi Takeda, Shoichi Fuma, Yuuji Nakamura, Donat P. Haeder\*: High-energy carbon ion irradiation inhibits negative gravitaxis in *Euglena gracilis* Z. *International Journal of Radiation Biology*, 78(11), 1055-1060, 2002
- Tadaaki Ban-nai, Yasuyuki Muramatsu: Transfer factors of radioactive Cs, Sr, Mn, Co and Zn from Japanese soils to roots and leaf of radish. *Journal of Environmental Radioactivity*, 63, 251-264, 2002
- Shoichi Fuma, Nobuyoshi Ishii, Hiroshi Takeda, Kiriko Miyamoto, Kei Yanagisawa, Yusuke Ichimasa\*, Masahiro Saitou\*, Zenichiro Kawabata\*, Gennady Polikarpov\*: Ecological effects of various toxic agents on the aquatic microcosm in comparison with acute ionizing radiation. *Journal of Environmental Radioactivity*, 67, 1-14, 2003
- Tetsuya Sakashita, Masahiro Doi, Hiroshi Yasuda\*, Hiroshi Takeda, Shoichi Fuma, Yuuji Nakamura, Donat P. Haeder\*: Comparative study of gamma-ray and high-energy carbon ion irradiation on negative gravitaxis in *Euglena gracilis* Z. *Journal of Plant Physiology*, 159(12), 1355-1360, 2002
- Tetsuya Sakashita, Masahiro Doi, Hiroshi Yasuda, Shoichi Fuma, Donat P. Haeder\*: Protection of negative gravitaxis in *Euglena gracilis* Z against gamma-ray irradiation by Trolox C. *Journal of Radiation Research*, 43(Suppl.), S257-S259, 2003
- Kei Yanagisawa, Hiroshi Takeda, Kiriko Miyamoto, Shoichi Fuma, Nobuyoshi Ishii: DETERMINATION OF <sup>13</sup>C CONCENTRATION IN BIOLOGICAL MATERIALS USING INFRARED ABSORPTION METHOD. *Journal of Radioanalytical and Nuclear Chemistry*, 252, 277-280, 2002
- Tetsuya Sakashita, Takeo Hama\*, Shoichi Fuma, Masahiro Doi, Yuuji Nakamura, Nobuyoshi Ishii, Hiroshi Takeda: Effects of gamma irradiation on CO<sub>2</sub> fixation and cellular proliferation of *Euglena gracilis* Z. *Journal of Radioanalytical and Nuclear Chemistry*, 254(2), 401-403, 2002
- Keiko Tagami, Shigeo Uchida: Pretreatment of Plant Samples for the Determination of Rhenium by ICP-MS. *Journal of Radioanalytical and Nuclear Chemistry*, 255(3), 547-551, 2003
- Satoshi Yoshida, Yasuyuki Muramatsu, M. Steiner\*, M. Belli\*, A. Pasquale\*, B. Rafferty\*, Werner Ruhm\*, A. Rantavaara\*, I. Linkov\*, A. Dvornik\*, T. Zhuchenko\*: Stable elements - as a key to predict radionuclide transport in forest ecosystems. *Proceedings of the International Congress on the Radioecology-Ecotoxicology of Continental and Estuarine Environments : ECORAD 2001 (Radioprotection-colloques ; Vol.37 C1)*, 37(C1), 391-396, 2002
- Yasuyuki Muramatsu, Satoshi Yoshida, Tadaaki Ban-nai, Seigo Amachi: Behavior of iodine in the soil-plant system. *Proceedings of the International Congress on the Radioecology-Ecotoxicology of Continental and Estuarine Environments : ECORAD 2001 (Radioprotection-colloques ; Vol.37 C1)*, 37(C1), 479-484, 2002
- Kiriko Miyamoto, Hiroshi Takeda, Yoshikazu Nishimura, Masae Yukawa, Yoshito Watanabe, Nobuhito Ishigure, Fuyuki Kouno, Noriko Kuroda, Makoto Akashi: Validation and Verification of the ICRP Biokinetic Model of <sup>32</sup>P: The Criticality Accident in Tokai-mura, Japan. *Radiation Protection Dosimetry*, 105, 199-208, 2003
- Tetsuya Sakashita, Donat P. Haeder\*: The use of bioassays for studying toxicology in ecosystems. *Research Trends*, 2002
- Sentaro Takahashi, Hiroshi Sato, Yoshihisa Kubota, Joel S. Bedford\*, Ryuichi Okayasu: Inhibition of DNA-double

strand break repair by antimony compounds, *Toxicology*, 180, 249-256, 2002

Sentarō Takahashi, Yoshihisa Kubota, Kiyoko Okinaga\*, Keiichi Furuya\*: A new method of estimating the cytotoxic effects of suspended particulate matter on cultured alveolar macrophages in vitro, *Toxicology Mechanisms and Methods*, 12, 169-180, 2002

### Radon Research Group

Shinji Tokonami, Hidenori Yonehara, Mingli Yang\*, Masahide Furukawa, Yuji Yamada: Thoron and radon exhalation rate measurements performed on building materials using scintillation cells, *High Levels of Natural Radiation and Radon Areas: Radiation Dose and Health Effects: Proceedings of the 5th International Conference on High Levels of Natural Radiation and Radon Areas*, held in Munich, Germany on September 4 to 7, 2000 vol. II: Poster Presentation (*BfS Schriften* 24-2002), 271-273, 2002

Shinji Tokonami, Hidenori Yonehara, Weihai Zhuo, Quanfu Sun, Tetsuya Sanada\*, Yuji Yamada: Understanding of high radon concentrations observed in a well-ventilated Japanese wooden house, *Indoor Air: International Conference on Indoor Air Quality and Climate*, 2002(1), 665-669, 2002

Kumiko Fukutsu, Yuji Yamada, Michikuni Shimo: Refinement of Screen-Type Diffusion Battery for Fast Measurement and Its Validation by Numerical Simulation, *Journal of Atmospheric Electricity*, 22, 81-86, 2002

Shinji Tokonami, Weihai Zhuo, Hideki Ryuo\*, Hidenori Yonehara, Yuji Yamada, Michikuni Shimo: Instrument performance of a radon measuring system with the alpha-track detection technique, *Radiation Protection Dosimetry*, 103, 69-72, 2003

V Ramzaev\*, Tetsuo Ishikawa, P Hill\*, T Rahola\*, G Kaidanovsky\*, Hidenori Yonehara, R Hille\*, Masafumi Uchiyama\*: Intercomparison of whole-body counters by using a subject who had incorporated Cs-137 into the body, *Radiation Protection Dosimetry*, 98, 179-189, 2002

Weihai Zhuo, Shinji Tokonami, Hidenori Yonehara, Yuji Yamada: A simple passive monitor for integrating measurements of indoor thoron concentrations, *Review of Scientific Instruments*, 73(8), 2877-2881, 2002

Hirokazu Ichitsubo, Shinji Tokonami, Katsuhiko Miyamoto, Yuji Yamada: EVALUATION OF THE EFFECTIVE DETECTION AREA OF RADIATION DETECTORS, *High Levels of Natural Radiation and Radon Areas: Radiation Dose and Health Effects: Proceedings of the 5th International Conference on High Levels of Natural Radiation and Radon Areas*, held in Munich, Germany on September 4 to 7, 2000 vol. II: Poster Presentation (*BfS Schriften* 24-2002), 39-42, 2002

Kumiko Fukutsu, Yuji Yamada, Michikuni Shimo: Dose Response of Tracheal Epithelial Cells to Ionizing Radiation in Air-Liquid Interface Cultures, *High Levels of Natural Radiation and Radon Areas: Radiation Dose and Health Effects: Proceedings of the 5th International Conference on High Levels of Natural Radiation and Radon Areas*, held in Munich, Germany on September 4 to 7, 2000 vol. II: Poster Presentation (*BfS Schriften* 24-2002), 475-477, 2002

### Redox Regulation Research Group

Keizo Takeshita, Keita Saito, Junichi Ueda, Kazunori Anzai, Toshihiko Ozawa: Kinetic Study on ESR signal decay of nitroxyl radicals, potent redox probes for in vivo ESR spectroscopy, caused by reactive oxygen species, *Biochimica et Biophysica Acta General subjects*, 1573, 156-164, 2002

Kiyoshi Fukuhara\*, Ikuo Nakanishi, Tomokazu Shimada\*, Kei Ohkubo\*, Kentaro Miyazaki\*, Wataru Hakamata\*, Shiro Urano\*, Nobuo Ikota, Toshihiko Ozawa, Haruhiro Okuda\*, Naoki Miyata\*, Shunichi Fukuzumi\*: A Planar Catechin Analogue as a Promising Antioxidant with Reduced Prooxidant Activity, *Chemical Research in Toxicology*, 16, 81-86, 2003

Mami Onoda, et al.: Dietary nitrate inhibits stress-induced gastric mucosal injury in the rat, *Free Radical Research*, 37(1), 85-90, 2003

Hiroshi Inano, Makoto Onoda: Radioprotective action of curcumin extracted from *CURCUMA LONGA* LINN: Inhibitory effect on formation of urinary 8-hydroxy-2'-deoxyguanosine, tumorigenesis, but not mortality, induced by gamma-ray irradiation, *International Journal of Radiation Oncology Biology Physics*, 53, 735-743, 2002

Keita Saito, Keizo Takeshita, Junichi Ueda, Toshihiko Ozawa: Two reaction sites of spin label, TEMPOL (4-hydroxy-2,2,6,6-tetramethylpiperidine-N-oxyl), with hydroxyl radical, *Journal of Pharmaceutical Sciences*, 92, 275-280, 2003

Keiko Suzuki, Masahiko Mori, Fumihiko Kugawa\*, Hiroshi Ishihara: Whole-body X-irradiation induces acute and transient expression of heme oxygenase-1 in rat liver., *Journal of Radiation Research*, 43, 205-210, 2002

Kiyoshi Fukuhara\*, Ikuo Nakanishi, Hisao Kansui\*, Etsuko Sugiyama\*, Mitsuhiro Kimura\*, Tomokazu Shimada\*, Shiro Urano\*, Kentaro Yamaguchi\*, Naoki Miyata\*: Enhanced Radical-Scavenging Activity of a Planar Catechin Analogue, *Journal of the American Chemical Society*, 124, 5952-5953, 2002

Ikuo Nakanishi, Kiyoshi Fukuhara\*, Tomokazu Shimada\*, Yuko Iizuka\*, Keiko Inami\*, Masataka Mochizuki\*, Shiro Urano\*, Shinobu Itoh\*, Naoki Miyata\*, Shunichi Fukuzumi\*: Effects of Magnesium Ion on Kinetic Stability and Spin Distribution of Phenoxyl Radical Derived from a Vitamin E Analogue: Mechanistic Insight into Antioxidative Hydrogen Transfer Reaction of Vitamin E, *Journal of the Chemical Society, Perkin Transactins* 2, 2002, 1520-1524, 2002

Ikuo Nakanishi, Kei Ohkubo\*, Shunsuke Fujita\*, Shunichi Fukuzumi\*, Toshifumi Konishi\*, Mamoru Fujitsuka\*, Osamu Ito\*, Naoki Miyata\*: Direct Detection of Superoxide Anion Generated in C60-Photosensitized Oxidation of NADH and an Analogue by Molecular Oxygen, *Journal of the Chemical Society, Perkin Transactins* 2, 2002, 1829-1833, 2002

Ikuo Nakanishi, Kentaro Miyazaki\*, Tomokazu Shimada\*, Kei Ohkubo\*, Shiro Urano\*, Nobuo Ikota, Toshihiko Ozawa, Shunichi Fukuzumi\*, Kiyoshi Fukuhara\*: Effects of Metal Ions Distinguishing between One-Step Hydrogen- and Electron-Transfer Mechanisms for the Radical-Scavenging Reaction of (+)-Catechin, *The Journal of Physical Chemistry A*, 106(46), 11123-11126, 2002

Ikuo Nakanishi, Shunichi Fukuzumi\*, Toshifumi Konishi\*, Kei Ohkubo\*, Mamoru Fujitsuka\*, Osamu Ito\*, Naoki Miyata\*: DNA Cleavage via Superoxide Anion Formed in Photoinduced Electron Transfer from NADH to  $\beta$ -Cyclodextrin-Bicapped C60 in an Oxygen-Saturated Aqueous Solution, *The Journal of Physical Chemistry B*, 106, 2372-2380, 2002

Hidekazu Fujimaki\*, Keiko Nohara\*, Takahiro Kobayashi\*, Keiko Suzuki, Kiyomi Eguchi-Kasai, Shinichi Tsukumo\*, Mika Kijima\*, Chiharu Tohyama\*: Effect of a single oral dose of 2,3,7,8-tetrachlorodibenzo-p-dioxin on immune function in Male NC/Nga mice, *Toxicological Sciences*, 66, 117-124, 2002

## Radiation Hazards Research Group

Kunihiko Fukuchi\*, Tamio Hagiwara\*, Kenntarou Nakamura\*, Sachiko Ichimura, Kouichi Tatsumi, Kunihide Gomi\*: Identification of the regulatory region required for ubiquitination of the cyclin kinase inhibitor, p21, *Biochemical and Biophysical Research Communications*, 293, 120-125, 2002

Hideyuki Tomitori\*, Mitsuru Neno, Kazuei Mita, Kazuhiro Daino, Kazuei Igarashi\*, Sachiko Ichimura: Functional characterization of the human spermidine / spermine N1 - acetyltransferase gene promoter, *Biochimica et Biophysica Acta General subjects*, 1579, 180-184, 2002

Hisako Sakiyama\*, Takashi Nonaka\*, Riako Masuda\*, Inoue Naokazu\*, Yoshinori Kuboki\*, Mayumi Iijima\*, Yoshio Hirabayashi\*, Masahiko Takahagi, Kazuko Yoshida, Kazuko Kuriwa\*, Michiteru Yoshida\*, Shinobu Ohmi\*: Characterization of mineral deposits formed in cultures of a hamster tartrate-resistant acid phosphatase (TRAP) and alkaline phosphatase (ALP) double-positive cell line (CCP), *Cell and Tissue Research*, 309, 269-279, 2002

Kimihiko Sugaya: Amino Acid Substitution of the Largest Subunit of Yeast RNA Polymerase II: Effect of a Temperature-sensitive Mutation Related to G1 Cell Cycle Arrest, *Current Microbiology*, 47, 159-162, 2003

Fumio Yatagai\*, Toshihiro Kurobe\*, Takehiko Nohmi\*, Ken Ichi Masumura\*, Teruyo Tsukada\*, Hirotake Yamaguchi\*, Kiyomi Eguchi-Kasai, Nobuhisa Fukunishi\*: Heavy-ion-induced mutations in the gpt delta transgenic mouse: Effect of p53 gene knockout, *Environmental and Molecular Mutagenesis*, 40, 216-225, 2002

Hideki Kawasaki\*, Kimihiko Sugaya, Guo Xing Quan\*, Junko Nohata\*, Kazuei Mita\*: Analysis of alpha- and beta-tubulin genes of *Bombyx mori* using an EST database, *Insect biochemistry and molecular biology*, 33, 131-137, 2003

Reiko Kanda, Masako Minamihisamatsu, Isamu Hayata: Dynamic analysis of chromosome aberrations in three victims of the Tokai-mura criticality accident. *International Journal of Radiation Biology*, 78, 857-862, 2002

- Hiroshi Kimura\*, Kimihiko Sugaya, Peter Cook\*: The transcription cycle of RNA polymerase II in living cells, *Journal of Cell Biology*, 159, 777-782, 2002
- Tomohisa Hirobe, Kazumasa Wakamatsu\*, Shosuke Ito\*, Hiroyuki Abe\*, Yoko Kawa\*, Masako Mizoguchi\*: Stimulation of the proliferation and differentiation of mouse pink-eyed dilution epidermal melanocytes by excess tyrosine in serum-free primary culture, *Journal of Cellular Physiology*, 191, 162-172, 2002
- Tomohisa Hirobe: Role of leukemia inhibitory factor in the regulation of the proliferation and differentiation of neonatal mouse epidermal melanocytes in culture, *Journal of Cellular Physiology*, 192, 315-326, 2002
- Tomohisa Hirobe, Yoko Kawa\*, Masako Mizoguchi\*, Shosuke Ito\*, Kazumasa Wakamatsu\*: Effects of genic substitution at the pink-eyed dilution locus on the proliferation and differentiation of mouse epidermal melanocytes in vivo and in vitro, *Journal of Experimental Zoology*, 292, 351-366, 2002
- Manabu Koike: Dimerization, translocation and localization of Ku70 and Ku80 Proteins, *Journal of Radiation Research*, 43, 223-236, 2002
- Wang Chun Yan, Zhang Wei, Chen Deqing\*, Isamu Hayata, Masako Minamihisamatsu, Hiroshige Morishima\*, Yuan Yongling\*, Wei Luxin\*, Tsutomu Sugahara\*: Stable Type Chromosome Aberrations in the Residents of the High Background Radiation Area in China, *Journal of Radiation Research and Radiation Processing*, 20(4), 260-264, 2002
- Masanobu Kitagawa, Shuichi Yamaguchi, Maki Hasegawa, Kaoru Tanaka, Toshihiko Sado, Katsui Hirokawa\*, Shirou Aizawa: Friend Leukemia Virus Infection Enhances DNA Damage-Induced Apoptosis of Hematopoietic Cells, Causing Lethal Anemia in C3H Hosts, *Journal of Virology*, 76, 7790-7798, 2002
- Kazuko Yoshida, Shirou Aizawa, Keiko Watanabe, Yoko Hirabayashi\*, Tohoru Inoue\*: Stem-cell leukemia: p53 deficiency mediated suppression of leukemic differentiation in C3H/He myeloid leukemia, *Leukemia Research*, 26, 1085-1092, 2002
- Marcin Kruszewski\*, Hanna Kruszewska\*, Masahiko Mori, Kiyomi Eguchi-Kasai, Hiroko Inaba, Iwona Zakierska\*, Isamu Hayata: Low frequency of spontaneous rearrangements during plasmid incorporation in CHO-K1 mutant cells defective in DNA repair, *Nukleonika*, 47(1), 7-11, 2002
- Rikako Furuya\*, Satoru Akiu\*, Ritsuro Ideta\*, Masako Naganuma\*, Minoru Fukuda\*, Tomohisa Hirobe: Changes in the proliferative activity of epidermal melanocytes in serum-free primary culture during the development of UVB-induced pigmented spots in hairless mice, *Pigment Cell Research*, 15, 348-356, 2002
- Tomohisa Hirobe, Rikako Furuya\*, Satoru Akiu\*, Uji Ifuku\*, Minoru Fukuda\*: Keratinocytes control the proliferation and differentiation of cultured epidermal melanocytes from ultraviolet radiation B-induced pigmented spots in the dorsal skin of hairless mice, *Pigment Cell Research*, 15, 391-399, 2002
- Kazuhiro Daino, Sachiko Ichimura, Mitsuru Neno: Early induction of CDKN1A (p21) and GADD45 mRNA by a low dose of ionizing radiation is due to their dose-dependent post-transcriptional regulation., *Radiation Research*, 157, 478-482, 2002
- Nobuhiko Ban\*, Kazuko Yoshida, Shirou Aizawa, Sachiko Wada\*, Michiaki Kai\*: Cytogenetic Analysis of Radiation-Induced Leukemia in Trp53-Deficient C3H/He Mice, *Radiation Research*, 158, 69-77, 2002
- Reiko Kanda, Kiyomi Eguchi-Kasai, Hiromi Itsukaichi, Masahiko Mori, Isamu Hayata: Chemically induced premature chromosome condensation in human fibroblast cell lines: Fundamental study for applications to the biodosimetry of local exposure., *Somatic Cell and Molecular Genetics*, 25, 317-325, 2002
- Kunihiko Fukuchi\*, Tamio Hagiwara\*, Kenntarou Nakamura\*, Sachiko Ichimura, Kouichi Tatsumi, Kunihide Gomi\*: Identification of the regulatory region required for ubiquitination of the cyclin kinase inhibitor, p21, *Biochemical and Biophysical Research Communications*, 293, 120-125, 2002
- Hisako Sakiyama\*, Takashi Nonaka\*, Riako Masuda\*, Inoue Naokazu\*, Yoshinori Kuboki\*, Mayumi Iijima\*, Yoshio Hirabayashi\*, Masahiko Takahagi, Kazuko Yoshida, Kazuko Kuriwa\*, Michiteru Yoshida\*, Shinobu Ohmi\*: Characterization of mineral deposits formed in cultures of a hamster tartrate-resistant acid phosphatase (TRAP) and alkaline phosphatase (ALP) double-positive cell line (CCP), *Cell and Tissue Research*, 309, 269-279, 2002
- Yuri Miura\*, K Abe\*, Shiro Urano\*, Takeshi Furuse, Yuko Noda, Kouichi Tatsumi, Shozo Suzuki\*: Adaptive response and the influence of ageing: effects of low-dose irradiation on cell growth of cultured glial cells, *International Journal of Radiation Biology*, 78, 913-921, 2002

Masahiro Muto, Yasuyoshi Kanari\*, Eiko Kubo, Takayuki Kurihara\*, Akira Fujimori, Kouichi Tatsumi: Targeted disruption of Np95 gene renders murine embryonic stem cells hypersensitive to DNA damaging agents and DNA replication blocks, *Journal of Biological Chemistry*, 277, 34549-34555, 2002

virus-specific antiserum corresponding to sequences in the lactate dehydrogenase-elevating virus (LDV) ORF6 protein. *Comparative Immunology, Microbiology & Infectious Diseases*

Akira Fujimori, Hiroshi Hashimoto\*, Ryoko Araki, Toshiyuki Saitou, Shinji Sato\*, Yasuji Kasama\*, Yoko Tsutsumi\*, Masahiko Mori, Ryuutarou Fukumura, Tatsuya Ohhata\*, Kouichi Tatsumi, Masumi Abe: Sequence analysis of 193.4 and 83.9 kbp of mouse and chicken genomic DNAs containing the entire Prkdc (DNA-PKcs) gene, *Radiation Research*, 157, 298-305, 2002

### **Transcriptome Profiling Research Group**

Masahiro Muto, Yasuyoshi Kanari\*, Eiko Kubo, Takayuki Kurihara\*, Akira Fujimori, Kouichi Tatsumi: Targeted disruption of Np95 gene renders murine embryonic stem cells hypersensitive to DNA damaging agents and DNA replication blocks, *Journal of Biological Chemistry*, 277, 34549-34555, 2002

Akira Fujimori, Hiroshi Hashimoto\*, Ryoko Araki, Toshiyuki Saitou, Shinji Sato\*, Yasuji Kasama\*, Yoko Tsutsumi\*, Masahiko Mori, Ryuutarou Fukumura, Tatsuya Ohhata\*, Kouichi Tatsumi, Masumi Abe: Sequence analysis of 193.4 and 83.9 kbp of mouse and chicken genomic DNAs containing the entire Prkdc (DNA-PKcs) gene, *Radiation Research*, 157, 298-305, 2002

### **Laboratory Animal Development and Research Group**

Seiji Kito, Yoshiko Noguchi\*, Yuki Oota: Different developmental responses against oxygen and amino acids of in vitro fertilized embryos between two substrains of C57BL/6J inbred mice., *Experimental Animals*, 52, 63-66, 2003

Akihiko Koga\*, Hiroshi Hori\*, Yuuji Ishikawa: Gamera, a family of LINE-like repetitive sequences widely distributed in medaka and related fishes, *Heredity*, 89, 446-452, 2002

Seiji Kito, Shintarou Tateno\*, Yuki Oota, Yoshiko Noguchi\*: Kinetics of in vitro fertilization and development of an inbred mouse strain: study using RFM/Ms compared with C57BL/6J., *Journal of Mammalian Ova Research*, 19, 32-38, 2002

Hiromi Omoe, Katsuhiko Omoe, Masahiro Sakaguchi, Yousuke Kameoka, Satoru Matsushita, Toshiki Inada: production of

## Internal Radiation Effects Research Group

Yoichi Oghiso, Yutaka Yamada: Immunohistochemical study on cellular origins of rat lung tumors induced by inhalation exposures to plutonium dioxide aerosols as compared to those by X-ray irradiation. *Journal of Radiation Research*, 43, 301-311, 2002

## Head of Special Research (on Hereditary Effects)

Keiko Tagami, Shigeo Uchida: Global Fallout Technetium-99 Distribution and Behavior in Japanese Soils. *Journal of Nuclear and Radiochemical Sciences*, 3, 1-5, 2002

Shigeo Uchida, Keiko Tagami, Masahiro Saitou\*: Determination of trace rhenium in river water samples by Q-ICP-MS and HR-ICP-MS. *Journal of Radioanalytical and Nuclear Chemistry*, 255(2), 329-333, 2003

## Research Center for Radiation Emergency Medicine

Naoyuki Anzai, Yonghee Lee\*, Byung Youn\*, Seiji Fukuda\*, Young Kim\*, Charlie Mantel\*, Makoto Akashi, H. E. Broxmeyer\*: c-kit associated with the transmembrane 4 superfamily proteins constitutes a functionally distinct subunit in human hematopoietic progenitors. *Blood*, 99, 4413-4421, 2002

Sang-hee Park, Yun Sil Lee\*, Yoshiaki Osawa\*, Misao Hachiya, Makoto Akashi: Hsp25 Regulates the Expression of p21(Waf1/Cip1/Sdi1) through Multiple Mechanisms. *Journal of Biochemistry*, 131, 869-875, 2002

Kazuko Yoshida, Shirou Aizawa, Keiko Watanabe, Yoko Hirabayashi\*, Tohoru Inoue\*: Stem-cell leukemia: p53 deficiency mediated suppression of leukemic differentiation in C3H/He myeloid leukemia. *Leukemia Research*, 26, 1085-1092, 2002

Yasunari Takada, Misao Hachiya, Sang-hee Park, Yoshiaki Osawa\*, Toshihiko Ozawa, Makoto Akashi: Role of reactive oxygen species in cells overexpressing manganese superoxide dismutase: Mechanism for induction of radioresistance. *Molecular Cancer Research*, 1, 137-146, 2002

Nobuhiko Ban\*, Kazuko Yoshida, Shirou Aizawa, Sachiko Wada\*, Michiaki Kai\*: Cytogenetic Analysis of Radiation-Induced Leukemia in Trp53-Deficient C3H/He Mice. *Radiation Research*, 158, 69-77, 2002

## Hospital

Akira Iyoda\*, Kennzou Hiroshima\*, Masayuki Baba, Yukio Saitoh\*, Hidemi Owada\*, Takehiko Fujisawa\*: Pulmonary large cell carcinomas with neuroendocrine features are high grade neuroendocrine tumors. *Annals of Thoracic Surgery*, 73, 1049-1054, 2002

Kenzou Hiroshima\*, Akira Iyoda\*, Kiyosi Shibuya\*, Hidehisa Hoshino\*, Yukiko Haga\*, Tetsuya Toyozaki\*, Mitsutoshi Shiba\*, Masayuki Baba, Takehiko Fujisawa\*, Hidemi Owada\*: Evidence of neoangiogenesis and an increase in the number of proliferating cells within the epithelium of smokers. *Cancer*, 95, 1539-1549, 2002

Akira Iyoda\*, Masayuki Baba, Yukio Saitoh\*, Hidehisa Hoshino\*, Kiyosi Shibuya\*, Yasushi Nomoto\*, Fumio Horiuchi\*, Kennzou Hiroshima\*, Hidemi Owada\*, Takehiko Fujisawa\*: Imprint cytologic features of pulmonary sclerosing hemangioma-comparison with well differentiated papillary adenocarcinoma. *Cancer*, 96, 146-149, 2002

Kennosuke Kadono\*, Toshiaki Honma\*, Kazuyuki Kamahara\*, Mika Nakayama\*, Hiroaki Satoh\*, Kiyohisa Sekizawa\*, Tadaaki Miyamoto: Effect of heavy-ion radiotherapy on pulmonary function in stage I non-small cell lung cancer patients. *Chest*, 122, 1925-1932, 2002

Katsuhiro Uzawa\*, Kanae Ono\*, Chihaya Tanaka\*, Takashi Yakushiji\*, Nobuharu Yamamoto, Hidetaka Yokoe\*, Hideki Tanzawa\*: High prevalence of decreased expression of KAI1 metastasis suppressor in human oral carcinogenesis. *Clinical Cancer Research*, 8, 828-835, 2002

Minoru Suzuki\*, Mizuto Otsuji\*, Masayuki Baba, Yukio Saitoh\*, Toshihiko Iizasa\*, Kiyosi Shibuya\*, Yasuo Sekine\*, Seiri Yoshida\*, Takehiko Fujisawa\*: Bronchopleural fistula after lung cancer surgery. *Journal of Cardiovascular Surgery*, 43, 263-267, 2002

Masayuki Baba, Akira Iyoda\*, Kazuhiro Yasafuku\*, Yukiko Haga\*, Hidehisa Hoshino\*, Yasuo Sekine\*, Kiyosi Shibuya\*, Toshihiko Iizasa\*, Yukio Saitoh\*, Kennzou Hiroshima\*, Takehiko Fujisawa\*: Preoperative cytodiagnosis of very small-sized peripheral-type primary lung cancer. *Lung Cancer*, 37, 277-280, 2002

Kiyosi Shibuya\*, Hidehisa Hoshino\*, Masako Chiyo\*, Kazuhiro Yasafuku\*, Toshihiko Iizasa\*, Yukio Saitoh\*, Masayuki Baba, Kennzou Hiroshima\*, Hidemi Owada\*, Takehiko Fujisawa\*: Subepithelial vascular

patterns in bronchial dysplasias using high-magnification bronchoscope., *Thorax*, 57, 902-907, 2002

Riwa Kishimoto, Yoshiaki Watanabe\*, Michio Shimizu\*: Best cases from the AFIP: invasive ductal carcinoma with osteoclast-like giant cells., *Radiographics*, 22, 691-695, 2002

Yasutaka Itani\*, Shigeru Watanabe\*, Yoshiaki Masuda\*, Kazuhisa Hanamura\*, Kazuhiro Asakura\*, Shusuke Sone\*, Yuko Sunami\*, Tadaaki Miyamoto: Measurement of aortic diameters and detection of asymptomatic aortic aneurysms is a mass screening program using a mobile helical computed tomography

Yojiro Hashiguchi\*, Takeshi Sekine\*, Shingo Katou, Hirohiko Sakamoto\*, Yoji Nishimura\*, Tomoko Kazumoto\*, Mizuyoshi Sakura\*, Yoichi Tanaka\*: Indicators for Surgical Resection and Intraoperative Radiation Therapy for Pelvic Recurrence of Colorectal Cancer, *Diseases of the Colon and Rectum*, 46, 31-39, 2003

#### Department of Accelerator Physics and Engineering

Tetsumi Tanabe\*, Katsuhisa Chida\*, Kouji Noda, Ikuo Watanabe\*: An electrostatic storage ring for atomic and molecular science, *Nuclear Instruments & Methods in Physics Research Section A*, 482, 595-605, 2002

Masayuki Muramatsu, Atsushi Kitagawa, Yukio Satou, Satoru Yamada, Toshiyuki Hattori\*, Mitsuru Hanagasaki\*, Toshitaka Fukushima\*, Hirotugu Ogawa\*: Development of an ECR ion source for carbon therapy, *Review of Scientific Instruments*, 2001

Atsushi Kitagawa: Study of the extracted beam and the radial magnetic field of ECR ion source, *Review of Scientific Instruments*, 73, 604-606, 2002

Yukio Satou: Effects of Ion-Pumping in a Pulsed Penning Source, *Review of Scientific Instruments*, 73, 720-722, 2002

T. Furukawa and K. Noda: Fast beam cut-off method in RF-knockout extraction for spot scanning; *Nucl. Instr. Meth. Res. A* 489 (2002) 59-67.

T. Honma, D. Ohsawa, K. Noda, T. Iwashima, H. Y. Ogawa, Y. Sano, E. Takada, S. Yamada: Design and performance of a non-destructive beam-profile monitor utilizing charge-division method at HIMAC; *Nucl. Instr. Meths. Res. A* 490 (2002) 435-443.

K. Noda, T. Furukawa, S. Shibuya, M. Muramatsu, T. Uesugi, M. Kanazawa, M. Torikoshi, E. Takada and S. Yamada: Source of spill ripple in the RF-KO slow-extraction method with FM and AM; *Nucl. Instr. Meth. Res. A* 492 (2002) 241-252.

K. Noda, T. Furukawa, S. Shibuya, T. Uesugi, M. Muramatsu, M. Kanazawa, E. Takada and S. Yamada: Advanced RF-KO slow-extraction method for the reduction of spill ripple; *Nucl. Instr. Meth. Res. A* 492 (2002) 253-263.

T. Tanabe and K. Noda: Storage of Bio-molecular Ions in Electrostatic Storage Ring; *Nucl. Instr. Meth. Res. A* 496 (2003) 233-237.

T. Katsuno, S. Nitta, D. Ohsawa and Y. Sato, Detection of heavy ions for cancer therapy using amorphous carbon nitride a-CN<sub>x</sub> films produced by a nitrogen radical sputter method, *Diamond and Related Materials* 12 (2003) 672-676.

Y. Sato, A. Kitagawa, M. Muramatsu, T. Murakami, S. Yamada, C. Kobayashi, Y. Kageyama, T. Miyoshi, H. Ogawa, H. Nakabushi, T. Fujimoto, T. Miyata and Y. Sano, Charge fraction of 6.0 MeV/n heavy ions with a carbon foil: dependence on the foil thickness and projectile atomic number, *Nucl. Instrum. and Meth. B* 201 (2003) 571-580.

#### Department of Medical Physics

Masahiro Endo, Takanori Tsunoo, Susumu Kandatsu, Shuji Tanada, Hiroshi Aradate\*, Yasuo Saito\*: Four-dimensional computed tomography (4D CT) - Concepts and preliminary development, *Radiation Medicine*, 21, 17-22, 2003

Naoko Inadama, Hideo Murayama, Tomohide Omura, Takaji Yamashita\*, Seiichi Yamamoto\*, Hiroyuki Ishibashi\*, Hideyuki Kawai, Kenji Omi\*, Takaya Umehara, Takehiro Kasahara: A depth of interaction detector for PET with DSO crystals doped with different amount of Ce., *IEEE Transactions on Nuclear Science*, 49(3), 629-633, 2002

Tomoyuki Hasegawa, Eiichi Tanaka, Mitsuo Watanabe\*, Takaji Yamashita\*, Taiga Yamaya, Hideo Murayama: A Monte-Carlo simulation study on coarse septa for scatter correction in 3D PET., *IEEE Transactions on Nuclear Science*, 49(5), 2133-2138, 2002

Keishi Kitamura, Masaharu Amano\*, Hideo Murayama: Count rate analysis of PET scanner designs based on a GSO depth of interaction detector

with a large area PS-PMT, IEEE Transactions on Nuclear Science, 49(5), 2218-2222, 2002

Ayuchi Nakamura, Hiroyuki Takahashi, L. Zhang\*, Daichi Fukuda\*, Takaaki Ishizu\*, Masaharu Nakazawa\*, Masaki Misawa\*, Hideo Murayama: Clustering algorithm with adaptive shaping method for CdZnTe detectors, IEEE Transactions on Nuclear Science, 49(6), 3295-3299, 2002

Nobuyuki Kanematsu, Masahiro Endo, Yasuyuki Futami, Tatsuaki Kanai, Hiroshi Asakura\*, Hiroyoshi Oka\*, Ken Yusa\*: Treatment planning for the layer-stacking irradiation system for three-dimensional conformal heavy-ion radiotherapy, Medical Physics, 29(12), 2823-2829, 2002

Manabu Mizota, Tatsuaki Kanai, Munefumi Shinbo, Yasuyuki Futami, Masahiro Endo: Reconstruction of Biologically Equivalent Dose Distribution on CT-image from Measured Physical Dose Distribution of Therapeutic Beam in Water Phantom, Physics in Medicine and Biology, 47, 923-945, 2002

Akifumi Fukumura, Tatsuaki Kanai, Nobuyuki Kanematsu, Ken Yusa, Akira Maruhashi\*, Akihiro Nohtomi\*, Teiji Nishio, Munefumi Shinbo, Takashi Akagi, Toshihiro Yanou\*, Shigekazu Fukuda\*: Proton beam dosimetry/Protocol and intercomparison in Japan, International Symposium on Standards and codes of Practice in Medical Radiation Dosimetry, in press, 2003

Satoru Endo\*, Masashi Takada, Masayori Ishikawa\*, Masaharu Hoshi\*, Shuzou Uehara\*, Hiroshi Yamaguchi, Tatsuaki Kanai, Naruhiro Matsufuji, Kiyoshi Shizuma\*, Yoshihiko Onizuka\*: Microdosimetric study for 400 MeV/A Carbon-beam, Radiation Protection Dosimetry, 99, 421-424, 2002

Hiroshi Yashima\*, Yoshitomo Uwamino\*, Hiroshi Sugita\*, Takashi Nakamura, Sachiko Ito\*, Akifumi Fukumura: Projectile dependence of radioactive spallation products induced in copper by high-energy heavy ions, Physical Review C, 66, 044607-1-044607-11, 2002

Michiya Sasaki\*, Noriaki Nakao\*, Takashi Nakamura, Tokushi Shibata\*, Akifumi Fukumura: Measurements of the response functions of an NE213 organic liquid scintillator to neutrons up to 800 MeV, Nuclear Instruments & Methods in Physics Research Section A, 480, 440-447, 2002

Michiya Sasaki\*, Noriaki Nakao\*, Tomoya Nunomiya\*, Takashi Nakamura, Akifumi Fukumura, Masashi Takada: Measurements of high

energy neutrons penetrated through iron shields using the Self-TOF detector and an NE213 organic liquid scintillator, Nuclear Instruments & Methods in Physics Research Section B, 196, 113-124, 2002

Michiya Sasaki\*, Eunju Kim\*, Tomoya Nunomiya\*, Takashi Nakamura, Noriaki Nakao\*, Tokushi Shibata\*, Yoshitomo Uwamino\*, Sachiko Ito\*, Akifumi Fukumura: Measurements of High-Energy Neutrons Penetrated Through Concrete Shields Using Self-TOF, NE213 and Activation Detectors, Nuclear Science and Engineering, 141, 140-153, 2002

Narufumi Suganuma\*, Yukinori Kusaka\*, Yomei Hiraga\*, Yutaka Hosoda\*, Hisao Shida\*, Hiroshi Morikubo\*, Toru Matsumoto: Asbestos-related pleural abnormalities detected by chest X-ray: Fair agreement with detection by computed tomography, J Occup Health 43:365-370, 2001

Norinari Honda\*, Kikuo Machida\*, Makoto Hosono\*, Tohru Matsumoto, Hiroshi Matsuda\*, Motoo Oshima\*, Kiyoshi Koizumi\*, Shigeru Kosuda\*, oshimitsu Momos\*, Yutaka Mori\*, Jun Hashimoto\*, Yuji Shimizu\*: Interobserver variation in diagnosis of dementia by brain perfusion SPECT, Radiation Medicine 20(6):281-289, 2002

K Nishizawa, M Matsumoto, K Iwai, A Tonari, T Yoshida, M Takayama: Dose evaluation and effective dose estimation from multi detector CT Jap. J. Med. Phys: 22, 155-158, 2002

Takehiro Tomitani, Masahiko Hirasawa: Analytical image reconstruction of cone-beam projections from limited angle Compton camera data, IEEE Transactions on Nuclear Science, 50, 1602-1608, 2003

Masahiko Hirasawa, Takehiro Tomitani: An analytical image reconstruction algorithm to compensate for scattering angle broadening in Compton cameras, Physics in Medicine and Biology, 48, 1009-1026, 2003

Masahiko Hirasawa, Takehiro Tomitani: Tracer imaging with a Compton camera, Proceedings of International Symposium on Bio-Trace Elements, 2002, 40-42, 2003

## Department of Medical Imaging

- Yoshinori Ishiguro\*, Tatsuya Kikuchi, Hiromi Etsuki, Toshiaki Irie: Does Xenon Anesthesia Inhibit Cholinesterases?, *Anesthesiology*, 98(3), 791-792, 2003
- Zhang Ming-rong\*, Akio Tsuchiyama\*, Terushi Haradahira, Yuichirou Yoshida\*, Kenji Furutsuka\*, Kazutoshi Suzuki: Development of an automated system for synthesizing 18F-labeled compounds using [18F]fluoroethyl bromide as a synthetic precursor, *Applied Radiation and Isotopes*, 57, 335-342, 2002
- Zhang Ming-rong, Tatsuya Kikuchi, Yuichirou Yoshida\*, Jun Maeda, Takayo Kida\*, Takashi Okauchi, Toshiaki Irie, Kazutoshi Suzuki: N-[18F]Fluoroethyl-4-piperidyl acetate ([18F]FETP4A): A PET Tracer for Imaging Brain acetylcholinesterase in vivo. *Bioorganic & Medicinal Chemistry*, 11, 2519-2527, 2003
- Mikio Sato, Tetsuya Toyozaki\*, Kenichi Odaka, Tomoya Uehara\*, Yasushi Arano\*, Hiroshi Hasegawa, Katsuya Yoshida, Kyoko Yoshida\*, Toshimichi Yoshida\*, Michiaki Hiroe\*, Hiroyuki Tadokoro, Toshiaki Irie, Shuji Tanada, Issei Komuro\*: Detection of experimental autoimmune myocarditis in rats by 111In monoclonal antibody specific for Tenascin-C., *Circulation*, 106, 1397-1402, 2002
- Naoyuki Watanabe\*, Shuji Tanada, Hajime Murata, Yasuhito Sasaki: I-123 IMP Pulmonary SPECT in a Patient with Acute Pulmonary Thromboembolism, *Clinical Nuclear Medicine*, 27, 460-461, 2002
- Zhang Ming-rong\*, Terushi Haradahira, Jun Maeda\*, Takashi Okauchi\*, Takayo Kida\*, Shigeru Obayashi, Kazutoshi Suzuki, Tetsuya Suhara: Synthesis and preliminary PET study of the 5-HT7 receptor antagonist [11C]DR4446, *Journal of Labelled Compounds & Radiopharmaceuticals*, 45, 857-866, 2002
- Zhang Ming-rong, Kenji Furutsuka, Yuichirou Yoshida\*, Kazutoshi Suzuki: How to increase the reactivity of [18F]fluoroethyl bromide: [18F]fluoroethylation of amine, phenol and amide functional groups with [18F]FETBr, [18F]FETBr/NaI and [18F]FETOTf, *Journal of Labelled Compounds & Radiopharmaceuticals*, 46, 587-598, 2003
- Hiroki Namba, Kiyoshi Fukushi, Shin-ichiro Nagatsuka, Masaomi Iyo\*, Hitoshi Shinotoh, Shuji Tanada, Toshiaki Irie: Positron emission tomography: quantitative measurement of brain acetylcholinesterase activity using radiolabeled substrates, *Methods*, 27, 242-250, 2002
- Zhang Ming-rong\*, Terushi Haradahira, Jun Maeda\*, Takashi Okauchi\*, Koichi Kawabe\*, Takayo Kida\*, Junko Hojo\*, Kazutoshi Suzuki, Tetsuya Suhara: Synthesis and Pharmacological Evaluation of Two Potent Antagonists for Dopamine D4 Receptors: [11C]YM-50001 and N-[2-[4-(4-Chlorophenyl)-piperizin-1-yl]ethyl]-3-[11C]methoxybenzamide. *Nuclear Medicine and Biology*, 29, 233-241, 2002
- Zhang Ming-rong\*, Terushi Haradahira, Jun Maeda\*, Takashi Okauchi\*, Koichi Kawabe\*, Takayo Kida\*, Shigeru Obayashi, Kazutoshi Suzuki, Tetsuya Suhara: Synthesis and evaluation of 3-(4-chlorobenzyl)-8-[11C]methoxy-1,2,3,4-tetrahydro-2,3,4-trihydro-5-one: a PET tracer for imaging sigma1 receptors, *Nuclear Medicine and Biology*, 29, 469-476, 2002
- Terushi Haradahira, Jun Maeda\*, Takashi Okauchi\*, Zhang Ming-rong\*, Junko Hojo\*, Takayo Kida\*, Takuya Arai, Fumihiko Yamamoto\*, Shigeki Sasaki, Minoru Maeda\*, Kazutoshi Suzuki, Tetsuya Suhara: Synthesis, in vitro and in vivo pharmacology of a C-11 labeled analog of CP-101,606, (+)-threo-1-(4-hydroxyphenyl)-2-[4-hydroxy-4-(p-[11C]methoxyphenyl)piperidino]-1-propanol, as a PET tracer for NR2B subunit-containing NMDA receptors, *Nuclear Medicine and Biology*, 29, 517-525, 2002
- Junko Hojo\*, Kazutoshi Suzuki: Automated synthesis of the ultra high specific activity of [11C]Ro15-4513 and its application in an extremely low concentration region to an ARG study, *Nuclear Medicine and Biology*, 30, 335-343, 2003
- Toshimitsu Fukumura, Shihoko Akaike\*, Yuichirou Yoshida\*, Kazutoshi Suzuki: Decomposition of an aqueous solution of [11C]Ro 15-4513: implication of hydrated in the radiolysis of [11C]Ro 15-4513, *Abbreviated Title: Radiolysis of [11C]Ro 15-4513, Nuclear Medicine and Biology*, 30, 389-395, 2003
- Zhang Ming-rong, Takayo Kida\*, Junko Noguchi\*, Kenji Furutsuka, Jun Maeda, Tetsuya Suhara, Kazutoshi Suzuki: [11C]DAA1106: Radiosynthesis and In Vivo Binding to Peripheral Benzodiazepine Receptors in Mouse Brain, *Nuclear Medicine and Biology*, 30, 513-519, 2003
- Takahiro Sunaga\*, Hiroo Ikehira, Shigeo Furukawa, Mitsuru Tamura, Eiji Yoshitome, Takayuki Obata, Hiroshi Shinkai, Shuji Tanada, Hajime Murata, Yasuhito Sasaki: Development of a Dielectric Equivalent Gel for Better Impedance Matching for Human Skin., *Bioelectromagnetics*, 24, 214-217, 2003

Junichi Takanashi\*, Hiroo Ikehira, Shuji Tanada: Distinctly abnormal brain metabolism in late-onset ornithine transcarbamylase deficiency, *Neurology*, 59, 210-214, 2002

Hong Zhang, Tian Mei\*, Noboru Oriuchi\*, Tetsuya Higuchi\*, Shuji Tanada, Keigo Endou\*: Oncological diagnosis using positron coincidence gamma camera with fluorodeoxyglucose in comparison with dedicated PET, *British Journal of Radiology*, 75, 409-416, 2002

### Heavy-Ion Radiobiology Research Group

Yoshiya Furusawa, Mizuho Aoki, Marco Durante\*: Simultaneous exposure of mammalian cells to heavy ions and X-rays, *Advances in Space Research*, 30, 877-884, 2002

Kaoru Kobayashi\*, Rie Hosoi\*, Sotaro Momosaki\*, Sachiko Koike, Koichi Ando, Tsunehiko Nishimura\*, Osamu Inoue\*: Enhancement of the relative uptake of <sup>18</sup>F-FDG in mouse fibrosarcoma by rolipram, *Annals of Nuclear Medicine*, 16, 507-510, 2002

Isao Asakawa\*, H Yoshimura\*, Akihisa Takahashi\*, Ken Ohnishi\*, H Nakagawa\*, I Ota\*, Yoshiya Furusawa, Tetsuro Tamamoto\*, H Ohishi\*, Takeo Oonishi\*: Radiation-induced growth inhibition in transplanted human tongue carcinomas with different p53 gene status, *Anticancer Research*, 24, 2037-2043, 2002

Fumihiko Yamamoto\*, Mizuho Aoki, Yoshiya Furusawa, Koichi Ando, Yasuo Kuwabara\*, Kouji Masuda\*, Shigeki Sasaki\*, Minoru Maeda\*: Synthesis and evaluation of 4-Bromo-1-(3-[<sup>18</sup>F]fluoropropyl)-2-nitroimidazole with a low energy LUMO orbital designed as brain hypoxia-targeting imaging agent, *Biological and Pharmaceutical Bulletin*, 25, 616-621, 2002

Kazufumi Kagawa\*, Masao Murakami\*, Yoshio Hishikawa\*, Mitsuyuki Abe\*, Takashi Akagi\*, Toshihiro Yanou\*, Gou Kagiya\*, Yoshiya Furusawa, Koichi Ando, Kumie Nojima, Mizuho Aoki, Tatsuaki Kanai: Preclinical biological assessment of proton and carbon ion beams at Hyogo Ion Beam Medical Center, *International Journal of Radiation Oncology Biology Physics*, 54, 928-938, 2002

Mizuho Aoki, Yoshiya Furusawa, Yuta Shibamoto\*, Ataru Kobayashi\*, Michihiko Tsujitani\*: Effect of a hypoxic cell sensitizer Dranidazole in radiation-induced

apoptosis of mouse L5178Y lymphoma cells, *Journal of Radiation Research*, 43, 161-166, 2002

Manami Monobe, Manami Monobe\*, Koichi Ando: Drinking Beer Reduces Radiation-induced Chromosome Aberrations in Human Lymphocytes, *Journal of Radiation Research*, 43, 237-245, 2002

Sachiko Koike, Koichi Ando, Chisa Oohira\*, Takeshi Fukawa, Ryonfa Lee, Nobuhiko Takai, Akiko Uzawa, Manami Monobe, Yoshiya Furusawa, Mizuho Aoki, Shigeru Yamada, Wakako Shimizu\*, Kumie Nojima, Hideyuki Majima\*: Relative biological effectiveness of 290 MeV/u carbon ions for the growth delay of a radioresistant murine fibrosarcoma, *Journal of Radiation Research*, 43, 247-255, 2002

Shozo Suzuki\*, Yuri Miura\*, Shoichi Mizuno\*, Yoshiya Furusawa: Models for mixed irradiation with a 'Reciprocal-Time' pattern of the repair function, *Journal of Radiation Research*, 43, 257-267, 2002

Marco Durante\*, G Gialanella\*, Malia Antonella Pugliese\*, Tetsuya Kawata\*, Nakahiro Yasuda, Yoshiya Furusawa: Influence of the shielding on the space radiation radiobiological effectiveness. II. Chromosomal aberrations, *Journal of Radiation Research*, 43(Suppl.), s107-s111, 2002

Tetsuya Kawata\*, Hisao Ito\*, Ken Motoori\*, Takuya Ueda\*, Naoyuki Shigematsu\*, Yoshiya Furusawa, Marco Durante\*, Kerry George\*, Honglu Wu\*, Francesca A Cucinotta\*: Induction of chromatin damage and distribution of isochromatid breaks in human fibroblast cells exposed to heavy ion, *Journal of Radiation Research*, 43(Suppl.), s169-s173, 2002

Sylvia Ritter\*, E Nasonova\*, Yoshiya Furusawa, Koichi Ando: Relationship between aberration yield and mitotic delay in human lymphocytes exposed to 200 MeV/u Fe-ions or X-rays, *Journal of Radiation Research*, 43(Suppl.), s175-s179, 2002

Honglu Wu\*, Yoshiya Furusawa, Kerry George\*, Tetsuya Kawata\*, Francesca A Cucinotta\*: Analysis of unrejoined chromosomal breakage in human fibroblast cells exposed to low- and high-LET radiation, *Journal of Radiation Research*, 43(Suppl.), s181-s185, 2002

Sachiko Koike, Koichi Ando, Akiko Uzawa, Nobuhiko Takai, Takeshi Fukawa, Yoshiya Furusawa, Chisa Oohira\*, Mizuho Aoki, Manami Monobe, Ryonfa Lee\*, Masao Suzuki, Kumie Nojima: Significance of fractionated irradiation for the biological therapeutic

gain of carbon ions, *Radiation Protection Dosimetry*, 99, 405-408, 2002

schizophrenia, *Archives of general psychiatry*, 59, 25-30, 2002

Chunlin Shao, Yoshiya Furusawa, Mizuho Aoki, Hideki Matsumoto\*, Koichi Ando: Nitric oxide-mediated bifunctional bystander effect induced by heavy-ion radiation in human salivary gland neoplastic cells, *International Journal of Radiation Biology*, 78, 837-844, 2002

Tetsuya Ichimiya\*, Tetsuya Suhara, Yasuhiko Sudo\*, Yoshiro Okubo\*, Kazuhiko Nakayama\*, Masahiro Nankai\*, Makoto Inoue\*, Fumihiko Yasuno\*, Akihiro Takano\*, Jun Maeda\*, Haruo Shibuya\*: Serotonin Transporter Binding in Patients with Mood Disorders: A PET Study with [<sup>11</sup>C](+)-McN5652, *Biological Psychiatry*, 51(9), 715-722, 2002

Megumi Toyoshima\*, Shogo Takinami\*, Kotaro Hieda\*, Yoshiya Furusawa, Tomoe Negishi\*: The involvement of cell cycle checkpoint-mutations in the mutagenesis induced in *Drosophila* by a longer wavelength light band of solar UV, *Photochemical and Photobiological Sciences*, 1, 178-183, 2002

Akihiro Takano, Tetsuya Suhara, Yasuhiko Sudo\*, Makoto Inoue, Kenji Hashimoto\*, Zhang Ming-rong\*, Tetsuya Ichimiya\*, Fumihiko Yasuno\*, Kazutoshi Suzuki: Comparative evaluation of two serotonin transporter ligands in the human brain: [<sup>11</sup>C](+)-McN5652 and [<sup>11</sup>C]cyanoimipramine, *European Journal of Nuclear Medicine*, 29, 1289-1297, 2002

### Director of Special Research (on Information Management)

Kiichi Ishiwata\*, Nobuo Ogi\*, Nobutaka Hayakawa\*, Keiichi Oda\*, Tsukasa Nagaoka\*, Hinako Toyama, Fumio Suzuki\*, Kazutoyo Endo\*, Akira Tanaka\*, Michio Senda\*: Adenosine A2A receptor imaging with [<sup>11</sup>C]KF18446 PET in the rat brain after quinolinic acid lesion: Comparison with the dopamine receptor imaging, *Annals of Nuclear Medicine*, 16(7), 467-475, 2002

Youko Ikoma\*, Tetsuya Suhara, Hinako Toyama, Tetsuya Ichimiya\*, Akihiro Takano\*, Yasuhiko Sudo\*, Makoto Inoue\*, Fumihiko Yasuno\*, Kazutoshi Suzuki: Quantitative analysis for estimating binding potential of brain serotonin transporters with [<sup>11</sup>C]McN5652, *Journal of Cerebral Blood Flow and Metabolism*, 22, 490-501, 2002

Yuhei Shimada\*, Motohiro Kiyosawa\*, Keiichi Oda\*, Fumio Suzuki\*, Kiichi Ishiwata\*, Nobuo Ogi\*, Nobutaka Hayakawa\*, Hiroyuki Umegaki\*, Tsukasa Nagaoka\*, Kazutoyo Endo\*, Akira Tanaka\*, Michio Senda\*, Tadashi Nariai\*, Hinako Toyama, Kenichiro Ono\*: Mapping adenosine A1 receptors in the cat brain by positron emission tomography with [<sup>11</sup>C]MPDX, *Nuclear Medicine and Biology*, 29, 29-37, 2002

Soutarou Momosaki\*, Sun Xue Zhi, Nobuhiko Takai, Rie Hosoi\*, Osamu Inoue\*, Sentaro Takahashi: Changes in histological construction and decrease in 3H-QNB binding in the rat brain after prenatal X-irradiation, *Journal of Radiation Research*, 43, 277-282, 2002

Masahiro Yamamoto\*, Tetsuya Suhara, Yoshiro Okubo\*, Tetsuya Ichimiya, Yasuhiko Sudo\*, Makoto Inoue, Akihiro Takano, Fumihiko Yasuno, Kyosan Yoshikawa, Shuji Tanada: Age-related decline of serotonin transporters in living human brain of healthy males, *Life Sciences*, 71, 751-757, 2002

Kiichi Ishiwata\*, Nobuo Ogi\*, Nobutaka Hayakawa\*, Hiroyuki Umegaki\*, Tsukasa Nagaoka\*, Keiichi Oda\*, Hinako Toyama, Kazutoyo Endo\*, Akira Tanaka\*, Michio Senda\*: Positron emission tomography and ex vivo and in vitro autoradiography studies on dopamine D2-like receptor degeneration in the quinolinic acid-lesioned rat striatum: comparison of [<sup>11</sup>C]raclopride, [<sup>11</sup>C]nemonapride and [<sup>11</sup>C]N-methylspiperone, *Nuclear Medicine and Biology*, 29, 307-316, 2002

Fumihiko Yasuno\*, Akterh Hasnine\*, Tetsuya Suhara, Tetsuya Ichimiya\*, Yasuhiko Sudo\*, Makoto Inoue\*, Akihiro Takano\*, Ou Tan\*, Tomomichi Ando\*, Hinako Toyama: Template-Based Method for Multiple Volumes of Interest of Human Brain PET Images, *NeuroImage*, 16, 577-586, 2002

### Director of Special Research (on Brain Imaging)

Tetsuya Suhara, Yoshiro Okubo\*, Fumihiko Yasuno\*, Yasuhiko Sudo\*, Makoto Inoue\*, Tetsuya Ichimiya\*, Yoshifumi Nakashima\*, Kazuhiko Nakayama\*, Shuji Tanada, Kazutoshi Suzuki, Christer Halldin\*, Lars Farde\*: Decreased dopamine D2 receptor binding in the anterior cingulate cortex in

Jun Maeda, Tetsuya Suhara, Takashi Okauchi, Junichi Senba: Different roles of group I and group II metabotropic glutamate receptors on phencyclidine-induced dopamine release in the rat prefrontal cortex, *Neuroscience Letters*, 336(3), 171-174, 2003

Shigeru Obayashi, Tetsuya Suhara, Koichi Kawabe\*, Takashi Okauchi, Jun Maeda, Yuji

Nagai,Atsushi Iriki\*:Fronto-parieto-cerebellar interaction associated with intermanual transfer of monkey tool-use learning,Neuroscience Letters,339,123-126,2003

Takeshi Sassa,Tetsuya Suhara,Hiroo Ikehira,Takayuki Obata,F Girard\*,Shuji Tanada,Yoshiro Okubo:19F-magnetic resonance spectroscopy and chemical shift imaging for schizophrenic patients using haloperidol decanoate,Psychiatry and Clinical Neurosciencis,56,637-642,2002

Tetsuya Suhara,Takashi Okauchi\*,Yasuhiko Sudo\*,Akihiro Takano\*,Koichi Kawabe\*,Jun Maeda\*,S Kapur\*:Clozapine can induce high dopamine D2 receptor occupancy in vivo.,Psychopharmacology,160,107-112,2002

Takashi Nakayama,Tetsuya Suhara,Yoshiro Okubo,Tetsuya Ichimiya,Fumihiko Yasuno,Jun Maeda,Akihiro Takano,Tomoyuki Saijo,Kazutoshi Suzuki:In vivo drug action of tandospirone at 5-HT1A receptor examined using positron emission tomography and neuroendocrine response,Psychopharmacology,165,37-42,2002

Taeko Miyazaki,Tetsuo Iwami\*,Hiroaki Somiya\*,Benno Meyerrochow\*:Retinal Topography of Ganglion Cells and Putative UV-Sensitive Cones in Two Antarctic Fishes: Pagothenia borchgrevinki and Trematomus bernacchii (Nototheniidae),Zoological Science,19,1223-1229,2002

### Frontier Research Center

Masashi Sagara,Eri Takeda\*,Akiyo Nishiyama\*,Shunsaku Utsumi\*,Yoshirou Toyama\*,Shigeki Yuasa\*,Yasuharu Ninomiya,Takashi Imai:Characterization of functional regions for nuclear localization of NPAT,Journal of Biochemistry,132,875-879,2002

Toshiji Sitara, Yoshiaki Tsuchida, Akira Shimada, Hideaki Mura, Minoru Kuroiwa, Mayumi Iwakawa:PLUMONARY METASTASES AFTER NEPHRECTOMY ONLY FOR SMALL, STAGE I /FAVORABLE HISTOLOGY WILMS'TUMOR,Journal of Pediatrics,in press,2003

Mayumi Iwakawa,Syuuhei Noda,Toshie Oota,Chisa Kitazawa,Ryonfa Lee,Miyako Gotou,Miyuki Wakabayashi,Yoshifumi Matsui,Yoshinobu Harada,Takashi Imai:Different radiation susceptibility among five strains of mouse detected by skin reaction. ,Journal of Radiation Research,44,7-13,2003

Ken Kuramoto\*,Sadayuki Ban,Kenji Oda\*,Hideo Tanaka\*,Akiro Kimura\*,Gen Suzuki\*:Chromosomal

Instability and Radiosensitivity in Myelodysplastic Syndrome Cells.,Leukemia,16,2253-2258,2002

Yuichi Michikawa,Giuseppe Attardi\*:Screening for aging-dependent point mutations in mtDNA.,Mitochondrial DNA : methods and protocols(Methods in molecular biology ; 197),197,75-92,2002

Guang Gao\*,Adrian Bracken\*,Karina Burkard\*,Dieo Pasini\*,Marie Classon\*,Masashi Sagara,Takashi Imai,Kristian Helin\*,Jiyong Zhao\*:NPAT expression is regulated by E2F and is essential for cell cycle progression,Molecular and Cellular Biology,23,2821-2833,2003

Kurisasi Tomohiro\*,Aki Masuda\*,Katsuko Sudo\*,Junko Sakagami\*,Shigeki Higashiyama\*,Yoichi Matsuda\*,Akira Nagabukuro\*,Atsushi Tsuji,Youichi Nabeshima\*,Masahide Asano\*,Youichirou Iwakura\*,Atsuko Sehara\*:Phenotypic analysis of Meltrin alpha (ADAM12)-deficientmice: involvement of Meltrin alpha in adipogenesis and myogenesis.,Molecular and Cellular Biology,23,55-61,2003

Zhang Jin\*,Asin-cayuela Jordi\*,Jennifer Fish\*,Yuichi Michikawa,Bonafe Massimiliano\*,Olivieri Fabiola\*,Passarino Giuseppe\*,Giovanna De.benedictis\*,Franceschi Claudio\*,Giuseppe Attardi\*:Strikingly higher frequency in centenarians and twins of mtDNA mutation causing remodeling of replication origin in leukocytes.,Proceedings of the National Academy of Sciences of the United States of America,100(3),1116-1121,2003

Yuichi Michikawa,Kenneth Laderman\*,Richter Katherine\*,Giuseppe Attardi\*:Role of nuclear background and in vivo environment in variable segregation behaviorof the aging-dependent T414G mutation at critical control site for humanfibroblast mtDNA replication.,Somatic Cell and Molecular Genetics,25,333-342,2002

# List of Keywords

$^{11}\text{C}[\text{CH}_2\text{I}]$	67	dielectric artifact	28
$^{11}\text{C}[\text{Ro}15-4513]$	67	dielectric constant	28
$^{18}\text{F}[\text{F}]\text{EtBr}$	68	differentiation	33
$^{18}\text{F}[\text{F}]\text{EtBr}/\text{NaI}$	68	dimethyl sulfoxide	21
$^{18}\text{F}[\text{F}]\text{EtOTf}$	68	direction	13
$^{18}\text{F}[\text{F}]\text{fluoroethylation}$	68	discriminative measurement	88
16S-23S rRNA intergenic spacer region (SR)	46	dityrosine	18
$^{187}\text{Re}$	80	DMPO	14
$^{226}\text{Ra}$	80	DNA cleavage	15
$^{239+240}\text{Pu}$	76	DNA double strand break	56
$^{239}\text{Pu}$	54	DNA repair	34
2-input compartment model	58	DNA-PK	56
3-methylchoranthrene	41	doranidazole	26
5-HT1A	65	dose estimation	90
5-HTT binding	64	dose management	10
5-HTTLPR	64	dose-rate effect	52
8AA-resistant	45	dose-rate range	51
$^{90}\text{Sr}$	80	dosimetry	87
$^{99}\text{Tc}$	80	drinking water	87
action spectrum	74	Drosophila	73
activity ratio of $^{99}\text{Tc}/^{137}\text{Cs}$	85	DSB	39
acute radiation syndrome	72	dual-energy	7
adaptive response	51	East China Sea	76
adverse effects	37	effective pion-nucleon coupling model	92
airplane	90,95	electron density	7
algae	80	electron transfer	15,16
alkylating agent	48	electrophoretic mobility-shift assay	20
alpha particle	48	elemental distribution	81
Alzheimer's disease, atrophy	59	embryogenesis	51
angular uncertainty	11	energy	13
antioxidant	16,17	epidemiology	82
apoptosis	19,26,29,32,52,74	equilibrium condition	9
APRT	45	EST	44
Asian countries	66	excretion	75
automation	67	explicit memory	65
bacteria	86	expression	44
beam profile monitor	8	expression profile	40
BGO scintillator	13	Fe-plot	71
binding potential	64	fetal-transfer	77
biodistribution	27	fibrosarcoma	71
biokinetics	77	flavonoid	16,17
biological RBE	69	fluorine-18	27
biophysical model	93	FNCA	101
bolus gel	28	forest	83
bone mineral	96	fractionation	70,71
bone tumor	55	fullerene	15
brain tissue	27	G2/M arrest	38
breast cancer	37	galactic cosmic ray proton	92
butylated hydroxyanisole	41	gamma ray	13
bystander effect	31	gene expression	20
C57BL/6J inbred mice	43	gene knock-out mouse	41
calibration	6	genomic instability	97
calyculin A	29,30	GFP	34
cancer	82	glutathione	22
cancer patient	42	GSO scintillation crystal	4
carbon foil	9	haematopoietic stem cell transplantation	72
carbon ion	69,70	HC11 cell	36
carbon-ion beam	31	heavy ion particle	96
caspase	19	heavy ion radiation field	97
catechin	16,17	heavy ion therapy	10,62
C-beam	32	heavy ions	9,29
cell survival	91,100	heme oxygenase	23
cerebral cortical glucose metabolism	59	hemodynamic disease	61
cervix cancer	66	high altitude	95
charge fraction	9	high LET radiation	91
charge-division	8	high sensitivity	67
checkpoint	73	high-LET radiation	24,30,56,99,100
chelation therapy	57	HIMAC	94
chemical separation	84	HIMAC injector linac	9
chromatin breaks	98	hippocampus	65
chromosomal instability	42	histomorphometry	96
chromosome aberration	24,99,100	hospital information system	62
chromosome instability	38	HPLC	14,22
clinical RBE	69	hprt locus	97,98
Clomipramine	63	human lymphocytes	29
clustering	61	human tongue squamous cell carcinoma. P53	32
compensation	11	hydrogen transfer	16
Compton camera	11	hydroxyl radical	17,21
computed tomography	6	hyperaccumulation	80
continental slope	76	hypoxic cell sensitizer	26
criticality accident	72	HZE particles	98
CsI(Tl) scintillator	13	ICP-MS	78,84,85
CT	7	ICRP	101
cyclodextrin	15	image reconstruction	2,11
cytochrome c	19	imaging	79
daily recommended human dose of Ca-DTPA	57	immunohistochemistry	48
data acquisition	3	<i>in vitro</i> ARG	67
database	62,75	in vitro development	43
depth-of-interaction (DOI)	2	ingested radon	87
depth-of-interaction detector	1,4	insolubilization	86

intercomparison	94	phylogenetic analysis	44
interleukin-1 $\beta$	20	pion-emission cross section, ,	92
internal dosimetry	75	PIXE	79
international	66	PIXE analysis	81
ion	8	plant	78,83
ionizing	12	plutonium	53
isochromatid break	30	plutonium removal	57
keratinocyte	33	polymerase chain reaction (PCR)	46
kinetic analysis	58	polymorphism	64
Ku70	34	position sensitive photomultiplier tube	5
Ku80	34	positron emission tomography	4,63,65
L5178Y cell	26	positron emission tomography (PET)	1,2,3,5,58,59,61
L5178Y cells	74	premature chromosome condensation	30
lactate dehydrogenase-elevating virus (LDV)	47	premature chromosome condensation (PCC)	91,98
lateral transport	76	proliferation	33
LET	25,70,71	Proton beam	69
LET & ion species dependence	98	public exposure	75
life span	49	quality assurance	6
linear-quadratic model	25	RadGenomics	37
list-mode data	3	radiation	38,51
liver	23	radiation action	93
localization	34	radiation biology	12
LOH	45	radiation monitor	94
lung cancer	60	radiation protection	12,93
lung tumor	53,54	radiation-inducible	20
lymphocytes	42	radiocesium	83
lymphoma	48	radiologic technologists	82
M/VP-2	47	radiologists	82
magnetic resonance imaging (MRI)	59	radioprotector	50
mammary gland	36	radioresistance	35
manganese superoxide dismutase (MnSOD)	35	radiosensitivity	39,40,42
MCP	8	radiosensitizer	26
Medaka	81	radiotellurium	77
mei-41	73	radiotherapy	6,37,66
mei-9	73	radon	53,88,89
melanocyte	33	rat	53,54,57,96
microarray	40	rats	21
microbeam	12	RBE	70,71
micronucleus assay	42	RCA	101
micro-PIXE	78	reactive oxygen species	15
milk-transfer	77	reactive oxygen species (ROS)	35
Mitotic	45	real time monitor	95
mixed irradiation	25	reciprocal-time repair	25
monochromatic UV-B light	74	recombination	45
monochromatic x-ray	7	redox state	22
mouse	22,40,50,51,52,55	registration	60
mouse embryo	43	relative effectiveness	54
MRI	28	repair	56,73,91
mRNA	23	reproductive cell death	74
mushroom	83	residual-gas	8
mutagenesis	73	retention	75
mutation	53	RF-knockout slow extraction	10
Mycoplasma pulmonis (M. pulmonis)	46	rhenium	84
myelodysplastic syndrome (MDS)	38	river water	84
NADH	15	root	78
NaI(Tl) scintillator	13	salty water breeding	81
nasopharyngeal cancer	66	scattered low-dose (rate) radiation	97
neptunium	53	scavenger	18
nitration	19	scid cell	56
nitric oxide	31,36	scintillation detector	1,5
nitroimidazole	27	sediment trap experiment	76
nitrotyrosine	18	selenium	18
NO scavenger	31	seminiferous tubules	79
non homologous end Joining (NHEJ)	91	semiquinone	14
non-destructive	8	serotonin transporter	63
nuclear medicine	2	single pass I <sub>2</sub> method	67
nuclear protein	20	singlet oxygen	14
occludin	36	solar activity	90
occupancy	63	solar UV	73
occupational exposure	82	soluble 239Pu	55
ORF5	47	space radiation	94,95
ORF6	47	spermatids	79
organogenesis	52	spermatocytes	79
oxidative stress	17,22	spermatogonea	79
p38MAPK	35	spin trapping	21,50
paddy field	86	spontaneous tumor	49
parallel collection	3	spot scanning	10
particle	12	stable Cs	83
passive monitor	89	stable expression	47
PBN	21	stomach	87
peroxynitrite	18,19	strain difference	40,48,55
PET	64	surface soil	85
PET tracer	68	synchrotron	10
Phase I enzymes	41	synchrotron radiation	7
Phase II enzymes	41	synergistic effect	100
phenobarbital	41	technetium	86
phenolic compounds	14	technetium-99	85
photodynamic therapy	15	telomere	24,99
photomultiplier(PMT)	13	teratogenesis	52
photopeak	13	testis	44

theoretical model	25
therapeutic gain	70
therapeutic gain of heavy ion therapy	60
thoron	88,89
tight junction	36
time-course of aberrations	29
Tp53	53
trace element	78
treatment planning	6
treatment scheduler	62
tryptamine derivatives	18
tyrosine	19
ultra high specific activity	67
unrejoined breaks	24,99
UNSCEAR	101
urinary plutonium excretion	57
UVA	14
UVB	33
vitamin E	16
VP-3	47
WEB server	62
wing disc	44
Wistar Mishima (WM/nrs) rat	49
xenobiotics	41
X-ray	21,23,32,54
X-ray irradiation	50,53,81
XRCC7	45
ZO-1	36
$\gamma$ H2AX	39

# Author Index

<b>A</b>			
A. J. Waker	93	Ishikawa, Yuji	81
Abe, Masumi	45	Ito, Hisao	30
Abe, Mitsuyuki	69	Iwakawa, Mayumi	37,40,42
Aizawa, Shiro	52	Iwashima, Takashi	8
Akagi, Takashi	69	<b>J</b>	
Akashi, Makoto	35,72	Jean-Paul, Morlier	53
Alice J. Sigurdson	82	John B. Cologne	42
Ando, Koichi	27,29,31,69,70,71	<b>K</b>	
Ando, Tomomichi	65	Kagami, Msato	64
Anzai, Kazunori	21,22,50	Kagawa, Kazufumi	69
Aoki, Kazuko	81	Kagiya, Goh	69
Aoki, Mizuho	26,27,31,69,70,71,74,100	Kameoka, Yosuke	47
Aono, Tatsuo	76	Kanai, Tatsuaiki	69
Araki, Ryoko	45	Kanatsu, Syusuke	62
Arima, Hiromi	18	Kanazawa, Mitsutaka	10
Asakawa, Isao	32	Kanba, Shigenobu	64
<b>B</b>		Kanekiyo, Shinya	59
Ban, Sadayuki	38,39,42	Kasahara, Takehiro	1,4,5
<b>C</b>		Kato, Shingo	66
Cheerattana, Cheeramakara	20	Katsube, Takanori	36
Chunlin, Shao	31	Kawamura, Saori	35,72
Cuiping, Chi	22	Kawasaki, Hideki	44
<b>E</b>		Kawata, Tetuya	30,24,99
Elena, Nasonova	29	Kerry, George	24,30
Endo, Masahiro	7,62	Kimura, Akiro	38
Enomoto, Hiroko	75	Kinpara, Susumu	92
<b>F</b>		Kitagawa, Atsushi	9
Francis A. Cucinotta	24,30	Kitamura, Hisashi	94
Fujii, Kaori	21	Kitamura, Keishi	3
Fujii-Kuriyama, Yoshiaki	41	Kitazawa, Chisa	40
Fujimori, Akira	45	Kito, Seiji	43
Fujitaka, Kazunobu	90,94,97,98	Knonomi, Chika	42
Fukawa, T	71	Kobayashi, Ataru	26
Fukuda, Satoshi	49,57,96	Kobayashi, Hideki	46
Fukumura, Ryutaro	45	Koike, Aki	34
Furukawa, Shigeo	28	Koike, Manabu	34
Furukawa, Takuji	10	Koike, Sachiko	70,71
Furuno, Ikuko	45	Komai, Nobuko	19
Furusawa, Yoshiya	12,24,25,26,27,29,30,31,32,56,69,70,71,73,74,99,100	Kondo, Hisayoshi	35,72
Furuse, Masako	50	Konishi, Teruaki	12
<b>G</b>		Kristell, Guillet	53
Georges, Monchaux	53	Kubo, Eiko	45
Giafrance, Grossi	99	Kugawa, Fumihiko	23
Giancarlo, Gialanella	99	Kuramoto, Ken	38
Goto, Miyako	40	Kurimasa, Akihiro	45
<b>H</b>		Kuroiwa, Norikazu	72
Hachiya, Misao	35	Kuroiwa, Toshitaka	62
Hamano, Tsuyoshi	12	Kuwabara, Yasuo	27
Harada, Nobuhiko	41	<b>M</b>	
Harada, Yoshinobu	37,39,40,42	Mabuchi, Kiyohiko	82
Hayata, Isamu	51,52	Maeda, Jun	65
Hee-Sun, Kim	77	Maeda, Minoru	27
Hiarama, Toshiyasu	35	Majima, H	71
Hida, Azumi	41	Marco, Durante	30,99,100
Hieda, Kotaro	73	Mariagabriella, Pugliese	99
Higashi, Shinnichi	74	Masuda, Kouji	27
Hirama, Toshiyasu	72	Matsuba, Mitsue	80
Hirano, Masami	64	Matsui, Yoshifumi	42
Hirano, Shigeki	80	Matsumoto, Hideki	31
Hirasawa, Masahiko	11	Matsumoto, Kenichi	12
Hirobe, Tomohisa	33	Matsumoto, Masaki	75
Hoki, Yuko	45	Matsushita, Satoru	46,47
Homma-Takeda, Shino	77,78,79	Matsuyama, Azusa	50
Hong, Wan	20	Michele M Doody	82
Honglu, Wu	24,30	Ming-Rong Zhang	68
Honma, Toshihiro	8	Mita, Kazuei	44
Hshikawa, Yoshio	69	Miura, Yuri	25
Hyodo, Kazuyuki	7	Miyamoto, Tadaaki	60
<b>I</b>		Mizuno, Shoichi	25
Ichikawa, Tomoko	45	Monobe, Manami	70,71
Ichimiya, Tetsuya	63,64,65	Mori, Masahiko	23,45
Ihara, Makoto	56	Mori, Teiji	12
Iida, Haruzo	49,57,96	Mori, Yutaka	60
Ikehira, Hiroo	28	Motohashi, Hozumi	41
Ikoma, Yoko	58,61,63	Motoori, Ken	30
Ikota, Nobuo	15,16,17,18,19,50	Murakami, Masao	69
Imai, Takashi	37,38,39,40,42	Murakami, Takeshi	9
Imaseki, Hitoshi	12,81	Muramatsu, Masayuki	9,10
Inada, Toshiki	47	Muramatsu, Yasuyuki	83
Inadama, Naoko	1,4,5	Murata, Hajime	28
Inoue, Makoto	63,65	Murayama, Hideo	1,2,3,4,5
Ishigure, Nobuhito	75	<b>N</b>	
Ishihara, Hiroshi	20,23	Nakagawa, Hidehiko	18,19
Ishii, Kazunari	59	Nakagawa, Hitoshi	32
Ishii, Kenji	59,61	Nakahara, Motokazu	80
Ishii, Nobuyoshi	86	Nakajima, Tetsuo	51
Ishii, Toshiaki	80	Nakamura, Shingo	53
Ishikawa, Takehiro	12	Nakanishi, Ikuro	15,16,17
Ishikawa, Tetsuo	87	Nakano, Takashi	66,75
		Nakayama, Humiaki	35

Nakayama, Takashi	65	Tachibana, Akira	45
Nankai, Masajoro	64	Tagami, Keiko	84,85,86
Narazaki, Yukinori	87	Takada, Eiichi	8,10
Nariai, Tadashi	61	Takada, Masashi	94
Naruhiro Matsufuji	6	Takada, Yasunari	35
Negishi, Tomoe	73	Takahashi, Akihisa	32
Nicolas, Dudoignon	53	Takahashi-Omoe, Hiromi	46,47
Nishimura, Yoshikazu	77,78,79	Takai, Daisaku	35
Nishitani, Akiko	37	Takai, Nobuhiko	70,71
Nishizawa, Chiho	14	Takano, Akihiro	63,64,65
Nobuyuki Kanematsu	6	Takeshita, Keizo	14,21
Noda, Koji	8,10	Takinami, Syogo	73
Noda, Masaaki	38	Takusagawa, Mitsuko	18,19
Noda, Shuhei	37,40,41,42	Tamamoto, Tetsuro	32
Noda, Yutaka	7	Tamura, Mitsuru	28
Noguchi, Junko	67	Tanada, Shuji	28
Noguchi, Yoshiko	43	Tanaka, Hideo	38
Nojima, Kumie	69,70,71	Tanaka, Izumi	20
Nose, Masako	51	Tanaka, Kaoru	52
Nozaki, Takayuki	37	Tatsuaki Kanai	6
<b>O</b>		Tatsumi, Kouichi	45
Obata, Takayuki	28	Tatsuzaki, Hideo	66,101
Oda, Kenji	38	Tokenami, Shinji	87,88,89
Ogawa, Hiroyuki	8	Tomitani, Takehiro	11
Oghiso, Yoichi	48,53,54,55	Torikoshi, Masami	7
Ohara, H	93	Toyama, Hinako	58,59,60,61,62
Ohishi, Hajime	32	Toyoshima, Megumi	73
Ohnishi, Ken	32	Tsuda, Tomoaki	4
Ohnishi, Takeo	32	Tsuji, Hiroshi	62
Ohno, Tatsuya	66	Tsuji, Hirohiko	62,66
Ohsawa, Daisuke	8	Tsujitani, Michihiko	26
Ohta, Toshie	40	Tsunoo, Takanori	7
Ohta, Yuki	43	<b>U</b>	
Ohyama, Harumi	51,52	Uchida, Shigeo	84,85,86
Okayasu, Ryuichi	39,91	Uchihori, Yukio	94,95,97
Okazaki, Takahiro	81	Uchiyama, Akihiko	58,61
Okubo, Yoshiro	63,64,65	Ueda, Jun-ichi	14
Okuda, Yohei	22	Ueda, Takuya	30
Okumura, Yutaka	56	Uemura, Koji	59,60,61
<b>Omoe, Katsuhiko</b>	<b>46,47</b>	<b>Umehara, Takaya</b>	<b>1,4,5</b>
Onoda, Makoto	36	Urakabe, Eriko	10
Onoda-Miyoshi, Mami	36	Urano, Shiro	22
Oohashi, Shinichirou	61	Uzawa, Akiko	70
Oohira, Chisa	70,71	<b>W</b>	
Orita, Narimichi	1	Wakaisami, Mitsuji	62
Ota, Ichiro	32	Wang, Bing	51,52
Ozawa, Toshihiko	14,15,16,17,18,19,21,22	Watabe, Teruhisa	80
<b>P</b>		Watanabe, Hideo	62
Paola, Scampoli	99	Watanabe, Masakatsu	74
Paul, Fritsch	53	Watanabe, Yoshito	77,78,79
<b>R</b>		Weihai, Zhuo	89
Rvonfa, Lee	70,71	<b>X</b>	
Ryosuke Kohno	6	Xueming, Yan	57,96
<b>S</b>		<b>Y</b>	
Sagara, Masashi	38,39,42	Yajima, Kaori	94
Saito, Shiori	91	Yamada, Masatoshi	76
Sakaguchi, Masahiro	47	Yamada, S	71
Sang-Hee Park	35	Yamada, Satoru	8,9,10
Sano, Yoshinobu	8	Yamada, Shigeru	37
Sarat Kumar, Sahoo	77	Yamada, Yuji	87,88,89
Sasaki, Makoto	7	Yamada, Yutaka	48,53,54,55
Sasaki, Shigeki	27	Yamaguchi, Chizuru	97,98
Sasaki, Yasuhito	28	Yamaguchi, Hiroshi	12,93,94
Sato, Koki	45	Yamamoto, Fumihiko	27
Sato, Shinichiro	66	Yamamoto, Koshi	46
Sato, Yukio	9,12	Yamamoto, Masayuki	41
Shang, Yi	51,52	Yamaya, Taiga	2
Shibamoto, Yuta	26	Yanou, Toshihiro	69
Shibayama, Kouichi	62	Yasuda, Hiroshi	97
Shibuya, Shinji	10	Yasuda, Nakahiro	12,94,99
Shigematsu, Naoyuki	30	Yasuno, Fumihiko	63,64,65
Shimasaki, Tatsuya	56	Yasuoka, Yasuoka	87
Shimizu, Keiji	3	Yonehara, Hidenori	88,89
Shinichi Minohara	6	Yoshida, Eiji	3
Shinkai, Hiroshi	28	Yoshida, Satoshi	83
Shinohara, Manabu	64	Yoshikawa, Kyosan	60
Shioe, Kunihiko	64	Yoshimura, Hitoshi	32
Shirakawa, Yoshiyuki	13	Yoshinaga, Shinji	37,82
Soga, Fuminori	12	Yoshitome, Eiji	28
Sudo, Hitomi	38,39,42	Yukawa, Masae	12,78,81,79
Sudo, Yasuhiko	63,64	Yukawa, Osami	51
Sugaya, Kimihiko	44		
Suhara, Tetsuya	63,64,65		
Sunaga, Takahiro	28		
Suzuki, Kazutoshi	65,67,68		
Suzuki, Keiko	23		
Suzuki, Masao	12,70,71,97,98		
Suzuki, Shozo	25		
Sylvia, Ritter	29		
<b>T</b>			

## Organization and Staff

Status of March 31, 2003

Yasuhito Sasaki, M.D., Ph.D., President

Keiko Yumino, Secretary

Toshihiko Ozawa, Ph.D., Executive Director

Haruo Suzuki, Executive Director

Masaoki Terashima, Auditor

Takashi Murai, Advisory Auditor

### Low Dose Radiation Effects Research Project

Toshiaki Ogiu, M.D., Ph.D., Director

Mitsuoki Morimyo, Ph.D., Vice-Director\*

Yoshiya Shimada, Ph.D., Vice-Director

### Biological Effects of Neutrons

Toshiaki Ogiu, M.D., Ph.D., Team Leader\*

Yasushi Ohmachi, D.V.M., Ph.D.

Shin Saigusa, Ph.D.\*\*\*\*

Tsuyoshi Hamano, Ph.D. ††

Yuka Ishida, M.S. †

Takeshi Hiraoka, Ph.D.\*\*\*\*

Shinji Fushiki, M.D., Ph.D.\*\*\*\*

### Radiation and Environmental Carcinogenesis

Yoshiya Shimada, Ph.D., Team Leader\*

Mayumi Nishimura

Tatsuhiko Imaoka, Ph.D.

Shizuko Kakinuma, Ph.D.\*\*\*\*

Mie Murata, D.V.M., Ph.D.++++

Toshihiko Sado, Ph.D.\*\*\*

Masahiko Hatano, M.D., Ph.D.\*\*\*

Kyoko Yasumura, M.S.†††

Atsushi Inoue, M.D.†††

### Genetic Effects on Radiation Carcinogenesis

Hideo Tsuji, Ph.D., Team Leader

Hiroko Ishii, Ph.D.

Takanori Katsube, Ph.D.

Hideki Ukai, Ph.D. ††

### Hereditary Effects of Radiation

Masatake Yamauchi, Ph.D., Team Leader\*

Tomoyasu Higashi, M.S.

Etsuko Hongo

Satsuki Tsuji

Mitsuoko Morimyo, Ph.D.\*

Katsuyoshi Fujikawa, Ph.D. (May 2002~Oct. 2002)††

Wu Jian Yu, M.S.++++

### Radiation Effects on Germ Cells

Tadahiro Shiomi, Ph.D., Team Leader

Masahiko Takahagi, Ph.D.

Naoko Shiomi †

Takeshi Yasuda, Ph.D. (Jan.2003~) ††

### Nakaminoto Laboratory for Marine Radioecology

Masashi Kusakabe, Ph.D., Director

Management Section

Naokata Suzuki, Head and 7staffs

### International Space Radiation Laboratory

Kazunobu Fujitaka, Ph.D., Director

Masahide Furukawa, Ph.D.\*

Masahiro Doi, Ph.D.\*

Etsuko Ito+++

Satomi Onuma

### Radiation measurements in space

Hiroshi Yamaguchi, Ph.D., Team leader

Masashi Takada, Ph.D.

Yukio Uchihori, Ph.D.

Tatsumi Koi, Ph.D.+++

Nakahiro Yasuda, Ph.D.+++

Hisashi Kitamura, M.S.+++

Takashi Nakamura, Ph.D.+

Toshisuke Kashiwagi, Ph.D.+

Mieko Kurano

Dairo So

Kazuko Kaiho

### Radiation protection in space.

Kazunobu Fujitaka, Ph.D., Team leader\*

Hiroshi Yasuda, Ph.D.

Susumu Kinpara, Ph.D.

### Cellular and molecular effects in Space

(Kazunobu Fujitaka, Ph.D., Team leader\*)

Ryuichi Okayasu, Ph.D., Team leader

Kumie Nojima, B.S.

Masao Suzuki, Ph.D.

Sizuo Tomita\*\*\*, &

Chizuru Tsuruoka\*\*\*

Rekiko Bando

Chikako Kizu

Keiko Sekita

Liu Chihua

Setsuko Kawai

Shiori Saito  
Preventive medicine in space  
Satoshi Fukuda, D.V.M., Ph.D., Team leader  
Haruo Iida  
Naoko Yayoshi, D.V.M.  
Kuniyo Tarumi

Environmental Radiation Protection Research Group  
Kenzo Fujimoto, Ph. D., Director\*  
Masashi Kusakabe, Ph. D., Vice-Director  
Radionuclide Behavior around the Living Environment  
Kunio Shiraishi, Ph. D., Team Leader\*  
Sarata Kumar Sahoo, Ph. D.\*  
Shinzo Kimura, Ph. D.  
Toshiyuki Nakajima, Ph. D.\*\*\*  
Yoshiko Kawabata, Ph. D.\*\*\*  
Hitoshi Iwahashi, Ph. D.\*\*\*  
Emi Ishido†††

Internal Exposure  
Yoshikazu Nishimura, D. V. M., Ph. D., Team Leader\*  
Yoshito Watanabe, Ph. D.\*  
Shino Homma-Takeda, Ph. D.  
Masae Yukawa, Ph. D.\*  
Shiro Sakurai, Ph. D.\*\*\*  
Masahito Wada, Ph. D.\*\*\*  
Izuru Kakuta, Ph. D.\*\*\*  
Atsuko Shinohara, Ph. D.\*\*\*  
Hiroyuki Fukuda, M. D.†††  
Hiromichi Oobu, M. D.†††

Radiation Protection Dosimetry  
Nobuhito Ishigure, Ph. D., Team Leader\*  
Takashi Nakano, Ph. D.\*  
Masaki Matsumoto, M. S.\*  
Hiroko Enomoto\*  
Masaharu Okano, Ph. D.\*\*\*

Radiation Epidemiology and Risk Assessment  
Yasuhiko Yoshimoto, Ph. D., Team Leader  
Shinji Yoshinaga, Ph. D.

Radiation Exposure Mitigation  
Katsumi Kurotaki, Ph. D., Team Leader  
Masafumi Uchiyama, Ph. D.\*\*\*

Distribution of Radionuclides in the Ocean  
Teruhisa Watabe, M. S., Team Leader  
Masatoshi Yamada, Ph. D.  
Tatsuo Aono, Ph. D.  
Zhong-Liang Wang, Ph. D.\*\*\*  
Miki Amou†††

Mechanism of Accumulation of Radionuclides and Stable  
Isotopes by Marine Organisms  
Toshiaki Ishii, Ph. D., Team Leader

Motokazu Nakahara, B. S.  
Ryoichi Nakamura, B. S.  
Mitsue Matsuba  
Assessments of Radiological Impacts of Releases of Radioactive  
Substances into the Marine Environment  
Shigeki Hirano, Ph. D., Team Leader  
Setsuko Yokosuka

Environmental and Toxicological Science Research Group  
Ysuyuki Muramastu, Ph.D., Director  
Environmental Toxicology  
Yasuyuki Muramatsu, Ph.D., Head  
Hiroshi Sato, Ph.D.  
Yoshihisa Kubota, D.V.M.  
X.Z.Sun, Ph.D.††  
Model Ecosystem Studies  
Hiroshi Takeda, Ph.D., Head  
Kiriko Miyamoto, Ph.D.  
Kei Yanagisawa, Ph.D.  
Shoichi Fuma, M.S.  
Nobuyoshi Ishii, Ph.D.††  
Methodology Development  
Masahiro Doi, Ph.D., Head  
Tetsuya Sakashita, Ph.D.  
Biogeochemical Research  
Yasuyuki Muramatsu \*, Ph.D., Head  
Shigeo Uchida, Ph.D.  
Satoshi Yoshida, Ph.D.  
Keiko Tagami, Ph.D.  
Tadaaki Ban-nai, M.S.

Radon Research Group  
Yuji Yamada, Ph.D. Director  
1st Team  
Masahide Furukawa, Ph.D Team Reader.  
Shinji Tokonami, Ph.D.  
Hirokazu Ichitsubo, Ph.D.  
2nd Team  
Yuji Yamada, Ph.D. Team Reader.  
Takeko Odaka  
Kumiko Fukutsu, B.S.  
Tetsuo Ishikawa, Ph.D.  
Weihai Zhuo, Ph.D.  
Akira Koizumi, \* B.S.  
Hidenori Yonehara\*, Ph.D.

Redox Regulation Research Group  
Nobuo Ikota, Ph.D. Director  
1st Team  
Jun-ichi Ueda, Ph.D. Team Leader

Hidehiko Nakagawa, Ph.D.,  
Ikuo Nakanishi, Ph.D.  
Akira Hanaki, Ph.D.\*\*\*  
Megumi Ueno, M.S.+++++

#### 2nd Team

Kazunori Anzai, Ph.D. Team Leader  
Masako Furuse,  
Keizo Takeshita, Ph.D.  
U. Winn Aung, Ph.D. ††  
Takashi Moritake, M.D.\*\*\*  
Ragchaa Khoroljav, Ph.D.\*\*\*  
Badal Mandal, Ph.D. ††  
Kaori Fujii, †††††  
Keita Saito,+  
Chiho Nishizawa, †††††  
Yo-hei Okuda, †††††

#### 3rd Team

Nobuo Ikota, Ph.D.\* Team leader  
Makoto Onoda, Ph.D.  
Hiroshi Inano, Ph.D.\*\*\*  
Mami Miyoshi, Ph.D. †

#### 4th Team

Nobuo Ikota, Ph.D.\* Team leader  
Keiko Suzuki, Ph.D.  
Hiroshi Ishihara, Ph.D.  
Izumi Tanaka,  
Haruko Yakumaru, M.S. †

#### Radiation Hazards Research Group

Isamu Hayata, Ph.D., Director

#### 1st Team

Isamu Hayata, Ph.D. Team leader  
Masako Minamihisamatsu, B.S.  
Reiko Kanda, Ph.D.  
Akira Furukawa, Ph.D.  
Wang Chunyan\*\*\*  
Zhang Wei, B.M.\*\*\*

#### 2nd Team

Shiro Aizawa, Ph.D. Team Leader  
Kazuko Yoshida, Ph.D.  
Kaoru Tanaka, B.S.  
Yoko Hirabayashi, M.D., Ph.D.\*\*\*  
Tohru Inoue, M.D., Ph.D.\*\*\*  
Keiko Watanabe, B.S. ††  
Masanobu Kitagawa, M.D., Ph.D. ††

#### 3rd Team

Osami Yukawa, Ph.D., Team Leader  
Masako Nose, B.S.  
Mitsuru Neno, Ph.D.  
Wang Bing, Ph.D.

Tetsuo Nakajima, Ph.D.

Kazuhiro Daino, M.S. ††

Takeshi Yamada, Ph.D.\*\*\*

Harumi Ohyama, Ph.D.\*\*\*

Sachiko Ichimura, Ph.D.\*\*\*

Hiroko Hama-Inaba, Ph.D.\*\*\*

Chihiro Azuma, B.S. ††††

#### 4th Team

Tomohisa Hirobe, Ph.D., Team Leader

Hiromi Itsukaichi

Kiyomi Eguchi-Kasai, Ph.D.

Masahiko Mori, Ph.D.

Masahiro Murakami, Ph.D.

Manabu Koike, Ph.D.

Kimihiko Sugaya, Ph.D.

Yasuharu Ninomiya, Ph.D.

Motoi Ohba, Ph.D.\*\*\*

Haruki Ootaka, B.S. ††

Kori Ohno, M.S.

#### Transcriptome Profiling Research Group

Kouichi Tatsumi, M.D., Ph.D., Director

Masumi Abe, Ph.D., Team leader

Toshiyuki Saito, Ph.D., Team leader

Ikuko Furuno-Fukushi, Ph.D., Senior Researcher

Yuko Noda, Senior Researcher

Eiko Kubo, Senior Researcher

Ryoko Araki, M.D., Ph.D., Postdoctoral Fellow

Ryutaro Fukumura, Ph.D., National Institute Post Doctoral Fellow

Hirakazu Takahashi, Ph.D., Visiting Researcher

Akira Fujimori, M.D., Ph.D., Visiting Researcher

Masahiro Muto, Ph.D., Visiting Researcher

Yoshihiko Chiba, Ph.D., Visiting Researcher

Yuko Houki-Fujimori, B.Ph., Visiting Technical Staff

Akiko Hayashi, B.S., Visiting Technical Staff

Tatsuya Asano, B.S., Visiting Technical Staff

Tsuyoshi Kuroda, B.S., Visiting Technical Staff

Yoshinori Takano, B.S., Visiting Technical Staff

Tatsuya Ohhata, Graduate Student of Cooperation Program

Yoko Tsutsumi, Ph.D., Visiting Scientist

Syunsuke Ando, B.S., Visiting Scientist

Yoshimichi Tabata, Postgraduate Fellow

Eiko Sameshima, Postgraduate Fellow

Takeshi Furuse, Ph.D., Visiting Cooperative Researcher

Hiroshi Tanooka, Ph.D., Visiting Cooperative Researcher

Takayuki Kurihara, Ph.D., Visiting Cooperative Researcher

Akiko Ueno, Ph.D., Visiting Cooperative Researcher

Naokazu Sasaki, B.S., Visiting Cooperative Researcher

Maki Nakahara, M.S., Visiting Cooperative Researcher

Etsuko Mitsui, B.S., Visiting Cooperative Researcher  
Joseph John Rodrigue, Ph.D., Visiting Cooperative Researcher  
Takayuki Akimoto, Ph.D., Visiting Cooperative Researcher  
Ichiro Kouno, Ph.D., Visiting Cooperative Researcher  
Charles A. Waldren, Ph.D., Cooperating Researcher  
Akiko Ueno, Ph.D., Cooperating Researcher  
Diane B. Vannais, B.S., Cooperating Researcher

#### Laboratory Animal Development and Research Group

Satoru Matsushita, D.V.M., Ph.D., Director  
Yuji Ishikawa, Ph.D., Team Leader  
Seiji Kito, Ph.D.  
Masanori Okamoto, Ph.D.\*  
Akihiro Kawano, D.V.M., M.S.\*  
Hiromi Omoe, D.V.M., Ph.D.\*  
Atsuko Matsumoto, M.S.+  
Kouichi Maruyama, M.S.++  
Kazuko Aoki, Ph.D., \*\*\*

#### Internal Radiation Effects Research Group

Yoichi Oghiso, D.V.M., Ph.D., Director  
Yutaka Yamada, D.V.M., Ph.D., Team Leader

#### The Research center for Radiation Emergency Medicine

Yasuhiro Takeuchi, M.D., Ph.D., Director  
Makoto Akashi, M.D., Ph.D., Project Leader  
Pathophysiological Study on Tissue Injury due to Acute High  
dose Irradiation Toshiyasu Hiramata, M.D., Ph.D., Head  
Naoyuki Anzai, M.D., Ph.D.  
Misao Hachiya, Ph.D.  
Hisayoshi Kondo, M.D.  
Saori Kawamura, M.D.  
Daisaku Takai, Ph.D. \*\*\*  
Sang-Hee Park, Ph.D. \*\*\*  
Rika Kawaguchi, M.S. \*\*\*  
Yasunari Takada † †  
Kazumi Harada † † †  
Manabu Koike, Ph.D.  
Yasuharu Ninomiya, Ph.D.  
Kaori Ohno, M.S.  
Tomoe Yamauchi  
Aki Koike  
Motoi Ohba, Ph.D. \*\*\*  
Development of Chelating Agents for Internal Contaminations  
Satoshi Fukuda, D.V.M., Ph.D., Head.  
Haruzo Iida  
Yan Yueming \*\*\*\*  
Makoto Akashi, M.D., Ph.D.  
Development Program of a System for dose Assessment and  
Evaluation in Radiation Emergency

Yutaka Noda, B.S., Head  
Makoto Akashi\*, M.D., Ph.D.  
Shinji Sato  
Yoshikazu Kumamoto, Ph.D.  
Isamu Hayata\*, Ph.D.  
Masako Minamihisamatsu, B.S.  
Reiko Kanda\*, Ph.D.  
Akira Furukawa\*, M.S.

#### Study for Reduction of Detriment Induced by Ionizing Irradiation

Makoto Akashi\*, M.D., Ph.D., Head  
Yoshiko Kawase, B.S.  
Reina Kondo † † † †  
Nobuo Ikota\*, Ph.D.  
Kazuki Anzai\*, Ph.D.  
Hiroshi Ishihara\*, Ph.D.  
Masako Furuse\*  
Hiroshi Inano\*, Ph.D.  
Shiro Aizawa\*, Ph.D.  
Kazuko Yoshida\*, Ph.D.  
Kaoru Tanaka\*, B.S.

#### Emergency Response on Accidental Environmental Contamination

Kenzo Fujimoto\*, Ph.D., Head  
Hiroshi Takeda\*, Ph.D.  
Shinzo Kimura\*, Ph.D.  
Katsumi Kurotaki\*, Ph.D.  
Masae Yukawa\*, Ph.D.  
Yoshikazu Nishimura\*, D.V.M., Ph.D.  
Nobuhito Ishigure\*, Ph.D.  
Kiriko Miyamoto\*, Ph.D.  
Yasuyuki Muramatsu\*, Ph.D.  
Takashi Nakano\*, Ph.D.  
Reiko Kanda\*, Ph.D.  
Sarata Kumar Sahoo\*, Ph.D.  
Yoshito Watanabe\*, Ph.D.  
Masaki Matsumoto\*, B.S.  
Kunio Shiraiishi\*, Ph.D.

#### Hospital

Hirohiko Tsujii, M.D., Director  
Section of Clinical Oncology  
Shinroku Morita, M.D., Section Head  
1st Room  
Tadaaki Miyamoto, M.D.  
Hiroshi Kato, M.D.  
Shigeru Yamada, M.D.  
Naoyoshi Yamamoto, M.D.  
3 Resident Doctors  
2nd Room

Junetsu Mizoe, M.D.

Takeshi Yanagi, M.D.

Hiroshi Tsuji, M.D.

Tatsuya Ohno, M.D.

3 Resident Doctors

Clinical Radio-Technology

Kunio Sakashita and 10 Staff Members

Section of Clinical Diagnosis

Susumi Kandatsu, M.D., Section Head

Laboratory Examinations

Hidehumi Ezawa, M.D.

Hiroko Moriya and 3 Staff Members

Imaging Diagnosis

Tadashi Kamada, M.D.

Tkayuki Obata, M.D.

Kyosan Yoshikawa, M.D.

Ryuichi Yoneyama, M.D.

And 2 Resident Doctors

Section of Nursing

Mitsuko Matsuda, Section Head

Tamiko Satoh

Fusako Kitane

Chiemi Murakami, Noriko Tokuyama

30 Staff Members and 4 Assistants

Pharmacy

Shin Watanabe, Kazuo Seki and Takashi Nakano

Department of Accelerator Physics and Engineering

Satoru Yamada, Ph. D., Director

Cyclotron Operation Section

Toshihiro Honma, Ph. D., Section Head

Koji Kono\*

Satoru Hojo

Yukio Sakamoto

HIMAC Operation Section

Eiichi Takada, Ph. D., Section Head

Koji Kono

Mitsuru Suda

Masayuki Muramatsu

Mitsuo Yoshimoto

Technical Management Section

Takeshi Murakami, Ph. D., Section Head

Akinori Sugiura

Low Energy Beam Research Section

Yukio Sato, Ph. D., Section Head

Atsushi Kitagawa, Ph. D.

Valeri Kapin, Ph. D. (JSPS Fellow)

Takashi Fujisawa, Ph. D. #####

High Energy Beam Research Section

Satoru Yamada, Ph. D., Section Head\*

Masayuki Kumada, Ph. D.

Mitsutaka Kanazawa, Ph. D.

Koji Noda, Ph. D.

Yoshiyuki Iwata, Ph. D. (JISTEC Fellow)

Makoto Sasaki, Ph. D. ††

Toshiyuki Misu, Ph. D. ††

Takuji Furukawa, M. S. †

Tetsumi Tanabe, Ph. D. \*\*\*\*

Fuminori Soga, Ph. D.

Takehiro Tomitani, Ph. D.

Masami Torikoshi, Ph. D, Section Head

Shinji Shibuya, Ph. D. †††

Medical Physics Research Section

Shinichi Minohara, Ph. D.

Naruhiko Matsufuji, Ph. D.

Department of Medical Physics

Masahiro Endo, Ph.D., Director

Mitsue Takeshita, Secretary

Therapy Biophysics Section

Tatsuaki Kanai, Ph.D., Section Head

Akifumi Fukumura, Ph.D.

Nobuyuki Kanematsu, Ph.D.

Masaaki Hirai, Ph.D. ††

Masataka Komori, Ph.D. ††

Eriko Urakabe, Ph.D. ††

Ryosuke Kohno, Ph. D. ††

Manabu Mizota, Ph. D. \*\*\*\*

Ken Yusa, Ph.D. \*\*\*

Haruo Yamashita, Ph.D. \*\*\*

Yasuyuki Futami, Ph.D. \*\*\*

Teiji Nishio, Ph.D. \*\*\*

Takashi Akagi, Ph.D. \*\*\*

Munefumi Shinbo, Ph.D. \*\*\*

Akio Higashi, Ph.D. \*\*\*

Takeshi Hirooka, Ph. D. \*\*\*

Li Qiang, Ph. D. \*\*\*

Yasushi Iseki, M.S. †

Yuki Kose, M.S. †

Hiroki Otani, Ph.D. †††

Therapy System Section

Masahiro Endo, Ph.D., Section Head\*

Hiroko Koyama-Ito, Ph.D.

Nobuyuki Miyahara, Ph.D.

Takanori Tsnoo, Ph.D. ††

Masao Matsumoto, Ph. D. \*\*\*\*

Shigeo Furukawa \*\*\*

Yuzuru Nakamura, Ph.D. \*\*\*

Naoki Suzuki, Ph. D. \*\*\*

Yukio Nakatsuch, M.D. \*\*\*

Masahiro Husakabe, Ph. D.\*\*

Kazumasa Satoh, B.S.†††

Satoshi Matsusita, M.S.†††

Satoshi Umeda, M.D.†††

#### Imaging Physics Section

Hideo Murayama, Ph.D., Section Head

Toru Matsumoto, Ph.D.

Taiga Yamaya, Ph.D.\*\*\*\*

Tomoyuki Hasegawa, Ph.D.\*\*\*\*

Keishi Kitamura, Ph.D.\*\*\*\*

Takeshi Inuma, Ph.D.\*\*\*\*

Norimasa Nohara, Ph.D.\*\*\*\*

Eiichi Tanaka, Ph.D.\*\*\*

Hideharu Yoshida, M.S.††

Sigenori Shimizu, M.S. †

Naoko Inadama, M.S. †

Hiroyuki Takahashi, Ph.D.\*\*\*

Hideaki Haneishi, Ph.D.\*\*\*

Hideyuki Kawai, Ph.D.\*\*\*

Yoshihisa Akiyama, Ph.D.\*\*\*

Takeshi Obi, Ph. D.\*\*\*

Yuichi Kimura, Ph. D.\*\*\*

Seiichi Yamamoto, Ph. D.\*\*\*

#### Medical Exposure Assessment Section

Kanae Nishizawa, Ph.D.

Yutaka Ito, Ph.D.\*\*\*\*

Takashi Maruyama, Ph.D.\*\*\*\*

Kazuo Iwai, Ph.D., D.D.S.†††

#### Department of Medical Imaging

Shuji Tanada, M.D., Director

Taiko Joshima, Secretary

#### Radiopharmaceutical Chemistry Section

Kazutoshi Suzuki, Ph.D., Head

Terushi Haradahira, Ph.D.

Kazuyoshi Nemoto

Masayuki Suzuki

Ryuji Nakao

Osamu Inoue, Ph.D.++++

Ren Iwata, Ph.D.\*\*\*

Tomoko Nakanishi, Ph.D.\*\*\*

Kiyoshi Matsumura, Ph.D.\*\*\*

Toshimitu Fukumura, M.S. †††

Keitarou Tanoi, M.S. †††

Keiko Kawahara, Secretary

#### Radiotracer and Radiopharmacology Section

Toshiaki Irie, Ph.D., Head

Sadao Shibata, B.S.

Kiyoshi Fukushi, M.S.

Hitoshi Shinotoh, M.D.\*\*\*\*

Masahiko Hirasawa, M.S.\*\*\*\*

Hiroki Namba, M.D.\*\*\*\*

Noriko Tanaka, M.D. †††

Tsuneyoshi Oota, M.D. †††

Shinichiro Nagatsuka, M.S.\*\*\*

#### Clinical Imaging Section

Shuji Tanada, M.D., Head\*

Tetsuya Suhara, M.D.\*

Yukio Tateno, M.D.\*\*\*

Hiroshi Fykuda, M.D.\*\*\*\*

Katsuya Yoshida, M.D.\*\*\*

Hiroyuki Tadokoro, M.D.\*\*\*

#### Informative Molecular Research Section

Hiroo Ikehira, M.D., Head

Tsutomu Nakada, M.D.\*\*\*\*

Hiroshi Shinkai, M.D.\*\*\*

Takayuki Aoki, Ph.D.\*\*\*

#### Medical Information Processing Office

Hinako Toyama, Ph.D., Head\*

Shinichiro Sato, M.D., Ph.D.

Eiko Takeda

Koji Uemura, Ph. D.

Yoko Ikoma†††

Shinichiro Ohashi†††

Ikuma Takahashi††††

Keisuke Yamakawa††††

#### Heavy-Ion Radiobiology Research Group

Koichi Ando, D.D.S., Ph.D., D.M.Sc., Group Leader

Yoshiya Furusawa, Ph.D.

Akiko Uzawa, B.Sc.

Sachiko Koike B.Sc.

Nobuhiko Takai, Ph.D.

Mizuho Aoki, Ph.D.††

Hiroshi Ohara, Ph.D.\*\*\*\*

Chunlin Shao, Ph.D.\*\*\*

Guangming Zhou, Ph.D.\*\*\*

Manami Monobe, M.Sc.+

Yasuyuki Miyato, M.Sc.+

Takeshi Fukawa, M.Sc.+

Yayoi Shino, M.Sc.†††

Kazumi Nakata,

Michiko Takakura,

Eriko Satoh,

Noriko Kameyama,

Tetsuya Kawata, Ph.D., MD.†††

Francis A. Cucinotta, Ph.D.†††

Honglu Wu, Ph.D.†††

Hideki Matsumoto, Ph.D.†††

Akihisa Takahashi, Ph.D. †††  
Ken Ohnishi, Ph.D. †††  
Kerry George M. Sc. †††  
Teruaki Konishi, M.Sc. †††  
Kyoko Takahashi,+++  
Chisa Ishizawa,+++  
Shin Yamaura,+++  
Yuichi Kanasugi,+++  
Daichi Yoshihara,+++  
Takahiko Ishida,+++  
Yosuke Izawa,+++  
Tadahiro Shiraiishi,+++  
Kyoko Nohara,+++

#### Bio-Emission Laboratory

Mikio Yamamoto, Ph.D., Head^†  
Nobuo Fukuda, Ph.D., M.D. \*\*  
Hideyuki Kokubo, B.S. \*\*\*  
Yoshio Machi, Ph.D. \*\*\*  
Kimiko Kawano, Ph.D. \*\*\*  
Junichirou Kotake, Ph.D. \*\*\*  
Hideo Yoichi, M.E. \*\*\*  
Tomoko Kokado, B.S. \*\*\*  
Tong Zhang, M.D. \*\*\*  
Weizhong Chen, M.E. \*\*\*  
Fengtong Wang, M.D. \*\*\*  
Masataka Tanaka, B.S. \*\*\*  
Suzue Haraguchi, B.S. \*\*\*  
Dmitri V. Parkhomtchouk, Ph.D. \*\*\*  
Takao Soma, Ph.D. \*\*\*  
Mitsumori Tsuchida, M.E. †††  
Yuka Fukushima A.A. \*\*\*  
Masako Baba, M.Ph. \*\*\*  
Yuko Furuya, B.A. \*\*\*  
Mamiko Kotake, B.A. \*\*\*  
Mayumi Shibuya, B.A. \*\*\*  
Yasushi Saito, B.A. \*\*\*  
Kazue Hashimoto, A.A. \*\*\*  
Mariko Fujita, M.Sc. \*\*\*  
Namiko Tsunoda. ††††  
Kensaku Fujimura. ††††  
Takashi Marui. ††††

#### Frontier Research Center

Hajime Murata, M.D., Ph. D. Supervisory Director  
RedGenomics  
Takashi Imai, Ph.D., Director  
Yoshi-nobu Harada, Ph.D., Vice-Director  
Mayumi Iwakawa, M.D., Ph.D., Vice-Director  
Sadayuki Ban, D.M.Sc., Ph.D

Yuichi Michikawa, Ph.D.  
Kumiko Saegusa, Ph.D.  
Masashi Sagara, Ph.D  
Atsushi Tsuji, Ph.D  
Syuhei Noda, M.D., Ph.D.  
Ken-ichi Ishikawa, M.S.  
Atsuko Ishikawa, B.S.  
Yoshimi Ohtsuka.  
Tomo Kimura, M.S.  
Aya Sugyo, M.S.  
Hitomi Sudo, M.S.  
Miyuki Ohta.  
Chisa Oohira, M.S.  
Miyako Goto, B.S.  
Toshie Ohta, M.S.  
Masakazu Kouda, M.S.  
Seiko Kawai.  
Aki Furuno, M.S.  
Hiroko Tanaka, M.S.

#### Division of Technical Support and Development

Masae Yukawa, Ph.D., Director  
Technical Service and Development Section  
Hitoshi Imaseki, B.E., Head  
and 6 Staff  
Information Network System Development Section  
Shozo Hongo, B.S., Head  
Hiroshi Takeshita, B.S. and 1 Staff  
Shinichiro Sato\*

#### Laboratory Animal Development and Management Section

Satoru Matsushita, D.V.M., Ph.D., Head\*  
Masanori Okamoto, Ph.D.  
Akihiro Kawano, D.V.M., M.S.  
Hiromi Omoe, D.V.M., Ph.D. and 6 Staff  
Seiji Kito, Ph.D.\*  
Kazuaki Ichinohe, B.S. ††  
Mikio Saito, Ph.D. ††  
Fumiaki Sato, Ph.D. \*\*\*  
Tsuneya Matsumoto, Ph. D. \*\*\*

#### Office of Planning and Coordination

Yuji Nakamura, PhD., Director  
Yasuhiro Yukimatsu, Head  
Masahiro Yamauchi, PhD., Planning Manager  
Kazunori Anzai, PhD., Evaluation Manager and 5 staff.

#### Office of Public Relation

Osamu Hongo, PhD., Director and 2 staff.

Department of Management

Masakazu Murakami, Director  
Personnel and General Affairs Section  
Yukio Sakurai, Head and 12 staff  
Budget and Accounting Section  
Syoichi Sasaki, Head and 8 staff  
Contract and Property Management Section  
Masanori Hirokami, Head and 9 staff  
Facility Management Section  
Masakichi Sakai, Head and 8 staff

Department of International Co-operation, Research Exchange  
and Training

Yoshikazu Inoue, Director  
International Co-operation Section  
Hideo Tatsuzaki, head and 1 staff  
Research and Scientific Information Exchange Section  
Yukio Kamakura, Head and 2 staff  
Training School  
Hsamasa Joshima, PhD, Head

Yoshiyuki Shirakawa, PhD.  
Itsuro Tamanoi, PhD.\*\*  
Kazuo Watari, PhD.\*\* and 2 staff

Audit Office

Tsukasa Sato, Head

Department of Radiation Protection and Safety

Terumi Aoki, Director  
Radiation Safety Section  
Koji Suzuki, Head and 8 staff  
Emergency Preparedness and Monitoring Office  
Mitsuhiro Kuchigi, Head and 4 staff  
Safety Control Section  
Tsuneo Komaya, Head and 2 staff  
Radiotoxicology Building Operation Office  
Akira Koizumi, Head and 4 staff  
Radiation Safety Technology Development Section  
Noriyoshi Yoshida\*, Head

\* Dual Capacity

\*\* Honorary Scientist

\*\*\* Visiting Cooperative Researcher

\*\*\*\* Visiting Researcher

† Visiting Technical Staff

†† Post Doctorial Fellow

††† Post Graduate Fellow

†††† Trainee

+ Graduate Student of Cooperation Program

++ Senior Consultant

+++ Cooperative Researcher

++++ HIMAC Machine Time Coordinator

+++++ Staff Technologist of Priority

NATIONAL INSTITUTE OF RADIOLOGICAL SCIENCES

4-9-1, Anagawa, Inage-ku, Chiba-shi 263-8555 JAPAN

TEL:043-251-2111 FAX:043-256-9616

Email:kouryu@nirs.go.jp <http://www.nirs.go.jp>

NAKAMINATO LABORATORY FOR MARINE RADIOECOLOGY

NATIONAL INSTITUTE OF RADIOLOGICAL SCIENCES

Isozaki 3609, Hitachinaka-shi, Ibaraki, 311-1202 JAPAN

TEL:0292-65-7141 FAX:029-265-9214