

# Program

Time	Day 1: Feb 9 (Thu)	Day 2: Feb 10 (Fri)	
9		9:00 <b>Poster session</b> < 2 F > Even numbers ----- Open discussion	
10		10:00 <b>Symposium 1: Radiation neurobiology</b> Chairs: N. Takei (Niigata Univ) K. Tsuboi (Univ of Tsukuba) S1-1. H.J. Okano (Jikei Univ) S1-2. R. Vlkolinsky (Loma Linda Univ) S1-3. C. Limoli (Univ of California)	
11			
12		12:00 <b>Group photographing</b> 12:20 <b>Sponsored seminar</b> < 2 F > Chair: K. Shirai (Gunma Univ) 12:40 <b>Special lecture 2</b> Chair: A. Takahashi (Gunma Univ) < 2 F > SL2. K.D. Held (MGH/Harvard Medical School)	
13		13:00 <b>Open</b> 13:30 <b>Opening address T. Nakano</b> (Gunma Univ) 13:35 <b>General presentation 1</b> Chairs: N. Mori (Nagasaki Univ) Y. Ishizaki (Gunma Univ)	13:20 13:40 <b>Special lecture 3</b> Chair: A. Shibata (Gunma Univ) SL3. P. Jeggo (Sussex Univ)
14		14:35 <b>General presentation 2</b> Chairs: Y. Suzuki (Fukushima Univ Sch Med) H. Hirai (Gunma Univ)	14:20 <b>Coffee break</b>
15		15:35 <b>Coffee break</b> 15:50 <b>Special lecture 1</b> Chair: S. Ishiuchi (Univ of Ryukyus) SL1. M. Hayashi (Tokyo Women's Med Univ)	14:40 <b>Symposium 2:</b> <b>Medical diagnostic and therapy</b> Chairs: M. Hasegawa (Nara Med Univ) M. Torikoshi (Gunma Univ) S2-1. Y. Tsushima (Gunma Univ) S2-2. T. Kanai (Gunma Univ) S2-3. Y. Shibamoto (Nagoya City Univ)
16		16:30 <b>Poster session</b> Odd numbers < 2 F > ----- Open discussion	16:40 <b>ISRN general meeting</b> T. Shirao (Gunma Univ) 16:50 <b>Closing remarks</b> T. Nakano (Gunma Univ)
17			
18			
19		19:00 <b>Banquet</b>	
20		< 2 F >	

Feb 9, Thu

13:00

**Open**

13:30~13:35

**Opening address**

Meeting president, **Takashi Nakano** (Gunma Univ)

13:35~14:35

**General presentation 1**

*Chairs: Nozomu Mori (Nagasaki Univ)*

*Yasuki Ishizaki (Gunma Univ)*

**G1-1.** Tumor inductive and suppressive effects of neutrons are dependent on the age at exposure in the medulloblastoma development of *Ptch1* heterozygous mice

**Chizuru Tsuruoka** (NIRS)

**G1-2.** Influence of ionizing radiation induced DNA damage and centrosome overduplication in mouse embryonic neuronal development

**Mikio Shimada** (Tokyo Institute of Technology)

**G1-3.** Chronic irradiation with low-dose-rate <sup>137</sup>Cs-γ rays inhibits NGF-induced neurite extension of PC12 cells via Ca<sup>2+</sup>/calmodulin-dependent kinase II activation

**Shinsuke Katoh** (Yokohama Univ of Pharm)

**G1-4.** Lipid alteration following proton beam irradiation in mouse brain of radiation necrosis model

**Natsuko Kondo** (Kyoto Univ)

**G1-5.** Trial of brain redox imaging and estimation of radiation-induced redox change in mouse brain

**Ken-ichiro Matsumoto** (NIRS)

**G1-6.** Hyperbaric oxygenation treatment suppress radiotherapy induced cellular hypoxia

**Chiaki Katagiri** (Univ of Ryukyus)

14:35~15:35

**General presentation 2**

*Chairs: Yoshiyuki Suzuki (Fukushima Univ Sch Med)*

*Hirokazu Hirai (Gunma Univ)*

**G2-1.** Effect of heavy ion beams on cancer stem-like cells in human ependymoblastoma

**Masatoshi Hasegawa** (Nara Med Univ)

**G2-2.** Usefulness of spheroid originated CD133-positive cells for cancer stem cell-targeting radiotherapy

**Toshiaki Tani** (NIRS Hospital)

**G2-3.** Brainstem necrosis of head and neck tumors treated with Carbon-ion radiotherapy

**Katsuyuki Shirai** (Gunma Univ)

**G2-4.** Molecular mechanism of PD-L1 expression induced by X-ray irradiation

**Hiro Sato** (Gunma Univ)

**G2-5.** The abscopal effect in the brain induced by *in situ*-irradiated peripheral tumor cells in a murine GL261 tumor model

**Junko Zenkoh** (Univ of Tsukuba)

**G2-6.** Abscopal activation of microglia in embryonic fish brain following targeted irradiation with heavy-ion microbeam

**Takako Yasuda** (Univ of Tokyo)

15:50~16:30

**Special lecture 1**

*Chair: Shogo Ishiuchi (Univ of Ryukyus)*

**SL1.** Modern and future in Gamma Knife micro-radiosurgery: Perspective for neurosurgeons based on institutional experiences

**Motohiro Hayashi** (Tokyo Women's Med Univ)

16:45~17:15

**Poster session<Odd No.>**

16:30~18:00

**ISRN council meeting**

17:15~17:30

**Poster session<Open discussion>**

19:00~21:00

**Banquet**

Feb 10, Fri

9:00~9:30

**Poster session <Even No.>**

9:30~9:45

**Poster session <Open discussion>**

10:00~12:00

**Symposium 1**

*Chairs: Nobuyuki Takei (Niigata Univ)*

**Radiation neurobiology**

*Koji Tsuboi (Univ of Tsukuba)*

- S1-1.** Effects of high-energy particles on neural activity in primary cultured cortical neurons  
**Hiroataka J. Okano** (Jikei Univ)
- S1-2.** Low-dose proton radiation effects in the transgenic mouse model of Alzheimer's disease:  
Will deep-space travel promote neurodegeneration in astronauts?  
**Roman Vlkolinsky** (Loma Linda Univ)
- S1-3.** Translational strategies for protecting the brain against cancer-treatment-induced  
cognitive decline **Charles Limoli** (Univ of California)

12:00~12:20

**Group photographing**

12:20~12:40

**Sponsored seminar**

*Chair: Katsuyuki Shirai (Gunma Univ)*

- SS.** Product introduction

12:40~13:20

**Special lecture 2**

*Chair: Akihisa Takahashi (Gunma Univ)*

- SL2.** Many faces of radiation protection: Some activities of the US National Council  
on Radiation Protection and Measurements (NCRP)

**Kathryn D. Held** (MGH/Harvard Medical School)

13:40~14:20

**Special lecture 3**

*Chair: Atsushi Shibata (Gunma Univ)*

- SL3.** DNA damage response in stem cells in the embryo and the adult

**Penny Jeggo** (Sussex Univ)

14:20~14:40

**Coffee break**

14:40~16:40

**Symposium 2**

*Chairs: Masatoshi Hasegawa (Nara Med Univ)*

**Medical diagnosis & treatment** *Masami Torikoshi (Gunma Univ)*

- S2-1.** Gadolinium (Gd) retention in the brain after administration of Gd-based contrast agents  
(GBCAs) for magnetic resonance imaging (MRI): Is it toxic or not?

**Yoshito Tsushima** (Gunma Univ)

- S2-2.** Irradiation system of Carbon Knife

**Tatsuaki Kanai** (Gunma Univ)

- S2-3.** Biology and clinical results of proton beam therapy

**Yuta Shibamoto** (Nagoya City Univ)

16:40~16:50

**ISRN general meeting** ISRN president, **Tomoaki Shirao** (Gunma Univ)

16:50~17:00

**Award ceremony/Closing remarks**

Meeting president, **Takashi Nakano** (Gunma Univ)

## Poster presentations

- P01.** Tumor inductive and suppressive effects of neutrons are dependent on the age at exposure in the medulloblastoma development of *Ptch1* heterozygous mice  
**Chizuru Tsuruoka** (NIRS)
- P02.** Influence of ionizing radiation induced DNA damage and centrosome overduplication in mouse embryonic neuronal development  
**Mikio Shimada** (Tokyo Institute of Technology)
- P03.** Chronic irradiation with low-dose-rate  $^{137}\text{Cs}$ - $\gamma$  rays inhibits NGF-induced neurite extension of PC12 cells via  $\text{Ca}^{2+}$ /calmodulin-dependent kinase II activation  
**Shinsuke Katoh** (Yokohama Univ of Pharm)
- P04.** Lipid alteration following proton beam irradiation in mouse brain of radiation necrosis model  
**Natsuko Kondo** (Kyoto Univ)
- P05.** Trial of brain redox imaging and estimation of radiation-induced redox change in mouse brain  
**Ken-ichiro Matsumoto** (NIRS)
- P06.** Hyperbaric oxygenation treatment suppress radiotherapy induced cellular hypoxia  
**Chiaki Katagiri** (Univ of Ryukyus)
- P07.** Effect of heavy ion beams on cancer stem-like cells in human ependyoblastoma  
**Masatoshi Hasegawa** (Nara Med Univ)
- P08.** Usefulness of spheroid originated CD133-positive cells for cancer stem cell-targeting radiotherapy  
**Toshiaki Tani** (NIRS Hospital)
- P09.** Brainstem necrosis of head and neck tumors treated with Carbon-ion radiotherapy  
**Katsuyuki Shirai** (Gunma Univ)
- P10.** Molecular mechanism of PD-L1 expression induced by X-ray irradiation  
**Hiro Sato** (Gunma Univ)
- P11.** The abscopal effect in the brain induced by in situ-irradiated peripheral tumor cells in a murine G1261 tumor model  
**Junko Zenkoh** (Univ of Tsukuba)
- P12.** Abscopal activation of microglia in embryonic fish brain following targeted irradiation with heavy-ion microbeam  
**Takako Yasuda** (Univ of Tokyo)

- P13.** Interfractional motion in Gunma Heavy Ion Medical Center prostate therapy  
**Daniel Bridges** (Gunma Univ)
- P14.** The expression of PD-L1 and HLA class I in human colorectal cancer cell line after X-ray and Carbon-ion irradiation  
**Endang Nuryadi** (Gunma Univ)
- P15.** Host-dependent effects of metastasis suppression by Carbon-ion and dendritic cell combined therapy  
**Liqiu Ma** (Gunma Univ)
- P16.** Drebrin expression after Carbon-ion irradiation in cervical cancer cells  
**T. B. Mayang Permata** (Gunma Univ)
- P17.** Changes in free amino acids in mice exposed to X-ray or Fe-ion radiation  
**Tetsuo Nakajima** (NIRS)
- P18.** Analysis of nucleolus biogenesis after ionizing radiation  
**Sangeeta Kakoti** (Gunma Univ)
- P19.** Brain oligometastases from lung cancer: Case reports suggesting the effectiveness of stereotactic radiotherapy  
**Jun Eishima** (Takasaki General Medical Center)
- P20.** Malignant peripheral nerve sheath tumor of the maxillary sinus treated with Carbon ion radiotherapy: A case report  
**Takanori Abe** (Gunma Univ)
- P21.** Response of olfactory neuroblastoma to Carbon ion radiotherapy  
**Shuichiro Komatsu** (Gunma Univ)
- P22.** Post-operative chemoradiotherapy against newly diagnosed glioblastoma multiforme using simultaneous integrated boost: comparison with conventional therapy  
**Kazutoshi Murata** (Gunma Univ)
- P23.** A multicenter retrospective study of Carbon ion radiotherapy for head and neck adenocarcinoma  
**Jun-ichi Saitoh** (Gunma Univ)
- P24.** CyberKnife radiosurgery or stereotactic radiotherapy as re-irradiation for neck lymph node recurrences after conventional radiotherapy  
**Daijiro Kobayashi** (Gunma Univ)
- P25.** Prediction of acute radiation mucositis using an oral mucosal dose surface model in intensity modulated radiation therapy for head and neck tumors  
**Atsushi Musha** (Gunma Univ)
- P26.** Preliminary results of linac-based stereotactic radiotherapy in 3 sessions for brain metastases: Gunma University's experience  
**Shin-ei Noda** (Gunma Univ)
- P27.** Mucosal melanoma of head and neck treated with Carbon ion radiotherapy: A case report  
**Yuka Shigeta** (Gunma Univ)
- P28.** Anticancer activity of antipsychotics on brain tumors  
**Nobuyuki Takei** (Niigata Univ)
- P29.** Effects of oxygen concentration and radiation quality on radiation-induced DNA damage  
**Shintaro Tominaga** (Gunma Univ)
- P30.** Linear energy transfer is a factor increasing the use of homologous recombination for the repair of DNA double strand breaks in G<sub>2</sub> cells  
**Yoshihiko Hagiwara** (Gunma Univ)

- P31.** Relation between LET dependency and NHEJ repair in cell survival parameter  
**Yukari Yoshida** (Gunma Univ)
- P32.** Switching of response strategy against  $\gamma$ -ray irradiation during embryonic development in medaka (*Oryzias latipes*)  
**Yuta Ishikawa** (Univ of Tokyo)
- P33.** The role of DNA repair factor Polynucleotide kinase/phosphatase (PNKP) in DNA replication  
**Naoya Kase** (Tokyo Inst of Technol)
- P34.** Relation between LET- and volume-effects  
**Koichi Ando** (Gunma Univ)
- P35.** Dependence of normal skin damage caused by Carbon ions on linear energy transfer  
**Maika Yamaguchi** (Gunma Univ)
- P36.** Extracellular vesicles from vascular endothelial cells promote survival, proliferation and motility of oligodendrocyte precursor cells  
**Yasuki Ishizaki** (Gunma Univ)
- P37.** X-ray induced disruption of the blood-brain barrier with the localized change in Claudin5 and the activation of microglia in a normal mouse brain  
**Yukihiko Sejimo** (Gunma Univ)
- P38.** The focal brain irradiation of proton beam insult in rats induced learning impairment related change in acetylcholine receptor binding  
**Nobuhiko Takai** (Nagasaki Int'l Univ)
- P39.** Sequential process of microglial activation in  $\gamma$ -ray irradiated embryonic brain of medaka (*Oryzias latipes*)  
**Miyuki Kamahori** (Univ of Tokyo)
- P40.** *In vivo* evaluation of shortened version of neuron-specific enolase promoter  
**Hirokazu Hirai** (Gunma Univ)
- P41.** Quantitative analysis of effects on muscular movements by oxygen exposure and ionizing radiation in *Caenorhabditis elegans*  
**Michiyo Suzuki** (QST-Takasaki)
- P42.** High-content imaging analysis of glutamatergic synapses using primary cultured neurons  
**Takero Oka** (Gunma Univ)
- P43.** Stable fraction of drebrin in dendritic spines is regulated by the isoform conversion  
**Kenji Hanamura** (Gunma Univ)
- P44.** Nanoscale organization of synaptic proteins: super-resolution imaging study  
**Noriko Koganezawa** (Gunma Univ)
- P45.** Acute and chronic effects of low dose X-irradiation on immature hippocampal neurons *in vitro*  
**Anggraeini Puspitasari** (Gunma Univ)
- P46.** Development of new devices to analyze the combined effects of radiation and microgravity: 2nd report  
**Akihisa Takahashi** (Gunma Univ)
- P47.** Comprehensive gene expression analysis of human fibroblast after combined exposure to microgravity and heavy-ions for simulating space conditions  
**Hiroko Ikeda** (Gunma Univ)
- P48.** Effects of 10 Gy X-irradiation on hippocampal postsynaptic proteins *in vivo* and *in vitro*  
**Shuchuan Miao** (Gunma Univ)