

NIRS International Symposium on Radiation Life Sciences

Place: Auditorium, 2F Research Building for Charged Particle Therapy, NIRS

Admission: Free

Secretariat: Planning Office, International Open Laboratory, NIRS

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June 11 (Fri.)

- 8:00-8:30 Registration
- 8:20-8:23 Opening Address: Yoshiharu Yonekura (President, NIRS)
- 8:23-8:30 Opening Remarks: Hirohiko Tsujii (Executive Director, NIRS)

I : Review Session

1. International Open Laboratory session

- 8:30-10:30 Particle Therapy Model Research Unit (Chair: T.B.D.)
Anders Brahme (Karolinska Inst.), Takeshi Murakami (NIRS) et al
- 10:30-10:45 *Break*
- 10:45-12:45 Particle Radiation Molecular Biology Unit (Chair: T.B.D.)
Penelope A. Jeggo (Univ. Sussex), Ryuichi Okayasu (NIRS) et al
- 12:45-13:45 *Lunch*
- 13:45-15:45 Space Radiation Research Unit (Chair: T.B.D.)
Tom K. Hei (Columbia Univ.), Yukio Uchihori (NIRS) et al
- 15:45-16:00 *Break*

2. NIRS President Grant's Creative Scientific Research Session (Chair: Kazuo Sakai)

- 16:00-16:45 Development of component technologies and a prototype for the OpenPET .
Taiga Yamaya (NIRS)
- 16:45-17:30 Research toward cancer diagnosis and therapy targeting "strategic hypoxia" in cancer stem cells.
Takako Furukawa (NIRS)

Supplementary Session (Chair: Hirohiko Tsujii)

- 17:30-18:00 15 years' experience on heavy-ion therapy and introduction of the new therapy facility.
Koji Noda and Tadashi Kamada

June 12 (Sat.)

II . Scientific Session

- 12:30-13:00 Registration
- 13:00-13:05 Opening Remarks
Yoshiharu Yonekura (President, NIRS)

- Session 1: Space Radiation** (Chair: Masashi Kusakabe)
- 13:05-13:25 Radiation dose assessments in space missions.
Guenther Reitz (German Aerospace Center, Germany)
- 13:25-13:45 Radiation Environment on the moon.
Nobuyuki Hasebe (Waseda University)
- 13:45-13:55 Discussion
- Session 2: Radiation Physics** (Chair: Koji Noda)
- 13:55-14:15 How to irradiate target volume with carbon beams using passive and scanning irradiation systems.
Tatsuaki Kanai (Gunma University)
- 14:15-14:35 Optimal use of light ions for radiation therapy.
Anders Brahme (Karolinska Institute, Sweden)
- 14:35-14:45 Discussion
- Session 3: Cellular Responses** (Chair: Makoto Akashi)
- 14:45-15:05 Genomic instability in non-targeted mammalian cells.
Tom K. Hei (Columbia University Medical Center, USA)
- 15:05-15:25 Effects of low doses of energetic particles in cells and a tissue model.
Kathryn D. Held (Harvard Medical School)
- 15:25-15:35 Discussion
- 15:35-15:50 *Break*
- Session 4: Molecular Responses** (Chair: Yasuhisa Fujibayashi)
- 15:50-16:10 LET-dependent molecular pathways.
Eleanor A. Blakely (Lawrence Berkeley Natl. Lab., USA)
- 16:10-16:30 Role of polyADP-ribosylation reaction in response to ionizing radiation.
Mitsuko Masutani (National Cancer Research Center.)
- 16:30-16:50 Genotoxic effects and repair of DNA-protein crosslink damage.
Hiroshi Ide (Hiroshima University)
- 16:50-17:00 Discussion
- Session 5: DSB and its Repair** (Chair: Tadashi Kamada)
- 17:00-17:20 The complexity of radiation-induced double strand breaks – challenge for repair.
Peter O'Neill, (Gray Institute for Radiation Oncology and Biology, University of Oxford, Oxford, UK.)
- 17:20-17:40 Examination of DNA double strand break induction and repair following exposure to heavy ions.
Penelope A. Jeggo (University of Sussex, UK)
- 17:40-17:50 Discussion
- 17:50-18:00 Closing Remarks
Hirohiko Tsujii (Executive Director, NIRS)