

Sugahara Memorial International Symposium

Prospective Topics and Charm of Radiation Biology

Radiation biology is an important key to solve biological system



Professor Tsutomu Sugahara
(Feb 6, 1921 ~ Oct 1, 2010)

Date:

January 25-26, 2012

Place:

Shiran-kaikan Inamori Hall, Kyoto University,
Kyoto, Japan

Organizers:

Morgan WF (PNNL, USA)
Matsumoto T (Kyoto University, Japan)
Watanabe M (Kyoto University, Japan)

Sponsorship:

Kyoto University
The Japan Health Foundation

Cosponsorship:

The Nuclear Safety Commission of Japan
The Japan Radiation Research Society
Health Research Foundation

Registration: mail to "msm@rri.kyoto-u.ac.jp"

Registration fee: Free

Language: English

Aim of symposium :

The radiation biology may become the key to untie a mechanism of all biological responses. However, it does not actually become an attractive research field for the young scientists at the present. After Fukushima nuclear plant accident, radiation biology may attract a special attention as the research field of radioprotection. However, the excessive development as an application study field has risk of disturbing the evolution of fundamental sciences.

Dr. Sugahara worried about this during the all lifetime. Therefore, we are planning to hold the Sugahara Memorial International Symposium titled on "Prospective Topics and Charm of Radiation Biology" this time. And, we ask speakers to talk about a prospective topic and charm of radiation biology to the young researcher. We wish that this symposium becomes the driving force of the biological effect study of the low dose radiation and the young researchers who are interested in radiation biology increase.

Program

Jan25

Morning session (10:30-12:00)

Opening remarks

Aim of symposium

Pictorial history of Professor Sugahara

My memory of Dr. Sugahara as a scientist and friend

Toritsuka K (The Japan Health Foundation)

Watanabe M (Kyoto University)

Utsumi H (Health Research Foundation)

Song CW (University of Minnesota)

Afternoon Session (13:00-17:45)

Session(1) Biological effects of low dose radiation

1. Cherishing the memory of Dr Sugahara, carrying on the Chinese radiation epidemiological studies
2. Radio adaptive response induced by low dose-rate
3. Biological effects of low-dose radiation assessed by a sensitive assay system
4. Biological effects of low dose radiation

Quanfu S (NIRPNS, China)

Tachibana A (Ibaragi University)

Tauchi H (Ibaragi University)

Kim E-H (Seoul National University, Korea)

Session(2) Molecular mechanism

5. Dose rate effect: A principal cellular response to ionizing radiation
6. The roles of NBS1 in responses to radiation- and UV-induced DNA damage
7. Fanconi anemia and the DNA damage response

Suzuki F (Hiroshima University)

Komatsu K (Kyoto University)

Takaka M (Kyoto University)

Session(3) Genetical instability

8. Non-targeted effects of radiation exposure: recent advances in the field
9. Radiation-induced genomic instability in Medaka fish
10. Stress response controlled by differential binding of p53 comet to p53

Kadhim M (University of Oxford, UK)

Todo T (Osaka University)

Matsumoto T (Kyoto University)

Jan26

Morning Session (9:00-12:45)

Session(4) Radicals

11. Exploiting X-ray-inducible proteins for cancer radiotherapy
12. Optimization of intracellular reactive oxygen species levels by antioxidant proteins in vertebrate cells
13. Modulation of radiation responses by mitochondria-targeted SOD2 and glutaredoxin 2 in human cells
14. Mutagenic long-lived radicals in mammalian cells induced by ionizing radiation and bystander effects

Boothman DA (University of Texas, USA)

Tano K (Kyoto University)

Akiyama S (Kyoto University)

Kumagai (Nagoya University)

Session(5) Bystander effect

15. Studies of bystander responses at low dose and with modulated beams
16. Mitochondrial modulation in radiation induced bystander effect
17. The evidence that low dose radiation involves non-targeted effects
18. DNA double strand breaks in CHO-K1 and xrs-5 cells irradiated with mixed neutron and gamma-rays for BNCT

Prise KM (Queens University, UK)

Kashino G (Oita University)

Matsumoto H (Fukui University)

Takahashi S (Kyoto University)

Afternoon Session (13:40-18:05)

Session(6) Carcinogenesis and aging

19. Origin of radiation transformation is non-DNA damage
20. Radiation-induced carcinogenesis of the mammary gland
21. Mining the lifespan studies of Beagle dogs exposed to ionizing radiation
22. Stereo-inversion of aspartyl residues occur widely in proteins from the living tissues of elderly donors

Watanabe M (Kyoto University)

Imaoka T (NRRL)

Morgan WF (PNNL, USA)

Fujii N (Kyoto University)

Session(7) Stem cell

23. Integrated system approach to study radiation induced signaling in a 3D human skin model
24. Molecular mechanism of radiation-induced thyroid cancer
25. Radiation response of mouse neural stem cells
26. Mechanism of radiation-induced mammary carcinogenesis

Sowa MB (PNNL, USA)

Suzuki K (Nagasaki University)

Kodama S (Osaka Prefecture University)

Hei TK (Columbia University, USA)

Summary

Suzuki K (Nagasaki University)

Imaoka T (NRRL)

Closing remarks

Morgan WF (PNNL, USA)

Program of the Sugahara Memorial International Symposium on
" Prospective Topics and Charm of Radiation Biology"
 Radiation biology is an important key to solve biological system
 in Kyoto, January 25-26, 2012.

Organizers: Morgan WF (Pacific North National Laboratory, USA), Matumoto H (Radiation Biology Center, Kyoto University, Japan), Watanabe M (Radiation Life Science, Kyoto University, Japan)

Sponsorship: The Japan Health Foundation, Kyoto University

Cosponsorship: The Nuclear Safety Commission of Japan, The Japan Radiation Research Society, Health Research Foundation

Registration: email or fax your name, organization and e-mail address to M Watanabe (e-mail address: msm@rri.kyoto-u.ac.jp, Fax: 072-451-2628)

Date / Time start end	Title of lecture	Speakers	Organization
--------------------------	------------------	----------	--------------

25. Jan

9:30 10:30 Registration

10:30 10:35	Opening Remarks	Toritsuka K	President of the Japan Health Foundation
10:35 10:40	Aim of Symposium	Watanabe M	Professor of Kyoto University
10:40 11:10	Special Lecture (1) Pictorial history of Professor Sugahara	Utsumi H	Principal Scientist of Health Research Foundation
10:10 11:50	Special Lecture (2) My memory of Dr.Sugahara as a scientist and friend	Song CW	Professor of University of Minnesota, USA

12:00 13:00 Lunch Break

Session (1) Biological effects of low dose radiation Chair Persons : Drs Kadhim M and Matsumoto T

13:00 13:30	Lecture (1) Cherishing the memory of Dr. Tsutomu Sugahara, carrying on the Chinese radiation epidemiological studies	Quanfu S	National Institute for Radiological Protection and Nuclear Safety, China
13:30 13:55	Lecture (2) Radioaptive response induced by low dose-rate irradiation	Tachibana A	Ibaragi University
13:55 14:20	Lecture (3) Biological effects of low-dose radiation assessed by a sensitive assay system	Tauchi H	Ibaragi University
14:20 14:50	Lecture (4) Biological Effect of Low Dose Radiation	Kim E-H	Seoul National University, Korea

14:50 15:10 Coffee Break

Session (2) Molecular response Chair persons : Drs Sowa MB and Takata M

15:10 15:35	Lecture (5) Dose-rate effect: a principal cellular response to ionizing radiation	Suzuki F	Hiroshima University
15:35 16:00	Lecture (6) The roles of NBS1 in responses to radiation- and UV-induced DNA damage	Komatsu K	Kyoto university
16:00 16:25	Lecture (7) Fanconi anemia and the DNA damage response	Takata M	Kyoto University

Section(3) Genetical effects Chair Persons : Drs Quanfu S and Komatsu K

16:25 16:55	Lecture (8) Non-targeted effects of radiation exposure: recent advances in the field	Kadhim M	University of Oxford, UK
16:55 17:20	Lecture (9) Radiation-induced genomic instability in Medaka fish	Todo T	Osaka University
17:20 17:45	Lecture (10) Stress response controlled by differential binding of p31comet to p53	Matsumoto T	Kyoto University

26.Jan

Session (4) Induced radicals and proteins

Chair persons :Drs Fujii N and Morgan WF

9:00	9:30	Lecture (11)	Exploiting x-ray-inducible proteins for cancer radiotherapy	Boothman DA	University of Texas, USA
9:30	9:55	Lecture (12)	Optimization of intracellular reactive oxygen species levels by antioxidant proteins in vertebrate cells	Tano K	Kyoto University, Kumaori
9:55	10:20	Lecture (13)	Modulation of radiation responses by mitochondria-targeted SOD2 and glutaredoxin 2 in human cells	Akiyama S	Kyoto University, Kyoto
10:20	10:45	Lecture (14)	Mutagenic long-lived radicals in mammalian cells induced by ionizing radiation and bystander effects	Kumagai J	Nagoya University, Nagoya

10:45 11:00 Coffee break

Session(5) Bystander effect

Chair persons :Drs Kim E-H and Boothman DA

11:00	11:30	Lecture (15)	Studies of bystander responses at low dose and with modulated beams	Prise KM	Queens University Belfast, UK
11:30	11:55	Lecture (16)	Mitochondrial modulation in radiation induced bystander effect	Kashino G	Oita University, Oita
11:55	12:20	Lecture (17)	The evidence that low dose radiation involves non-targeted effects in targeted effects	Matsumoto H	Fukui University, Fukui
12:20	12:45	Lecture (18)	DNA double strand breaks in CHO-K1 and xrs-5 cells irradiated with mixed neutron and gamma-rays for BNCT	Takahashi S	Kyoto University, Kumatori

12:45 13:40 Lunch Break

Section(6) Carcinogenesis and aging

Chair persons :Drs Kakinuma S and Hei T

13:40	14:05	Lecture (19)	Origin of radiation transformation is non-DNA damage	Watanabe M	Kyoto University, Kumatori
14:05	14:30	Lecture (20)	Radiation-induced carcinogenesis of the mammary gland	Imaoka T	NRRL, Chiba
14:30	15:00	Lecture (21)	Mining the Lifespan Studies of Beagle Dogs Exposed to Ionizing Radiation	Morgan WF	PNNL, USA
15:00	15:25	Lecture (22)	Stereoinversion of aspartyl residues occur widely in proteins from the living tissues of elderly donors	Fujii N	Kyoto University, Kumatori

15:25 15:45 Coffee break

Section(7) Stem cell

Chair persons :Drs Akiyama S and Prise KM

15:45	16:15	Lecture(23)	Integrated system approach to study radiation induced signaling in a 3D human skin model	Sowa MB	PNNL, USA
16:15	16:40	Lecture(24)	Molecular mechanism of radiation-induced thyroid cancer	Suzuki K	Nagasaki University, Nagasaki
16:40	17:05	Lecture(25)	Radiation response of mouse neural stem cells	Kodama S	Osaka Prefecture University, Sakai
17:05	17:35	Lecture(26)	Mechanism of radiation-induced mammary	Hei TK	Columbia University, USA

17:35 17:55 Summary

Drs Suzuki K and Imaoka T

17:55 18:05 Closing Remark

Morgan WF