

7th International Systems Radiation Biology Workshop

Workshop Objectives:

Estimating the health risks for different human tissues exposed to environmental, occupational, and space radiation is challenging due to the limited data base currently available. Radiation is used in the treatment of the majority of human cancers and improving treatments efficacy while minimizing normal tissue injury remain a major objective in clinical radiotherapy. The mitigation of space radiation risks on one hand and improvements in the application of therapeutic and diagnostic usage of radiation on the other hand necessitate multidisciplinary approaches. For space radiation, these include measuring the nature of the space radiation environment and modeling radiation risks to understand their biological effects and to develop effective countermeasures. Systems biology approach using comprehensive experimental data that integrates different levels of biological organization and time-scale is a means of identifying the key processes underlying the biological consequences of radiation. This approach coordinates changes in function, behavior as well as system reactions after disturbance by a given radiation dose. As such, systems radiation biology provides an improved new mechanistic basis for risk predictions.

In 2007, the first international workshop on Systems Radiation Biology was held at the GSF-National Research Center for Environment and Health in Neuherberg, Germany. In 2014, the 6th International Systems Radiation Biology Workshop was held in the National Institute of Radiological Sciences, Chiba, Japan. These international workshops have witnessed the rapid advancement of science in systems Biology. In 2019, the 7th International Systems Radiation Biology Workshop will bring together leading investigators from the China, US, Japan, European Union and other countries to discuss how new methodologies can be utilized for space radiation risk assessment and mitigation research. Four parts of the workshop will be devoted to discussions and organized as breakout group sessions.

In this workshop, invited interdisciplinary lectures will summarize the current knowledge in the fields of systems radiation biology, including discovery of mechanisms, development of disease models, radio-genomics, individual radiosensitivity, biophysics modeling, radiation biology and countermeasure development. The invited speakers will be reimbursed for their round-trip economy flight tickets and room and board for the duration of the meeting in Dalian. In addition, about 60 to 80 participants are expected to attend this workshop. Each session will include ~ 2 plenary lectures.

Location of the meeting:

Haichuang Jianguo Hotel, No.507, Huangpu Road, Ganjingzi, 087760 Dalian, China

Preliminary Sponsors for this Workshop:

- 1) Dalian Maritime University (DMU), China
- 2) Center for Space Science and Applied Research, Chinese Academy of Sciences, China

Main topic description:

Session 1: Omics approaches in system radiation biology

Session 2: Radiation induced genetic and epigenetic changes

Session 3: Individual radiation sensitivity and radiation risk assessment

Session 4: Systems approaches to disease modeling and treatment on Earth and in space

Preliminary deadline:

- 1) Apr. 1st, 2019: Abstract submission
- 2) May. 1st, 2019: Acceptance notice
- 3) Jul. 10th, 2019: Registration and accommodation reservation
- 4) Sep. 28 to 30th, 2019: 7th International Systems Radiation Biology Workshop

Preliminary International Scientific Committee:

- Francis A. Cucinotta (Department of Health Physics and Diagnostic Sciences, University of Nevada, Las Vegas, USA)
- Yeqing Sun (Institute of Environmental Systems Biology, Dalian Maritime University, Dalian, China)
- Tom K. Hei (Center for Radiological Research, Columbia University, New York, USA)
- Akihisa Takahashi (Gunma University Heavy Ion Medical Center, Japan)
- Yinghui Li (China Astronaut Research and Training Center, Beijing, China)
- Guangming Zhou (School of Radiation Medicine and Protection, Soochow University, China)
- Mansoor Ahmed (National Cancer Institute, USA)
- Patrick Prasanna (National Cancer Institute, USA)
- Mary Helen Barcellos-Hoff (University of California, San Francisco, USA)
- Michael Atkinson (Helmholtz Zentrum Muenchen, Germany)
- Heiko Enderling (Moffitt Cancer Center, Florida, USA)
- Georg Illiakis (University of Duisburg-Essen, Medical School, Essen Germany)
- Yoshiya Shimada (NIRS, Chiba, Japan)
- Hiroshi Yasuda (Hiroshima University, Japan)
- Lijun Wu (Hefei Institutes of Physical Science, Chinese Academy of Sciences, Hefei, China)
- Chunli Shao (Institute of Radiation Medicine, Fudan University, Shanghai, China)
- Yulin Deng (Beijing Institute of Technology, Beijing, China)
- Pingkun Zhou (Institute of Radiation Medicine, Academy of Military Medical Sciences, Academy of Military Sciences, Beijing, China)

- Shenyi Zhang (National Space Science Center, Chinese Academy of Sciences, Beijing, China)

Local Organizers:

- 1) Dr. Yang Yang, Chinese Manned Space Agency (CMSA), China
- 2) Dr. Yeqing Sun, Institute of Environmental Systems Biology Dalian Maritime University, China

Main Scientific Organizer:

Professor Francis A. Cucinotta

University of Nevada, Las Vegas

Department of Health Physics and Diagnostic Sciences,

4505 S. Maryland Parkway

Box 453037

Las Vegas, NV 89154-3037

Office: 702 895-0977

E-mail: francis.cucinotta@unlv.edu

Professor Yeqing Sun

Institute of Environmental Systems Biology

Dalian Maritime University

1 Linghai Road, Dalian

P.R.China 116026

Tel & Fax: +86-411-84725675

E-mail: yqsun@dlnu.edu.cn

Professor Akihisa Takahashi

Gunma University Heavy Ion Medical Center

3-39-22 Showa-machi, Maebashi, Gunma 371-8511, JAPAN

Tel: +81-27-220-7917;

Fax: +81-27-220-7919;

E-mail: a-takahashi@gunma-u.ac.jp

Professor Guangming Zhou

School of Radiation Medicine and Protection, Soochow University

Building 402 Room 2222, 199 Renai Road, Suzhou 215123

Email: gmzhou@suda.edu.cn

Tel: 86-512-65884829

Cell: 86-13914058572

Professor Tom K. Hei

Center for Radiological Research, Columbia University

630 West 168th street, VC11-205, New York, NY 10032

Tel: (212)-305-8462;

Fax: (212)-305-3229;
E-mail: tkh1@cumc.columbia.edu

Secretary-Generals:

Dr. Lei Zhao

Institute of Environmental Systems Biology
Dalian Maritime University
1 Linghai Road, Dalian
P.R.China 116026
Tel & Fax: +86-411-84723633-833
E-mail: zhaol@dlmu.edu.cn

Dr. Qian Zhao

Institute of Environmental Systems Biology
Dalian Maritime University
1 Linghai Road, Dalian
P.R.China 116026
Tel & Fax: +86-411-84723633-835
E-mail: zhaogqiandlmu@163.com

Dr. Qing Yang

Institute of Environmental Systems Biology
Dalian Maritime University
1 Linghai Road, Dalian
P.R.China 116026
Tel & Fax: +86-411-84723633-835
E-mail: qingyangdmu@163.com