

International School on Radiation Research (ISRR-2017)
Radiation Carcinogenesis: Mechanisms & Experimental Models
Tech Park, Annamalai University
2-4, February 2017.
Highlights Of The Event

The Department of Biochemistry and Biotechnology, Annamalai University is organized International School on Radiation Research (ISRR 2017) themed on Radiation Carcinogenesis during Feb 2-4, 2017 under the aegis of Society for Radiation Research (SRR). The objective of the School was to educate and train the young researchers in the field of theoretical and practical aspects of radiation carcinogenesis. The renowned faculties from India and abroad delivered expert lectures and conducted practical sessions. There were about forty participants from various Universities and Institutes from India and abroad (Canada, Germany and Thailand). Limited numbers of students/young researchers were selected based on their research interest and ongoing research activities. Dr. N. Rajendra Prasad, Convener, ISRR 2017 actively organized the School and Dr. B. N. Pandey, Secretary, SRR contributed for the successful completion of the School.



Inaugural function: Dr. N. Rajendra Prasad, Convener ISRR-2017 welcoming the gathering.

The School was inaugurated on Feb. 2 by the honorable vice chancellor of Annamalai University, Prof. Dr. S. Maninan, who addressed gathering and highlighted the need for organizing such schools for the benefit of young researchers. In his inaugural speech, he stated that the quality of research at the Department of Biochemistry and Biotechnology has been raised



over the years by meticulous efforts of faculties like Dr. C. V. Anuradha and Dr. N. Rajendra Prasad and others.

Prof. Dr. S. Maninan, Vice-Chancellor, Annamalai University releasing Special Issue of the

Journal of Radiation and Cancer Research on “Radiation Carcinogenesis and Cancer Prevention” jointly edited by Prof. George Iliakis, Dr. BN Pandey and Dr. N. Rajendra Prasad.

Prof. K. P. Mishra the founder President of SRR was the guest of honor during the inaugural function. He mentioned that ISRR 2017 will provide a forum for Ph.D. students and young researchers to meet, interact and learn the scientific and practical aspects about radiation carcinogenesis, which is a key research area of radiation biology. Prof. K. P. Mishra stated there is need to prepare and train the human resources in the area of radiation biology in the view of the increasing Indian atomic energy program for generation of electricity by nuclear power and increasing utilization of radiation technologies in the field of cancer treatment and diagnosis of

range of diseases (including heart, brain disorders).



*Inauguration Function:
Address by Dr K.P.
Mishra -Guest of Honor*

During the Inaugural Session, Prof. George Iliakis, Director, Institute of Medical Radiobiology, Essen, Germany delivered the keynote lecture on DNA damage and repair with implications in cancer radiotherapy. He gave detailed account of multiple repair processes for damaged DNA. The DNA repair processes have sensitive signaling mechanism, which becomes operational depending upon the magnitude and nature of damage. He highlighted the need of greater understanding about the molecular mechanism of radiation damage and repair in relevance to radiation carcinogenesis.



*Key Note Address by Prof.
George Iliaki, Germany.*

Prof. Dindial Ramotar, University of Montreal, Canada delivered a talk on the drug uptake transporters and their potential application in cancer therapy.



Prof. Dindial Ramotar, University of Montreal, Canada delivering talk on C. elegans drug uptake transporters.

Prof. Sathish C. Raghavan, Indian Institute of Science, Bangaluru, Dr. Indranil Chattopadhyaya, Thiruvavur University, Dr. G. B. Maru, ACTREC, Mumbai, Dr. Nirmal R. Madhavan, Annamalai University, Dr. P. Venchtachalam, SRM University, Chennai, Dr. B. N. Pandey, BARC, Mumbai, Dr. N. Rajendra Prasad, Annamalai University and Dr. K. Suresh, Annamalai University delivered their talk in their field of specialization.



Dr. P. Venkatachalam, SRU, Chennai delivering talk on DNA damage analysis methods.



Dr. Sathees C Raghavan, IISc, Bangalore delivering talk on DNA repair and cancer therapeutics.

On Feb 03, 2017, the School also organized an evening lecture on 'low dose radiation and cancer risk' by Prof. K. P. Mishra, former Head Radiation Biology and Health Sciences Division, BARC, Mumbai, who is also internationally known radiation scientist in low dose radiation

biology. Prof. Mishra stated that life has evolved in the high radiation environment and living organism including human have developed capacity to adapt the radiation environment. The



living cells have armed themselves with many strategies to counter the effects of ionizing radiation. He pointed out that there is variation of background natural radiation dose from 100-265 mSv in the various parts of the world. But there is no reported document showing any adverse effect of radiation on human health at these doses. Research on biological effects of ionizing radiation has enabled to understand the mechanism of action on living systems and

broadly characterize the effect as stochastic (random). He mentioned that the scientific curiosity of low dose radiation biology continues and needs to be investigated further. He argued the diagnostic radiation is useful to public health is not likely to cause any cancer. But future studies are needed for deeper understanding.



Dr. Nagraj Huilgol, President, SRR from Nanavati Hospital, Mumbai spoke about faulty LNT model and emphasized the need for revision of existing guidelines for radiation protection. He emphasized the need for more outreach programs to remove the needless fear against radiation.

Practical sessions were carried out on Gamma H2AX foci for DSBs analysis by Dr. P. Venkatachalam, SRU, Chennai; ROS, MMP, apoptosis and comet assay by Dr. N. Rajendra Prasad, Annamalai University; FISH techniques by Dr. Sathees C Raghavan, IISc, Bangalore and Histopathological observations by Dr. Madhavan R. Nirmal, Annamalai University.



Practical session on FISH technique by Dr. Sathees C Raghavan's group.



Practical session on γ -H2AX foci by Dr. Venkatachalam & his group.



Practical Session on ROS measurement and apoptosis by Dr. N. Rajendra Prasad & his group.