

# SOCIETY FOR RADIATION RESEARCH (SRR)

(Reg. No.: Maharashtra, Mumbai 2280, 2014 GBBSD)

**Report  
(2015-2016)**



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**[www.srrindia.org](http://www.srrindia.org)**

## About The Society

The Society for Radiation Research (SRR) is a scientific body of radiation researchers and individuals/students having interest in the area of radiation research. The SRR has been registered on December 15, 2014 in Mumbai by a group of scientists and clinicians.

**Society for Radiation Research** is aimed:

(i) To promote research in the areas of radiation biology with basic and applied aspects, clinical radiation biology and oncology, radiation hormesis & low dose radiation biology, environmental radiation biology, nuclear medicine, radiation technologies, translational research, terrestrial and space radiation biology, non-ionizing radiation effects and any other relevant research areas.

(ii) To facilitate integration and interaction of different radiation research areas.

(iii) To promote the diffusion of knowledge in these research areas through organizing meetings, conferences, workshops, awareness programs, scientific publications etc.

(iv) To promote discussion, interactions amongst scientist-public-industry and acting as liaison to communicate facts and research developments to public, government and regulatory bodies.

(v) To integrate Society with other National and International Scientific Bodies.

(vi) To encourage and promote young researchers and students to pursue research and build career in the areas of radiation and cancer research.

(vii) To promote and facilitate education of radiation sciences in National Institutes/Universities.

## Governing Council (2015-2017)

### FOUNDER PRESIDENT

**Dr. K. P. Mishra**, Ex-Head, RB&HSD, BARC, Mumbai

### PRESIDENT

**Dr. Nagraj Huilgol**, Nanavati Hospital, Mumbai

### VICE PRESIDENT

**Dr. S. K. Shrivastava**, TMH, Mumbai

### SECRETARY

**Dr. B. N. Pandey**, BARC, Mumbai

### TREASURER

**Dr. R. Mukhopadhyaya**, BARC, Mumbai

### MEMBERS

**Dr. Amit Kumar**, BARC, Mumbai

**Dr. B. B. Nath**, Pune University, Pune

**Dr. G. Samuel**, Ex-BARC, Mumbai

**Dr. Jayant S. Goda**, ACTREC, Navi Mumbai

**Dr. P. Dongre**, Mumbai University, Mumbai

**Dr. R. Sarin**, ACTREC, Navi Mumbai

**Dr. S. Laskar**, TMH, Mumbai

**Dr. S. D. Sharma**, BARC, Mumbai

## A Brief Report of SRR Events

	Meeting/Symposium/Seminar	Venue	Date
1.	Discussion Meeting on Current Issues and Future Challenges in Radiation Research (CIFC-RR)	Tata Memorial Hospital, Mumbai	Feb. 10, 2015
2.	Workshop on Emerging Opportunities and Rewarding Career of Radiation and Cancer Research (CAREER-RCR)	Department of Biophysics, Mumbai University	July 04, 2015
3.	Public Lecture Topic: Cancer and Radiotherapy Speaker: Dr. Manish Chandra, Radiation Oncologist, Jupiter Hospital, Thane	Dept. of Biochemistry & Pharmaceutical Sciences, Thane College, Thane	Dec 15, 2015
4.	ICRR-HHE 2016 & 1 <sup>st</sup> biennial meeting of Society	TSH, Bhabha Atomic Research Centre, Anushaktinagar, Mumbai	Feb. 11-13, 2016

## Society's Membership (As on Nov. 2015)

	Type of membership	Nos.
1.	Total Memberships	48
2.	Full Members	27
3.	Honorary members	09
4.	Associate members	10
5.	Student members	02

A list of members available on [www.srrindia.org](http://www.srrindia.org)

## **A report about the ‘Discussion Meeting on Current Issues and Future Challenges in Radiation Research (CIFC-RR)’ at TMH, Mumbai on Feb. 10, 2015.**

This meeting was attended by more than 100 students, faculty members, scientists and clinicians from different colleges, institutes and hospitals in India. The meeting was started with welcome note by Dr. Nagraj Huilgol, President, SRR, Nanavati Hospital, Mumbai. Dr. Huilgol presented a brief overview about the aims, need and mandates of SRR.

Following that Dr. K. P. Mishra, Founder President, SRR, Ex-VC, NGBU, Allahabad, Ex-Head, RB&HSD, BARC, inaugurated the SRR logo (designed by Shri Sudhakar Pandey, Delhi) and web page (developed with help of Ms. Amrutha Joshi, Mumbai University). The meaning of different components of SRR logo was explained. After that Dr. Mishra presented a brief note about “**Road Map of SRR and Current issues in Radiation Research**”. Dr. Mishra spoke about the challenges and questions which are still unaddressed in the exciting field of Radiation Biology and their implications in Radiation Research for cancer radiotherapy and risk assessment.

This was followed by a talk on “**Brief history and challenges of radiation research in India**”, by Dr. B. N. Pandey, Radiation Biology and Health Sciences Division, BARC, Mumbai. Dr. Pandey gave a brief overview of the history of Radiation Research in India, highlighting the advancements made in basic and clinical research in 1960s and 1970s. Dr. Pandey emphasized the glorious past of Indian radiation research and briefed about contributions of many eminent scientists of India. He also shed light on the challenges in progress of Radiation Research in India.

Dr. V. Kannan, Hinduja Hospital, Mumbai, delivered a talk on “**Current Issues and challenges of Clinical radiation Oncology**”. Dr. Kannan highlighted the advancement in the areas of radiation research and technology for cancer diagnosis and therapy. He explained how radiation biology can contribute to oncology in terms of development of cancer-specific markers for early molecular diagnosis and to monitor therapy response.

Dr. S. D. Sharma touched upon the contribution of field of medical physics to radiation research in his talk on “**Current Issues and challenges of Clinical medical Physics**”. He spoke about the current issues or challenges in clinical dosimetry and dose verification in advanced radiotherapy techniques. He also discussed the methods and tools for performance evaluation of High Technology medical electron accelerators (IMRT, VMAT). Moreover, he highlighted the potential of the emerging field of nanotechnology to radiation research in the form of nanoparticle mediated radiotherapy.

Dr. B. B. Nath, Pune University, Pune, delivered a talk on “**Current Issues and challenges of Experimental Models in Radiation research**”. He discussed about the rationales for selection of appropriate animal models for radiation biology and how *in vivo* studies can provide useful insights into understanding the mechanism of radiotherapy.

Finally, the discussion meeting was concluded by a Panel Discussion on “**Integrating Knowledge from Interdisciplinary Aspects of Radiation Research**”. The panel discussion was chaired by Dr. Rajiv Sarin, ACTREC with panelists Dr. Sandeep Basu, Radiation Medicine Centre, BARC, Parel and Dr. Laskar, TMH. The theme of panel discussion was to **identify and work upon the hurdles for translation of radiation biology from laboratory to clinics**. Dr. Basu highlighted the need of bringing radiation researchers and clinicians together at common platform. He emphasized that SRR can be one such forum.

Dr. Laskar suggested that there is need to overcome the infrastructure and logistic hurdles for smoother translational research. Scientists as well as oncologists including Dr. K. P. Mishra, Dr. Nagraj Huilgol, Dr. S. Shrivastava, Dr. Rajiv Sarin, Dr. Amit Kumar took active part in panel discussion. They shed light on the current status of radiation research across the globe and where India stands. They also commented how appropriate communication and co-ordination between researchers and doctors can significantly improve the contribution of radiation research to public/patients.



**Dr. Huilgol (left) and Dr. Mishra (right) during panel Discussion Of CIFR-RR, TMH**

At last, Dr. Shrivastava, Vice-president, SRR proposed the vote of thanks to all speakers, panelists and participants for sparing their valuable time and active participation in Discussion Meeting. Dr. Shrivastava thanked all volunteers, staff members of BARC, TMH and Mumbai University for their help without which it was not possible to achieve the grand success of the Discussion Meeting. He requested scientists, students to join and contribute to achieve the objectives of the SRR.

## **A report on ‘Workshop on Emerging Opportunities and Rewarding Career of Radiation and Cancer Research (CAREER-RCR)’, Mumbai University, Mumbai, July 4, 2015.**

The workshop was attended by ~60 participants, mainly the graduate/post graduate students and young faculties/researchers, from various Institutes/Universities of India. It was also attended by some senior faculty Members and scientists.

Prof. P. M. Dongre, Convener, CAREER-RCR and Head, Department of Biophysics, Mumbai University welcomed participants gathered from different parts of India. He also mentioned about the Department of Biophysics and its various research activities.

A welcome note to the participants on behalf of SRR and a brief overview about the workshop was presented by Dr. Shyam Shrivastava, Vice President, SRR and Head, Department of Oncology, Tata Memorial Hospital, Mumbai.



***Dr. Shrivastava, TMH briefing about the theme of workshop***

Dr. Shrivastava highlighted the need of Workshop to encourage and stimulate young students/faculty members to take up radiation research as their career. Dr. Shrivastava emphasized that SRR has taken such initiatives to organize the Workshops to ignite the young minds to choose the radiation and cancer research as their career.

The first session of Seminar was on “**Emerging Areas in Radiation Research with Relevance to Human Health**” by Dr. K. P Mishra, Founder President, SRR, Ex-VC, NGBU, Allahabad, Ex-Head, RB&HSD, BARC. Dr. Mishra spoke about the objectives and eventually the creation of SRR. He presented a brief history of radiation research, and how interdisciplinary subject expertise supported the growth of radiation research.



***Dr. Mishra, Ex-Head, RB&HSD, BARC delivering his talk in the workshop***

He wonderfully explained the missing links, challenges and unaddressed questions in the exciting field of Radiation Biology. He urged young students/faculty members to take up their career in this field to fill the gaps in the many areas of radiation biology especially low dose radiobiology and radiation risk assessment. He mentioned the emerging concepts in radiation biology like bystander effect, genomic instability, adaptive response and how the knowledge gained can be used for efficient translation to cancer radiotherapy.

This session was followed the presentation by Dr. Pritha Ray, ACTREC, Navi Mumbai, titled **“Cancer Research: Biology to Clinics”**. She has eloquently brought out the discovery of tyrosine kinase by Prof. Tony Hunter, where she described the experiments that led to the identification of a kinase activity associated with T antigen. Dr. Ray emphasized how this discovery in turn led that the **v-Src associated kinase activity was specific for tyrosine**. She specifically mentioned a quote from the article that **“Tony Hunter and Bart Sefton accomplished all of the experiments in this paper in less than one month”**.

The wonderful presentation on basic cancer biology by Dr. Ray was followed by equally brilliant lecture by Dr. Sandip Basu, Radiation Medical Center, BARC, Mumbai.

He presented on **“Nuclear Medicine from Cancer Diagnosis to Therapy”**. He **discussed** about recent developments about diagnosis and therapeutic treatment of thyroid cancer patients using isotopes of Iodine and Lutetium. He emphasized with many case reports that how applications of these radioisotopes have improved diagnosis and therapy and post-therapy quality of patient life.



*Dr. Pritha, ACTREC delivering his talk in the workshop*



*Dr. Basu, RMC, BARC receiving welcome by Ph.D student of Dept. of Biophysics, MU*

After these sessions Dr. Sangeeta, Scientific Secretary, Board of Research in Nuclear Sciences (BRNS), Mumbai talked about funding opportunities from various National Funding agencies including BRNS. She mentioned about various programs and initiatives of BRNS to support young faculties to take up research in areas related to mandate of Department of Atomic Energy (DAE).



***Dr. Sangeeta, Scientific Secretary, BRNS, DAE, Mumbai delivered presentation about funding opportunities***

She elegantly mentioned about how to write a research project and the various points needs to be considered while submission of a research proposal to funding agencies. The procedure and various steps of Project submission, evaluation and sanction of Grants at BRNS were highlighted by Dr. Sangeeta in her presentation. She also mentioned about radiation sources and research facilities of DAE available in various parts of India.

**‘Interaction with Participants’ Session followed after these presentations was chaired** by Dr. Shyam Shrivastava. Questions/queries from participants were addressed by speakers. Many of queries were based on career building, some of them about awareness about radiation exposure and cancer. It was happy moment to note that a large number of participants showed their interest to take up radiation and cancer biology as their career. However, it was felt that resource persons and research facilities should be made available to interested young students.

Dr Shrivastava urged faculty members and scientists from various DAE units to explore the possibilities and facilitate training and education to the young students and faculty members. Dr B. N. Pandey, Secretary, SRR and Head, Radiation Signalling and Cancer Biology Section, RB&HSD, BARC, Mumbai presented vote of thanks on behalf of SRR to Prof. P. M. Dongre, Convener, CAREER-RCR, faculty Members, Students and Staff members of Department of Biophysics, Mumbai University



***Group photo of CAREER-RCR in front of the Department of Biophysics, MU***



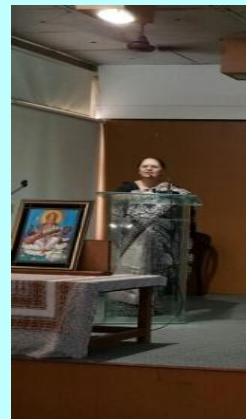
**A report on Public Lecture *Topic: Cancer and Radiotherapy***  
**Speaker: Dr. Manish Chandra, Radiation Oncologist, Jupiter Hospital,**  
**Thane, Maharashtra, India, Dec 15, 2015**

This lecture was organized on the first anniversary of Society at Thane College, Thane where audience include undergraduate students also. It was enthusiastically attended by more than 100 students, faculty members and dignitaries of other institutes/colleges.

The programme started with a welcome note and a brief introduction of the members of Society for Radiation Research (SRR) followed by introduction of college by Dr. Madhuri Pejawar, Principal of Bandodkar College of Science.

Later, Dr. Nagraj Huilgol presented the aim, needs and objectives of the society in-short. Dr. K. P. Mishra then explained how SRR came into existence and current issues in radiation research. Not only this he also highlighted some research aspects of radiation biology such as the bystander effects and their implications in cancer radiotherapy. He further emphasized the need for more in-depth research in this area of radiation biology to develop technologies for targeting only cancerous cells. At the end, he encouraged young students to take up radiation research as a challenging career to serve human society.

After this the speaker Dr. Manish Chandra, Radiation Oncologist, Jupiter Hospital Thane delivered his talk. He started the talk very elegantly and made every student involved in his talk by asking them many questions to verify their awareness about Cancer. Dr. Chandra shared information about Cancer causes, its various types and the advancement in current therapies available to treat Cancer like 3D CRT (Conformal radiation therapy), IGRT (Image guided radiation therapy), IMRT (Intensity modulated radiation therapy), Teletherapy and Brachytherapy etc. At the end, he highlighted the application of radiation and radiation technologies in early diagnosis and successful treatment of cancer.



***Dr. Madhuri Pejawar  
introducing Thane  
college facilities***



***Dr. Manish Chandra  
spreading Awareness  
about Cancer***

Thereafter Dr. B. N. Pandey proposed a vote of thanks to all the students, faculty members, professors of different colleges, Scientists of different institutes and all other dignitaries present in the auditorium for giving their valuable time and comments. He also thanked Dr. Chandra, the main speaker to spare his time out of his hectic schedule. He thanked Dr. Pejawar for her support without which it was not possible to celebrate the first anniversary of Society with so much



**Gathering in Public Lecture at Thane College, Thane**

enthusiasm and satisfaction. SRR was very much happy to see the curiosity of the students and requested their Principal for such gathering in future again. Students and college faculties were so curious to know more and more about this furious disease that bombardment of questions were not ending.

## **SRR's publication Journal of Radiation and Cancer Research (JRCR)**

**Journal of Radiation and Cancer Research** (formerly known as Indian Journal of Radiation Research, ISSN: 0973-0168) is the Official publication of Society for Radiation Research. JRCR is a peer reviewed journal with quarterly publication. The journal follows a double blind review process, wherein the reviewers and authors are unaware of each other's identity. The journal does not charge for submission, processing or publication. For online submission: [www.journalrcr.org](http://www.journalrcr.org)

### **Scope of the Journal**

JRCR aims to publish original research articles, reviews, technical notes/reports, commentary, opinion related to basic and translational radiation biology (including ionizing and non-ionizing radiation); low dose radiation biology and epidemiology; radiation oncology; environmental and space radiation biology; radiopharmaceuticals and nuclear medicine; radiation technologies application for human health and environment; basic cancer biology and therapeutic modalities; physical and chemical aspects of radiation effects to biological systems.

**To know more about the Society, please visit: [www.srrindia.org](http://www.srrindia.org)**