RADIATION SCIENCE TODAY

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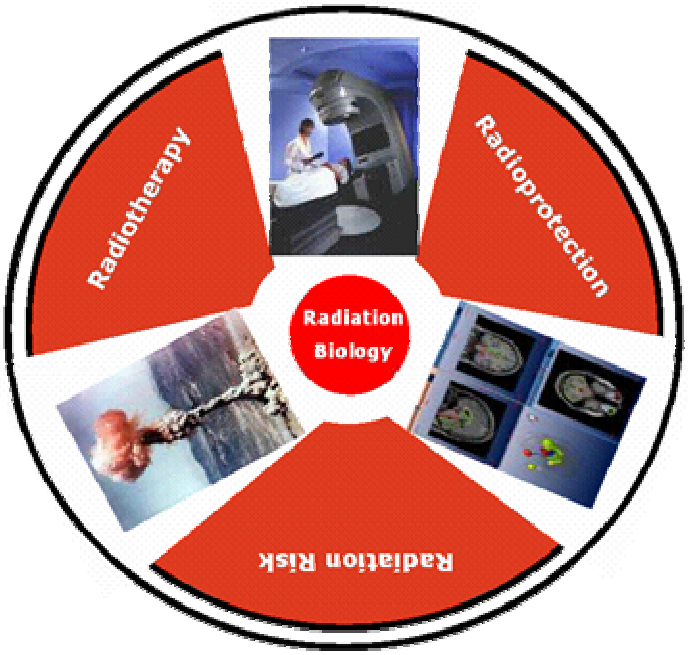

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Radiation Science Today

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EDITORIAL

The expanding horizons of radiation biology

During about a century long journey of radiation biology, its path is engraved with milestone achievements. The major focus of radiation scientists had been to understand the interaction of radiation to biological systems during early phase of radiation biology and to evaluate its short and long term health effects. The knowledge gained in radiation biology has been successfully employed in improvement of health care and in various industries, and it is matter of pride that the fundamental aspects of radiation biology like oxygen effect, dose fractionation, radiation protection, sensitization etc. got recognized by clinicians and even reached up to patients. Moreover, radiation biology significantly contributed to understand the low dose radiation effects and associated risk. Overall, radiation biologists are contributing at each arena of radiation interaction to living systems, i.e. from background radiation to accidental radiation exposure. Moreover, substantial advancement has been out of efforts of Space Departments like NASA to understand biological effects mainly focused to investigate radiation effects to astronauts. In classical radiation biology, organs harboring dividing cells like bone marrow (hematopoetic) and intestinal cells are considered critical in manifestation of health effects of radiation exposure. However, few recent reports suggesting effects of radiation on non-cancer diseases in nuclear workers[1] suggesting respiratory and digestive diseases. Reports also suggest effect of radiation on organs like heart[2-4] suggesting wider scope to include other physiologically critical organs even with differentiated cells to estimate the radiation risk under radiation exposure conditions.

In addition to efforts to gain in-depth knowledge in established research areas of radiation biology, there are emerging scopes to understand interaction of radiation doses higher than background level at high altitude to crew members and passengers while long in flights in aviation industry[5, 6]. Moreover, with extensive use of mobile phones in changed life style, there is growing concern about health effects of the radiofrequency electromagnetic radiation (~800 MHz), which has been investigated in terms of alterations expression of proteins in brain cells[7] and some reports showed increase in learning ability in juvenile rats[8]. According to International commission on Non-Ionizing Radiation Protection (ICNIRP) guidelines the limiting exposure of the general public recommends is 0.06W/kg for whole body specific absorption rate (SAR) and 2W/kg averaged over any 10g of tissue, for localized SAR. However, exposure limit may exceed in case of prolonged use and substandard sets of mobile phones. Even though, risk of cancer could not get established from available evidences[9], however, lack of evidence does not prove lack of risk. We have to cautious as children may be higher risk due to their higher sensitivity as well as relatively more use of mobile phone by them than adults especially in urban life.

It is the onus of radiation biologist to establish magnitude of health risk under these doses regimens of radiation and to bring forward the facts based on scientific evidences, which may be helpful to establish guidelines/standards of radiation exposures. It may be rightly mentioned that the horizons of radiation biology are expanding and the radiation biologists should keep their shoulders strong to meet the expectations in coming days.

B. N. Pandey, Editor

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4. Einstein AJ, Radiation protection of patients undergoing cardiac computed tomographic angiography. Jama, 2009. 301. 545-7
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9. Abdus-salam A, et al., Mobile phone radiation and the risk of cancer; a review. Afr J Med Med Sci, 2008. 37. 107-18

1. PROFILE *of*

Prof P. Uma Devi

Professor P. Uma Devi obtained her B.Sc. and M. Sc degrees from the Kerala University and Ph. D. degree from the University of Rajasthan, Jaipur. She served as Lecturer and Reader in the Department of Zoology, University of Rajasthan, Jaipur from 1968-1985. She was invited as Professor at the Kasturba Medical College, Manipal, in 1985, where she established and headed the Department of Radiobiology, the first of its kind in the country and was recognized as one of the major radiobiology research centres in India. After retirement from there in 2001, she was offered a position as Professor and Head, Department of Research, at the Jawaharlal Nehru Cancer Hospital & Research Centre, Bhopal, where she served for 5 years and helped in the development of cancer research facility. She holds a Diploma in Clinical Hypnotherapy of the California Hypnosis Institute and is a certified hypnotherapist.

Prof. Uma Devi has been engaged in teaching and research for more than 35 years. She has guided 30 Ph.D.s and about 25 M.D./M.Pharm/M.Sc. dissertations. She has published more than 250 scientific papers in reputed journals, including *International Journal of Radiation Biology*, *Radiation Research*, *British Journal of Radiology*, *Acta Oncologica*, International *Journal of Radiation Oncology Biology & Physics*, *Mutation Research*. She has also published several popular articles in periodicals like *Science Reporter* and *Everyman's Science*. She has four books to her credit. '*Introduction to Radiation Biology'*, authored by her along with the late Dr. A. Nagaratnam and Professor B.S.S. Rao, is the only postgraduate level book on the subject published from India.

She has been recognized internationally for her original contributions to radiation research, especially in the areas of chemical modifiers of radio-sensitivity, and developmental radiation biology. She has worked extensively on the radio-protective aspects of Indian herbs and has developed a radio-protective drug, which is under clinical trial. In recognition of her research in Radiation Embryology, she has been invited as a Corresponding member of the International Commission on Radiological Protection (ICRP) Task Group on Radiation Effects on Embryo and Fetus and has contributed a chapter to the ICRP publication 90, 2003. Her paper on prenatal irradiation induced genomic instability has been cited among the important publications on low dose radiation effects in the '*Review of the Year*' (2005) of British Journal of Radiology.

Based on her contribution to biological sciences, she was elected Fellow of the National Academy of Sciences, India (Allahabad) in 1989.

She was awarded the Hans Langendorff Medal 2006 (Germany) for Outstanding Scientist in Radiobiology Research; and Dr. Rangi Prasad Oration award 2006 (Association of Radiation Oncologists of India) for outstanding contribution to radiation oncology. She has also been honored with the first Urmil B. K. Kapoor Memorial Oration award (1999) of All India Institute of Medical Sciences (Delhi) for outstanding contribution to biomedical research; Gururaj Huiligol Memorial Oration Award (2003) of the Indian Association of Hyperthermic Oncology & Medicine. She has been featured in 'Business India' (1993) and received the Gold Record of Achievement award of the American Biographical Institute. Her profile has been included in Marquis Who is Who and other International biographical publications.

Professor Uma Devi organized the first national symposium on Radiation Biology in 1987 at Manipal and was instrumental in starting the Indian Society for Radiation Biology. She also organized the International Symposium on '*Radiation, Radiomodifiers and Human Health*' under ISRB in 1995. She has been the Vice-President and President of Indian Society for Radiation Biology; Vice-President, Indian Association of Hyperthermic Oncology & Medicine; Counselor, Asian Society of Hyperthermic Oncology.

She is a life member of several scientific Societies like Indian Science Congress; Indian Society for Radiation Biology; Association of Radiation Oncologists of India; Society of Nuclear Medicine India.

She has also served as Member, Program Advisory Committee (Animals Committee), Department of Science & Technology; as Biology Expert on the Governing Council of Nuclear Science Centre, New Delhi and on the Editorial Boards of different journals like *Indian Journal of Gerontology, Bioscience, Indian Journal of Experimental Biology, Journal of Cancer Research & Therapeutics*.

She has received the ICRETT award of the UICC in 1987, under which she got training in oncology research at the Richard Dumbleby Cancer Research centre, London. She was invited as Radiobiology Expert by the Atomic Energy Institute, South Korea (1997) and Research Collaborator at Research Reactor Institute, Kyoto University, by JSTS, Japan (2001). She has also been a visiting Professor to Institute for Medical Radiobiology, Essen, Germany, Kansai Medical University, Japan, Tokai University, Japan.

She is now settled in Trivandrum, Kerala. Even though not actively involved in laboratory research, she is still sought after by researchers for guidance and help and is frequently invited for lectures at different institutions. She is also using her hypnotherapy skills to help people in improving the quality of life.

Prof. Umadevi receiving Hans Langendorff Medal Award (2006), Germany for her contribution in Radiation Biology from H. Fromhold (Chairman, Hans Langendorff Foundation) and Prof. T. Hermann (Chairman, German Society for Medical Radiation Protection), and Prof. C. Streffer looks on

2. FROM ARCHIVES OF RADIATION SCIENCES

Paper: Translocations in mouse spermatogonia after exposure to unequally fractionated doses of X-rays

Source: Mutation Research, 1974, Volume 25, Pages 361-365

Author: P.P.W. Van Buul[1] and A. Léonard[2]

Laboratory: [1]Laboratory of Genetics, Department of Radiobiology, C.E.N./S.C.K., B-2400 Mol Belgium; [2]Department of Radiation Genetics and Chemical Mutagenesis, State University of Leiden, Leiden, The Netherlands

Highlights of the paper: The paper investigated effects of fractionated doses of X-ray on translocation in mouse spermatogonia. Authors report that fractionation of dose (600 R) to two doses (300 R+300 R) separated by 24 h did not influence the translocation yield (7.58% vs. 8.35%). However, doses delivered in unequal fractions i.e. 100 R+500 R and 500 R+100 R, with the same 24 h gap between fractionated doses, the translocation frequency was significantly altered.

Significance of the paper: This is one of classical radiation biology paper investigating effects of ionizing radiation in germinal cells using mouse as an experimental model. The paper signifies with understanding the role of (a) dose fractionation, (b) re-assortment, (c) adaptive repose, in radiation biological effects. The finding from the investigation showed that the relatively resistant cells surviving the first fraction of the dose, get sensitized resulting in higher translocation frequency when receiving the second fraction of the dose. Moreover, a lower dose delivered prior to a high dose results more resistance associated with adaptive mechanisms. The paper suggest use of mouse spermatogonial cells as not only model for germinal cells, but also may be suitable to understand radiation effects in dividing cells and up to certain extent with similarity with solid cancer.

by

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Note: *Interested readers may submit the similar articles. This column is aimed to highlight the salient points and significance of a seminal research article/event in radiation biology and allied sciences, which has in further changed substantially the understanding in that particular research field.*

3. NEWS AND VIEWS

Radiation and Cancer Biology

- **The emerging epidemic of environmental cancers in developing countries**
  http://annonc.oxfordjournals.org/cgi/content/full/20/2/205?etoc
- **Tobacco chewing and female oral cavity cancer risk in Karunagappally cohort, India**
  http://www.nature.com/bjc/journal/v100/n5/abs/6604907a.html
- **Successful pregnancy after breast cancer therapy: dream or reality?**
  http://www.issoonline.com/content/6/1/7
- **Unintended pregnancy during radiotherapy for cancer**
  http://www.nature.com/nrclinonc/journal/v6/n3/full/ncponc1320.html
- **Occupational risk assessment of genotoxicity and oxidative stress in workers handling anti-neoplastic drugs during a working week**
  http://mutage.oxfordjournals.org/cgi/content/abstract/24/2/143?etoc
- **Adaptive Radiation: Contrasting Theory with Data**
  http://www.sciencemag.org/cgi/content/abstract/323/5915/732?sa_campaign=Email/toc/6-February-2009/10.1126/science.1157966
- **Rising incidence of breast cancer among female cancer survivors: implications for surveillance**
  http://www.nature.com/bjc/journal/v100/n1/abs/6604816a.html
- **How speeding cancer growth offers hope of cure**
  http://www.newscientist.com/article/dn16838-how-speeding-cancer-growth-offers-hope-of-cure.html?DCMP=NLC-nletter&nsref=dn16838

- **The biological effect of ^{125}I seed continuous low dose rate irradiation in CL187 cells**
  http://www.jeccr.com/content/28/1/12
- **Hematopoietic stem cell transplantation without irradiation**
  http://www.nature.com/nmeth/journal/v6/n4/abs/nmeth.1309.html?lang=en
- **Gene expression profiling of the tumor microenvironment during breast cancer progression**
  http://breast-cancer-research.com/content/11/1/R7
- **Eligibility for concurrent chemotherapy and radiotherapy of locally advanced lung cancer patients: a prospective, population-based stud**
  http://annonc.oxfordjournals.org/cgi/content/abstract/20/1/98?etoc
- **Dietary intake of selected micronutrients and gastric cancer risk: an Italian case-control study**
  http://annonc.oxfordjournals.org/cgi/content/abstract/20/1/160?etoc

- **Vegetable, fruit and antioxidant nutrient consumption and subsequent risk of hepatocellular carcinoma: a prospective cohort study in Japan**
  http://www.nature.com/bjc/journal/v100/n1/abs/6604843a.html

- **Live cell microscopy analysis of radiation-induced DNA double-strand break motion**
  http://www.pnas.org/content/106/9/3172.abstract?etoc
- **Nuclear oxidative damage correlates with poor survival in colorectal cancer**
  http://www.nature.com/bjc/journal/v100/n2/full/6604821a.html
- **Radiation produces differential changes in cytokine profiles in radiation lung fibrosis sensitive and resistant mice**
  http://www.jhoonline.org/content/2/1/6

- **A comprehensive overview of radioguided surgery using gamma detection probe technology**
  http://www.wjso.com/content/7/1/11
- **Experimental results and related clinical implications of PET detection of epidermal growth factor receptor (EGFr) in cancer**
  http://annonc.oxfordjournals.org/cgi/content/full/20/2/213?etoc
- **Death receptor pathways mediate targeted and non-targeted effects of ionizing radiations in breast cancer cells**
  http://carcin.oxfordjournals.org/cgi/content/full/30/3/432?etoc

Nuclear Technology & Safety

- **Mortality and cancer incidence following occupational radiation exposure: third analysis of the National Registry for Radiation Workers**

  http://www.nature.com/bjc/journal/v100/n1/abs/6604825a.html

- **Cancer in the offspring of female radiation workers: a record linkage study**

  http://www.nature.com/bjc/journal/v100/n1/abs/6604841a.html

- **Earliest weapons-grade plutonium found in US dump**

  http://www.newscientist.com/article/dn16447-earliest-weaponsgrade-plutonium-found-in-us-dump.html

- **Companies racing into India's nuclear market**

  http://www.nature.com/news/2009/090107/full/457134b.html

- **The British Royal Navy's nuclear submarine HMS Vanguard and the French Navy's Le Triomphant collided in the Atlantic Ocean on February 3 or 4, 2009.**

  http://news.sky.com/skynews/Home/UK-News/Nuclear-Submarines-HMS-Vanguard-And-Frances-Le-Triomphant-Collide-In-Atlantic/Article/200902315223514?lpos=UK_News_Top_Stories_Header_1&lid=ARTICLE_15223514_Nuclear_Submarines%3A_HMS_Vanguard_And_Frances_Le_Triomphant_Collide_In_Atlantic

Read more story on
http://en.wikipedia.org/wiki/HMS_Vanguard_and_Triomphant_submarine_collision

- **Should nuclear fuels be taken out of national hands?**

  http://www.newscientist.com/article/mg20126903.100-is-it-time-for-an-international-nuclear-fuel-bank.html?DCMP=NLC-nletter&nsref=mg20126903.100

- **Indoor radon levels in urban Hyderabad area, Andhra Pradesh, India**

  http://rpd.oxfordjournals.org/cgi/content/abstract/132/4/403

- **Active electronic personal dosemeter in interventional radiology**

  http://rpd.oxfordjournals.org/cgi/content/abstract/132/3/308?etoc

- **Efficacy of oral and intraperitoneal administration of CBMIDA for removing uranium in rats after parenteral injections of depleted uranium**

  http://rpd.oxfordjournals.org/cgi/content/full/133/1/12?etoc

Science and Society

- **Replacement of animals in research will never be possible**

  http://www.nature.com/nature/journal/v457/n7226/full/457147a.html

- **Invention: Biofuel from the oceans**

  http://www.newscientist.com/article/dn16456-invention-biofuel-from-the-oceans.html?DCMP=NLC-nletter&nsref=dn16456

- **Dark flow: Proof of another universe?**

  http://www.newscientist.com/article/mg20126921.900-another-universe-comes-calling.html?DCMP=NLC-nletter&nsref=mg20126921.900

4. LETTERS FROM THE READERS

- First, I need to congratulate you for such a fabulous effort and outstanding work Thanks a lot for sending in the PDF version of the news letter. I should congratulate you for the wonderful work. I was especially inspired by the profile of Dr B.B. Singh. I had heard so much and this was a good forum to know more about him. I hope we will keep having these in the future to inspire and motivate us.

  -***Dr. Suresh D. Sarma***, *Department of Biochemistry and Molecular Biology,Pennsylvania State University, University Park, Pennsylvania 16802, USA*

  I am very-very thankful to sending copy of radiation Science Today and giving place for our conference.

  Dr. Anup Dwedi, Pd. Deen Dayal University, Gorakhpur

- I am pleased to receive the 5th issue of the ISRB-eNews letter. I found that it contained lots of useful information. Please accept my compliments for bringing out this valuable issue.

  - ***Prof. A. T. Natarajan,*** *University of Tuscia, Viterbo, Italy, Leiden University Medical Centre, Leiden, The Netherlands*

- It is nice to get copy of enewsletter today. I personally thank you for your kind efforts.

  - Dr. R. M. Samartha, *Senior Research Associate (Scientist's Pool Scheme-CSIR), Radiation & Cancer Biology Laboratory Department of Zoology, University of Rajasthan, Jaipur*

- The Newsletter is very informative. It was really thoughtful to include a review article and information on the different journals and conferences related to radiation biology. I congratulate you for bringing out a high standard publication, which can serve as a reference and model for other scientific societies.

  -***Prof. P. Uma Devi,*** *Ex-Professor and Head, Department of Radiobiology, Kasturba Medical College, Manipal*

5. REPORT OF MEETINGS/EVENTS ORGANIZED BY ISRB

INTERNATIONAL CONFERENCE ON RADIATION BIOLOGY & TRANSLATIONAL RESEARCH IN RADIATION ONCOLOGY, Jaipur, November 10-12, 2008

INTRODUCTION

The 9th Biennial meeting of the Indian Society for Radiation Biology (ISRB) took place at B.M. Birla Auditorium, Birla Institute of Scientific Research, Jaipur (India), 10-12 November 2008 in the form of International Conference on Radiation Biology & Translational Research in Radiation Oncology. This conference occurred at a time of great challenge and opportunity for radiation & cancer scientists/clinicians. There is a clear social need and appreciation for the expertise that the Radiation biology, Physics, Chemistry and Oncology communities have to offer.

Nuclear and radiation issues are now front and center in public eye ranging from nuclear power to nuclear weapons & nuclear/radiological terrorism. Radiation therapy and its benefits for patients with cancer have raised the public enthusiasm for the new technologies on the one hand and examination of their cost on the other. The advances in the basic radiation sciences are stunting. The elucidation of the molecular pathways of radiation effects may lead to novel biomarkers for radiation sensitivity, new tools for biodosimetry, ideal radioprotectors and sensitizers and improved multi-modality cancer therapy.
New imaging modalities help in cancer staging and treatment-coupling improved imaging with the new radiation therapy technology which might spare normal tissues.

आयुर्वेदिक औषधियों से कैंसर बचाव के प्रयत्न की शुरुआत

■ रेडिएशन थैरेपी के दौरान कैंसर सेल के अलावा दूसरे बच सकेंगे घातक विकिरणों से
■ मंजिरठा और भिलावा कैंसर रोगियों के लिए साबित हो रही हैं वरदान

नगर प्रतिनिधि

जयपुर, 11 नवम्बर। राजस्थान यूनिवर्सिटी के जूलॉजी विभाग की ओर से बिड़ला सभागार में रेडिएशन रिसर्च इन रेडिएशन ऑन्कोलॉजी विषय पर तीन दिवसीय अंतरराष्ट्रीय सम्मेलन में मंगलवार को भी देश-विदेश के कैंसर विशेषज्ञों ने इसके बचावों की जानकारी दी। नई रेडियोथैरेपीज और इनके स्वास्थ्य पर पड़ने वाले प्रभावों के बारें में चर्चा हुई। इस बीच कुछ विशेषज्ञों से जाना कि वास्तविक स्थिति में रेडिएशन का मानव स्वास्थ्य पर क्या विपरीत प्रभाव पड़ सकता है और नई शोध क्या-क्या हो रही हैं।

साइड सेल बच सकेंगे रेडिएशन से

यूनाईटेड नेशनल इंस्टीटयूट ऑफ साइंस एंड टेक्नोलॉजी संस्था के अध्यक्ष प्रोफेसर के.पी.मिश्रा ने अपनी नई शोध के बारें में बताया कि पहले कैंसर रोगी का ईलाज करते समय जब शरीर के कैंसरग्रस्त स्थान रेडिएशन को डाला जाता था तो उससे आस-पास के सेल भी प्रभावित होते थे। जिससे उसके पास वाले सेल में भी कैंसर होने की संभावना रहती थी। लेकिन अब ऐसी तकनीक खोजी गई हैं, जिससे ईलाज के दौरान डाली जाने वाली रेडिएशन का असर उसके पास वाले सेल पर नहीं पड़ता। इस तरह कैंसर को फैलने से रोकने में काफी मदद मिलेगी। इस तरह के शोध जयपुर, बनारस और मुंबई जैसे कई शहरो में हो रहे हैं। उन्होंने बताया कि यदि हम अपने भोजन में गाजर, टमाटर और विटामिन-सी वाली फल-सब्जियां खाए तो इससे काफी हद तक बच सकते हैं।-प्रो.के.पी.मिश्रा, यूनाईटेड नेशनल इंस्टीटयूट ऑफ साइंस एंड टेक्नोलॉजी।

आयुर्वेदिक जड़ी-बूटियां सहायक

कैंसर जैसी बीमारियों पर भी आयुर्वेद सहायक हो रहा हैं, यह कहना है बनारस हिन्दू विश्वविद्यालय के प्रो.यामिनी बी.त्रिपाठी का। उन्होंने बताया कि मैंने मगराहल पर काम किया हैं। इन्होंने मंजिस्ठा और भिलावा जैसी देशी जड़ी बूटियों से एक विशेष प्रकार की वाई-रेड-ए नाम से दवाई बनाई हैं, जो कि कैंसर रोगियों के लिए सप्लिट्यूट फूड की तरह प्रयोग में लाई जा सकेगी। इन्होंने इसका पेटेंट भी करा लिया हैं। यह कैंसर रोग में हर्बल्स को किस तरह उपयोगी बना सके, इस पर शोध कर रहे हैं। इनका यही कहना है कि भारत में हर्बल्स की कोई कमी नहीं, लेकिन उनके रॉ-मेटेरियल को टैस्ट नहीं किया जाता। जिससे उसकी उपयोगिता कम ही नजर आती हैं। इसलिए हर राज्य में जिला स्तर पर आयुर्वेदिक दवाओं के जांच के लिए विभाग बनाया जाए। इससे इनकी क्वालिटी निखरेगी।-प्रो.यामिनी बी.त्रिपाठी, बनारस हिन्दू विश्वविद्यालय।

जापानी लोगों पर कितना असर रहा

जापान के प्रोफेसर माशाहारु होशी ने बताया कि वह रेडिएशन के एक अलग पहलू पर शोध कर रहे हैं। हिरोशिमा और नागासाकी पर एटम बम अटैक का असर अभी तक मौजूद हैं। उन्होंने बताया कि आज उस हमले को भले ही वर्षों बीत गए, लेकिन उससे जनता आज भी पीड़ित हैं। पीड़ित जनता पर यह अपनी शोध तैयार कर रहे हैं। नए शोधों की जानकारी के अनुसार रेडिएशन का मानव पर असर पिछले आंकड़ों से भी अधिक हैं। इन्होंने बताया कि वह संस्था के दिवसीय अनारुल वाले इस सम्मेलन में नियमित रुप से भाग लेते हैं। मानव को कैंसर जैसी खतरनाक बीमारियों से बचाना और उनको इनके बचाव के प्रति अवेयर करना ही हमारे जीवन का मकसद हैं।-प्रो.माशाहारु होशी, हिरोशिमा विश्वविद्यालय।

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One of the goals of this conference was to make a plea to the society and the leading cancer centers of the world to initiate efforts that would make available to common man to receive the benefits of current development in radiation oncology. This also needs an urgent intervention of holistic approach includes life style, diet and drug which can reduce the huge financial burden of the cancer patients.

The central focus of this conference was Translational Research in Radiation Oncology and Development of approaches in Radiation Countermeasures. These are two important themes that are precisely relevant to current societal needs to manage the increasing incidence of cancer and to protect the public from radiation research.

The scientific program of the conference encompassed all the

major disciplines of radiation sciences, medicine and allied sciences. In addition, the conference focused on some special frontline areas on translational research in radiation oncology including molecular cancer imaging, stem cells in cancer, DNA repair in clinic, signaling network and therapy resistance, radiomodifiers and combined modality of radiation & anticancer drugs. Another feature of the conference is a special symposium on Nuclear Disaster Management and Countermeasures initiatives.

A conference of this magnitude was first in India on this particular subject. A large number of International as well as national faculties and delegates were present in the conference to share their knowledge and experience with others. The efforts were made to encourage young investigators and researchers to participate in keeping with the main goal of the conference to promote further education and research on radiation and cancer as well as applications in diverse fields.

One of the objectives of this conference was to improve and rectify the horrifying scenario related to the poor diagnosis and inadequate treatment facilities available for the patients suffering from various types of cancers especially in developing countries.

न्यूक्लियर मेडीसिन में आईसीआरबी–2008

स्पेशलाइजेशन की कमी

कैंसर के इलाज में कौन-कौन सी नई टेक्निक इंडिया में मौजूद है। ऐसे कौन से सिम्प्टम हैं, जिनसे आम व्यक्ति को कैंसर का पता चल सकता है। सेमिनार में आए देश-विदेश के वैज्ञानिकों से यही जाना, सिटी रिपोर्टर ने।

इंटरनेशनल कॉफ्रेंस शुरू

कैंसर के सिम्पटम

इन पांच साइंस का रखें ध्यान

क्या सिम्पटम्स हो सकते है

कैंसर के पांच साइन

क्या न करें

क्या करें

दैनिक भास्कर 11 नवम्बर 2008.

SCIENTIFIC DELIBERATIONS

The conference was inaugurated by his Excellency Shri S.K.Singh, Governor of Rajasthan and presided by Gen. N. C. Vij,Vice Chairman, National Disaster Management Authority (NDMA).Lt. Gen (Dr.) J. R. Bhardwaj, Member NDMA was the guest of honor.

On the first day of the conference 37 invited talks in 6 symposia and 46 posters were presented in different areas of radiation biology & oncology. Dr Gillis Mc Kenna, Oxford University, UK presented a talk on searching for a consensus target for radio sensitivity which was focused on the alterations in expression or activation of signal transduction pathways as hallmarks of cancer. Dr. Mohammed Mohiuiddin from Geisinger- Fox Chase Cancer Center, Wilkes- Barre, PA, USA delivered a talk on Spatially Fractionated Grid Radiation (SFGRT) in the management of advanced cancers. He confirmed the efficacy and safety of using SFGRT radiation in patients with bulky tumors as this can improve local control of disease and achieve long term survival in patients where conventional treatment alone has a limited chance of success. The other speakers in this symposium were Stephan Hann, University of Pennsylvania,

PA (USA). Dr. Georg Bauer, Universitatsklinikum, Friedburg (Germany), and Nadeem Khan, Dartmouth Medical School, Hanover (USA).

One of symposia was focused on low dose radiation effects: currents trends & translational perspectives in which Dr. Eduoard Azzam, University of Medicine & Dentistry, Newark (USA), Dr. Amy Kronenberg, Lawrence Berkeley National Laboratory, Berkeley (USA), Dr. Carmell Mothrsill, Mc Master University, Ontario (Canada), Dr. Marc Mendonca, Indiana University, Indianapolis, USA and Dr. Louis Pena, Brookhaven National University, Upton (USA) and Dr. Seema Gupta, University of Miami (USA) delivered their talks. Dr. Eduoard Azzam discussed about ionizing radiation-induced bystander effects mediated mechanisms and impact on health risks. Dr. Carmell Mothersill discussed radiation-induced stress effects following low dose exposure. Her presentation added the knowledge about low dose radiobiological effects in both human and non-human biota. Dr. Marc Mendonca delivered the talk on tumor suppressor gene (FRA-1) in radiation-induced carcinogenesis.

रेडिएशन रिसर्च बनाएगा सेफ ड्रग

तीन दिवसीय इंटरनेशनल कॉन्फ्रेंस का समापन, कॉन्फ्रेंस के अंतिम दिन देसी-विदेशी वैज्ञानिकों ने हर्बल ड्रग्स के बारे में विस्तार से चर्चा की

13-12-2008

वैज्ञानिकों ने गिनाए रेडियोथैरेपी के लाभ

रेडिएशन बायोलोजी पर अंतरराष्ट्रीय कांफ्रेंस का भव्य समापन

प्रो. पीके गोयल आईएसआरबी के अध्यक्ष

Another symposium was focused on Targeting glucose metabolism for improving radiotherapy & chemotherapy of cancer which was precluded by Dr. Viney Jain, Ex INMAS, Delhi (India) and the invited speakers were Dr. Davis Guis, National Cancer Institute NIH (USA), Dr. B.S. Dwarkanath, INMAS, Delhi (India), Dr.A.N. Bhat, INMAS, Delhi. This symposium concluded that the alterations in cell signaling linked to tumor physiology and host-tumor interactions contribute significantly to the radio and chemosensitization of tumors by various agents like 2-deoxy-D-glucose.

In the symposium Experimental Therapeutics : Apoptosis, Genotoxicity & Cytotoxicity in which lecturers were delivered by Dr. Ruth Muschel, Oxford University (UK), Dr. Saeed Sheikh, Upstate Medical University, Syracuse (USA), Dr. Gayathri Devi, Duke University, Syracuse Medical Center, Durham (USA), Dr. Ying Huang, Upstate Medical University, Syracuse (USA), Dr. Vijay K. Kalia, NIMHANS, Bangalore (India) and Dr. H.D. Sarma, BARC, Mumbai (India). Dr. Muschel proposed new modals for metastasis in which different organs lead to supply in various ways. These modals could allow development of therapeutic targets against metastasis. Dr. Saeed Shaeikh proposed that P53 and DNA damage regulated gene (PDRG) is an important mediator of genotoxic stress response and alterations in PDRG expression and function which could be critically linked to pathobiology of human malignancies. Dr. Ying Huang highlighted the importance of DOC 45, a novel molecule that is linked to cellular stress response and growth regulation and could also seem as a valuable tumor marker. Dr. Gayathri Devi proposed various cellular modals to imitate a critical comparison of various IAP inhibitors towards the development of an optimal therapeutic agent for clinical trials against prostate, ovarian, liver and breast cancer.

अब आसमां पर बनाएं आशियाना

इंटरनेशन कॉन्फ्रेंस ऑन रेडिएशन बायोलॉजी में अंतरिक्ष में होने वाली रेडिएशन की समस्याओं पर चर्चा

जयपुर, 12 नवम्बर

राजस्थान यूनिवर्सिटी के जूलॉजी डिपार्टमेंट और इंडियन सोसायटी फॉर रेडिएशन बायोलॉजी की ओर से बिड़ला ऑडिटोरियम में आयोजित इंटरनेशनल कॉन्फ्रेंस के अन्तिम दिन रेडिएशन प्रोटेक्शन के विभिन्न विषयों पर चर्चा की गई। कॉन्फ्रेंस के दौरान कैंसर के इलाज, रेडिएशन्स के दुष्प्रभावों को कम करने, सैकण्डरी कैंसर इफेक्ट्स, हर्बल मेडिसिन्स के साथ ही अंतरिक्ष में यात्री के शरीर की प्रतिरोधक क्षमता को कम होने से रोकने संबंधी कई विषयों पर लेक्चर्स हुए।

इस तरह रूक सकता है रेडिएशन इफेक्ट

अमरीका के आर्ल फोर्लेज रेडियोएशन रिसर्च इंस्टीट्यूट के मार्क विटोल ने कहा कि किसी न्यूक्लियर बम या एक्सीडेंट से होने वाले हानि के विरुद्ध शरीर की प्रतिरोधक क्षमता बढ़ाई जा सकती है। इसके लिए नेचुरल एक्टिव जेमेस्टाइन, फिजाइल ब्यूटीरेट, एक्स रेड जैसे रसायनों का प्रयोग किया जा सकता है। यह रसायन रेडिएशन्स से पूरी तरह से सुरक्षा प्रदान करते हैं। अमरीका के यूनिवर्सिटी ऑफ मियामी के अब्देल बहाय एम ने बताया कि वृद्धि हार्मोन के विरोधी पदार्थ जेएमआर-132 का प्रयोग करके रेडिएशन्स के दुष्प्रभावों को पूरी तरह से समाप्त किया जा सकता है।

अन्तरिक्ष में ऐसे होंगे सुरक्षित

कॉन्फ्रेंस के दौरान अंतरिक्ष में जाने वाले यात्रियों के शरीर की प्रतिरोधक क्षमता कम होने और वहां रेडिएशन्स के दुष्प्रभाव बढ़ने के संदर्भ में चर्चा की गई। कॉन्फ्रेंस में बताया गया कि जैसे ही अंतरिक्ष यात्री वायुमण्डल की सीमा को पार करके अंतरिक्ष में प्रवेश करता है, उसके शरीर की रोग प्रतिरोधक क्षमता कम हो जाती है। इस दौरान अंतरिक्ष में भी घातक कॉस्मिक किरणों का प्रभाव अधिक होता है। इससे अंतरिक्ष यात्रियों को रेडिएशन्स के कारण नुकसान होने की आशंका रहती है।

कैंसर का उपचार आयुर्वेद से

कॉन्फ्रेंस के अन्तिम दिन विभिन्न देशों के वैज्ञानिकों ने कैंसर रोग के उपचार के लिए कीमोथैरेपी व रेडियोथैरेपी के अलावा हर्बल औषधियों के संबंध में बताया गया। आमला कैंसर रिसर्च सेंटर त्रिचूर के डॉ. सीकेके नायर, डॉ. मधुबाला और मिजोरम यूनिवर्सिटी के डॉ. जीसी जगोटिया ने विभिन्न औषधीय पौधों से प्राप्त औषधियों के विषय में जानकारी देते हुए कहा कि इनका उपयोग रेडियोथैरेपी व न्यूक्लियर एक्सीडेंट्स के दौरान किया जा सकता है। अमरीका के न्यूयॉर्क स्थित ग्लोबल एप्लीकेशन्स के गिरीश हहाके ने कहा कि इंडक्शन कोर्सेस जैसे नैनोपार्टीकल्स के प्रयोग से कैंसर का इलाज किया जा सकता है।

ऐसे बनेगा मंगल पर मकान

भारतीय मूल के नासा के वैज्ञानिक प्रेम कुमार संगाति ने इस तरह का स्पेसल सुरक्षा कवच बनाया है, जिसे स्पेस सूट के अंदर पहना जा सकता है, जिसकी मदद से अंतरिक्ष यात्री कॉस्मिक किरणों के हानिकारक प्रभावों से बचे रह सकते हैं। उन्होंने बताया कि भविष्य में मंगल या चांद पर बसने की संभावनाओं के मद्देनजर वहां किस तरह की कॉलोनी बसाई जाएं, किस तरह का बिल्डिंग मैटेरियल उपयोग में लें, इस पर भी शोध किया जा रहा है।

गोयल बने आईएसआरवी अध्यक्ष

राजस्थान यूनिवर्सिटी के जूलॉजी डिपार्टमेंट के डॉ. पी.के. गोयल को इंडियन सोसायटी फॉर रेडिएशन बायोलॉजी का अध्यक्ष मनोनीत किया गया है। कॉन्फ्रेंस के कन्वीनर डॉ. गोयल ने बताया कि वे भविष्य में सोसायटी के अध्यक्ष के रूप में बेहतरीन कार्य करने का प्रयास करेंगे।

जेमेस्टाइन से इलाज

राजस्थान यूनिवर्सिटी के जूलॉजी डिपार्टमेंट के प्रो. ए.एल भाटिया की लैब में सोयाबीन से जेमेस्टाइन निकाला गया है, जो रेडिएशन इफेक्टेड टिश्यूज को नष्ट करता है। उन्होंने बताया कि इसके अलावा मस्तिष्क से रात के वक्त स्त्रावित होने वाले मैलेटोनिन की मात्रा बढ़ा दी जाए तो रेडिएशन के इफेक्ट्स को रोका जा सकता है।

तो नहीं होंगे बीमार

अमरीका की इंडियाना यूनिवर्सिटी के मार्क मैंडोसा का कहना है कि शरीर के एक हिस्से में मौजूद कैंसर के इलाज करते समय दूसरे हिस्से में भी कैंसर हो जाती है, अमरीका में इस तरह के 5 से 10 प्रतिशत मामले सामने आ रहे हैं। मैंडोसा अंतरिक्ष यात्रियों के इम्यूनिटी सिस्टम पर भी कार्य कर रहे हैं। मैंडोसा के अनुसार अंतरिक्ष में हमारा इम्यूनिटी सिस्टम कमजोर होने से बीमार हो जाते हैं।

राजस्थान पत्रिका 13-11-2008

In the symposium DNA Repair in the clinic, Dr. Simon Powell , Memorial Sloan –Kettering Cancer Center, New York (USA), delivered talk on "Defining a BRACA1/BRACA2 dependent pathways of DNA repair in human breast cancer. In his talk, he emphasized that functional assays of BRACA1&2 could become a useful technique to determine phenotype of human breast cancer, which influences the choice of therapy. Dr. Tej K. Pandita, Washington University, St. Louis (USA) discussed about histone code and DNA damage response while Dr. Kumkum Khanna from Queensland Institute of Medical Research, Herston (Australia) presented her lecture on involvement of novel single-stranded DNA binding protein in DNA damage response and genomic stability. She has functionally identified and characterized two novel single stranded DNA binding proteins, hssb, and hssb2, which are over expressed in many forms of cancer and might turn out to be ideal targets for treatment of cancer. The other speakers were Dr. K. Muniappa, IISC, Bangalore (India), Dr. R.C. Chaubey, BARC, Mumbai (India) and Dr. H.S. Mishra, BARC, Mumbai (India).

A special session was dedicated to discuss on nuclear disaster management & countermeasures initiatives. Dr. C. Norman Coleman, Department of Health & Human Services (USA) delivered a talk on radiological and nuclear terrorism in which he presented an overview of integrating radiation biology, physics and medical countermeasures into national

and International response planning. Dr. Vadim Krivokrysenko, Cleveland Biolabs, Buffalo (USA) discussed that CBLB502 is a novel non-toxic radiation countermeasure that reduces radiation damage when administered in prophylactic and mitigating regimens to the hematopoietic and G.I. tract, and therefore has a great potential as a life saving treatment. Dr. R.K. Chaturvedi, BMCH, Jaipur (India), Dr. J.K. Bansal, NDMA, Delhi (India), Dr. R.K. Sharma, INMAS, Delhi (INDIA) and Dr. P.K. Bhatnagar, Jodhpur (India) also discussed various methods and strategies for medical countermeasures for nuclear disaster management. The need has been assessed to ensure implementation of National Disaster management Authority plans/guidelines and coordination between various services provides to manage radiological and nuclear emergencies in an effective manner.

Dr. K.P. Mishra, President of Indian Society for Radiation Biology delivered a talk on promising role of radiation biology in developing strategies for countermeasures against radiation and nuclear emergency.

On the second day of conference 9 symposia and 58 posters presentations were made. One of the symposia on Radiation medical countermeasures and emergency preparedness was sponsored by National Institute of Allergy & Infectious Diseases (NIAID), (USA). It included the speakers Dr. Narayani Ramakrishnan, NIH (USA), Dr. William Mc. Bride, University of California, LA (USA), Dr. Thomas Mac Vittie, University of Maryland, Baltimore (USA) and Dr. Solomen Paul, SRM University, Chennai (India), Dr. N. Ramakrishnan delivered the talk on Medical countermeasures of radiation injury in which she described the programs sponsored by NIAID for the product development as medical countermeasure against intentional and/or accidental radiation exposure.

Dr. Willium Mc Bride delivered a talk on “Can radiation response modifiers be profiled by high throughput screening of small molecules libraries”. He explained the mechanism through which cellular response to irradiation can be modified *in vitro* and *in vivo* by application of numerous agents. Dr. Thomas Mac Vittie (USA) described the medical countermeasures against the acute hematopoietic and gastro-intestinal syndromes: best available today. He suggested TBI/BMS models for effective medical management for lethally irradiated personal in the after month of a nuclear terrorist event. Dr. M.H. Jenson (USA) made his presentation on Gastro-intestinal radiation injury: significance,

DAINIK NAVJYOTI 11 NOVEMBER 2008

वेटिंग फॉर बेस्ट

- तीन दिवसीय इंटरनेशनल सेमीनार में हिस्सा लेने जयपुर पहुंचे 500 देसी-विदेशी साइंटिस्ट और डॉक्टर्स
- सेमीनार में एक्सपर्ट्स दे रहे हैं पेपर प्रजेंटेशन

सिटी रिपोर्टर. जयपुर। राजस्थान यूनिवर्सिटी के प्राणीशास्त्र विभाग और इंडियन सोसायटी फॉर रेडिएशन बायोलॉजी (आईएसआरबी) की ओर से 'इंटरनेशनल कॉन्फ्रेंस ऑन रेडिएशन बॉयोलॉजी एंड ट्रांसलेशनल रिसर्च इन रेडियो ऑकोलॉजी' पर तीन दिवसीय इंटरनेशनल सेमीनार का शुभारम्भ सोमवार को बिड़ला ऑडिटोरियम में हुआ। इस अवसर पर देश-विदेश से आए विशेषज्ञों ने अपने रिसर्च पेपर और स्टडी का प्रजेंटेशन दिया।

करीब दस साल और

परेशानी का जड़ से खात्मा

बेस्ट किमो रेडिएशन

इंडियन हर्बल ड्रग

इंडिया अपनी पहुंच बढ़ाए

हमारे लिए बेस्ट

mechanisms and countermeasures where he dealt with the clinical significance and pathogenesis of intestinal radiation toxicity and post-radiation medical countermeasures which are currently under development to mitigate such radio-lesions.

One of the symposium was focused on Current trends in radiation cytogenetics in which Dr. Ryuichi Okayasu, NIRS, Chiba (Japan) , Dr. P. Slijepcevic, Brunel University, London (UK), Dr. M.P. Hande, (Singapore), Dr. P.G.S. Prasanna, AFRRI (USA), Dr. K. Suzuki, Nagasaki (Japan) Dr. Susan. Loong, NCC, (Singapore), Dr. M. Khan, (Singapore), Dr. M. Frankenberg-Schwager, Gottigen (Germany) and Dr. Birjalaxmi Das, BARC (India) presented their lectures on various aspects of radiation-induced genomic instability and their significance in radiation and cancer research.

Two symposia were targeted on Radiation response modulation by natural or/ chemical compounds, plant products & antioxidants. Total 13 invited talks were presented in the symposia Dr. Nagraj Huilgol from Dr.Balabhai Nanavati hospital, Mumbai delivered a talk on issues in clinical radiation protector – Afresh look at old molecules for an old problems in which he urged upon a fresh look at the earlier molecule and novel drug deliver need to be explored if mitigating toxicities can be reduced during chemo radiotherapy in the cancer patients. Dr. S.S. Lahiri, INMAS, Delhi (India) , Dr. Madhubala, INMAS, Delhi (India), Dr. Manju Lata Gupta, INMAS, Delhi(India), and Dr. F. Domann, University of Lowa (USA) discussed the promising role neutraceuticals and various botanicals for protection against radiation and oxidative stress. The others speakers were Dr. P.K. Goyal, Rajasthan University, Jaipur (India), Dr. B. N. Pandey, BARC, Mumbai(India) , Dr. Y. B. Tripathi , BHU (India), Dr. B.S. Satish Rao, Manipal, (India) , Dr. Rajkumar, INMAS (Delhi) , Dr. Niel Estabrook, Indianapolis, (USA), and Dr. C.K.K. Nair, Trissure,(India) who presented their talks on different anticancer and anti- modulating agent against various types of cancer.

A symposium was arranged on new radiotherapy approaches and treatment modalities in

कैसे हो कैंसर का डिटैक्शन अर्ली स्टेज में

अक्सर यह सवाल हमारे मन में आता है कि कैंसर का देर से क्यों पता चलता है। सिटी भास्कर ने आईसीआरबी-08 में आए डॉक्टर्स से जानने की कोशिश की कैंसर को शुरुआती स्टेज पर कैसे डायग्नॉस कर सकते हैं।

नेहा भटनागर

कम अवेयरनेस के कारण कैंसर का पता अर्ली स्टेज पर नहीं चल पाता है। आंध्र प्रदेश से आए डॉ. एम.आर. राजू के अनुसार कैंसर सिंगल डिसीज नहीं है। अगर हम बॉडी के किसी भी पार्ट में सैल की एबनॉर्मल ग्रोथ महसूस करें तो डॉक्टर से चैकअप करा तुरंत सुनिश्चित करना चाहिए कि कहीं यह कैंसर के सिम्प्टम तो नहीं। हम डॉक्टर के पास तब जाते हैं जब तकलीफ असहनीय हो जाए या उसके कारण हम अपना काम न कर पा रहे हों। उस समय तक कैंसर आगे की स्टेज में पहुंच चुका होता है। अगर शुरुआत में कैंसर का पता चल जाए तो उसका बचाव सम्भव है। अब प्रश्न यह उठता है कि किसी भी कैंसर के अर्ली सिम्प्टम कैसे पता चलें? कुछ तरह के कैंसर को जल्दी पहचान पाना मुश्किल होता है। इंडिया में टबैको के कारण माउथ कैंसर सबसे कॉमन है। टबैको यूज करने वाले लोग मिरर के सामने चैक कर सकते हैं कि टंग के नीचे, लिप्स पर या मुंह के अंदर लाल और सफेद स्पॉट ज्यादा बड़े साइज के तो नहीं हैं। अगर ऐसा है तो यह इशारा है कि कैंसर की अर्ली स्टेज है। इसी तरह मुम्बई के प्रो. के.पी. मिश्रा के अनुसार अगर वेट लगातार कम हो रहा है, अक्सर हल्का फीवर और कमजोरी रहती है। यह लुकेमिया के लक्षण हो सकते हैं। ईटिस्टाइन और लीवर के कैंसर को जल्दी डिटैक्ट करना मुश्किल होता है। लीवर के कैंसर के सिम्प्टम में भूख न लगना, पेट में दर्द, स्वैलिंग और ब्लीडिंग हो सकती है।

कैंसर के डिटैक्शन के लिए सबसे ज्यादा जरूरी है हमारी अवेयरनेस। हमें अपने बॉडी के हर पार्ट के बारे में पूरी जानकारी होनी जरूरी है। अगर किसी भी पार्ट में कोई भी बात अबनॉर्मल लगे तो इस बात पर गौर करना जरूरी है कि चैकअप कराकर इस बात की श्योरिटी हो जाए कि यह कैंसर के लक्षण नहीं हैं।

यह हैं शुरुआती सिम्प्टम

ओरल कैंसर
सिम्प्टम : (टबैको खाने वालों को) मिरर में चैक करें कि कहीं मुंह में टंग के नीचे या बाकी हिस्सों में लाल और सफेद स्पॉट ज्यादा बड़े तो नहीं हो गए

थ्रोट कैंसर
सिम्प्टम : थ्रोट में पैन, सॉलिड फूड निगलने में तकलीफ हो, दो हफ्तों से ज्यादा ऐसा हो एग्जामिन कराएं

सर्विक्स कैंसर
सिम्प्टम : (युमन को) सैक्सुअल हाइजीन जरूरी, अर्ली मैरिज, अक्सर इंटरकोर्स के बाद ब्लीडिंग, वाइट डिसचार्ज में रेडनेस सर्विक्स के सेंसिटिव होने पर कैंसर होने का खतरा होता है।

ब्रेस्ट कैंसर
सिम्प्टम : ओबेसिटी, ब्रेस्ट-की अपीयरंस का बदलना, गांठ फील हो, स्किन का कलर चेंज होना

लीवर कैंसर
सिम्प्टम : जॉन्डिस या हैपेटाइटिस बी के पेशेंट्स केअरफुल रहें, जॉन्डिस और लीवर में कैंसर के सिम्प्टम एक जैसे होते हैं, भूख न लगना, पेट में दर्द, ब्लीडिंग, स्वैलिंग

ल्यूकेमिया (ब्लड कैंसर)
सिम्प्टम : लगातार वेट लूज होना, हल्का फीवर और कमजोरी रहना

थाइराइड कैंसर
सिम्प्टम : आवाज का जल्दी बदलना, मोटापा, भूख न लगना

दैनिक भास्कर 13 नवम्बर 2008

which 8 invited talks were presented. Dr. Harold M. Swartz, Dartmouth medical school, Hanover,(USA) delivered a lecture on optimizing radiation therapy by directed repeated measurements of oxygen in tumors in patients. He discussed about quantitative

measurements of po2 during radio and chemotherapy which helps the physicians in the characterization of status of disease and the effects of therapeutic measures during cancer treatment. Dr. A. Chougule, SMS, Jaipur, (India) and Dr. N. Patni, BMCHRI, Jaipur (India) discussed in India and Impact of concurrent chemo-radiation in locally advanced uterine-cervix carcinoma.

Shruti Jolly, university Michigan (USA) presented a talk on the evolving role of targeted therapy in the treatment of head and neck cancer. Dr. Oliver Guipaud, Institute for radioprotection & nuclear safety, France, focused on investigation of the serum protease to look for diagnostic and prognostic biomarkers of ionizing radiation.

'रेडिएशन बायोलॉजी एंड ट्रांसलेशनल रिसर्च इन रेडिएशन ऑन्कोलॉजी' विषय पर सेमिनार

कैंसर निदान पर मंथन

सेमिनार को सम्बोधित करते वक्ता और उपस्थित दर्शक।

ट्यूमर मेटास्टेसिस से कैंसर निदान में सहायता

ब्रेस्ट कैंसर, ओवेरियन कैंसर और प्रोस्टेट कैंसर की रोकथाम के उपायों पर भी हुई चर्चा

एलुमिनियम, तांबा, कैडमियम की उपस्थिति में निम्न विकिरण से होने वाले प्रभावों की दी जानकारी

जयपुर रिपोर्टर
जयपुर, 10 नवम्बर

राजस्थान यूनिवर्सिटी के जूलॉजी विभाग की ओर से 'रेडिएशन बायोलॉजी एंड ट्रांसलेशनल रिसर्च इन रेडिएशन ऑन्कोलॉजी' विषय पर तीन दिवसीय अंतरराष्ट्रीय सम्मेलन का आयोजन किया जा रहा है। बिड़ला ऑडिटोरियम में सोमवार से शुरू हुई इस कॉन्फ्रेंस में रेडिएशन साइंस, मेडिसन और इससे संबंधित विभिन्न क्षेत्रों के प्रमुख डिसिप्लिन को शामिल किया गया है। इसके अलावा इसमें रेडिएशन ऑन्कोलॉजी खासतौर पर मॉलिक्यूलर कैंसर इमेजिंग, स्टेम सेल्स, डीएनए रिपेयर इन क्लीनिक, सिग्नलिंग नेटवर्क्स और थैरेपी रजिस्टेंस, रेडियो मॉडिफायर्स आदि पर भी फोकस किया जा रहा है।

कॉन्फ्रेंस के पहले दिन आयोजित विभिन्न तकनीकी सत्रों में एक्सपर्ट्स ने रेडिएशन बायोलॉजी के विभिन्न पहलुओं पर भी चर्चा की। पहले सत्र में कनाडा के मैक मास्टर यूनिवर्सिटी के कार्मेल मदरसिल ने रेडिएशन-इंड्यूस्ड स्ट्रेस इफेक्ट्स फॉलोइंग लो डोज एक्सपोजर नामक विषय पर चर्चा की। इसमें प्रो. कार्मेल ने एलुमिनियम, तांबा, कैडमियम की उपस्थिति में निम्न विकिरण से होने वाले प्रभावों की जानकारी देते हुए बताया कि यह प्रभाव उन्होंने मछलियों की गिल कोशिकाओं में देखा और पाया कि गिल कोशिकाएं त्वचा की तुलना में ज्यादा संवेदनशील होती हैं। यह एक जटिल विषय है जिसे भविष्य में सुलझाया जाएगा।

इस मौके पर ऑक्सफोर्ड यूनिवर्सिटी के डब्ल्यू मकेना ने मॉडल्स ऑफ ट्यूमर मेटास्टेसिस विषय के तहत ट्यूमर मेटास्टेसिस के विभिन्न प्रारूपों की जानकारी दी। जिसके जरिए कैंसर निदान में सहायता मिल सकती है। अपस्टेट मेडिकल यूनिवर्सिटी, यूएसए के साईद शेख ने दो जीन पी53 और पीडीआरजी के बारे में बताया। इसके बाद ड्यूक यूनिवर्सिटी की गायत्री देवी ने ब्रेस्ट कैंसर, ओवेरियन कैंसर और प्रोस्टेट कैंसर की रोकथाम के उपायों पर भी चर्चा की। सभी तकनीकी सत्र के दौरान प्रश्न-उत्तर सेशन का भी आयोजन किया गया जिसमें वक्ताओं ने ब्रेस्ट कैंसर और जीन से संबंधित प्रश्नों का विस्तारपूर्वक उत्तर दिया।

राजस्थान पत्रिका 11 नवम्बर 2008

Six invited talks were presented in the symposium signaling networks and therapy resistance. Dr. E. Bernhard, Oxford University, Oxford (UK) talked on inhibition of oncogenic signaling: radiation sensitization and vascular normalization, he pointed out the inhibition of tumor cell signaling at multiple points in the EGE and AKT pathway results in prolonged improvement in tumor vasculature perfusion and decreased hypoxia. According to him, targeting this signaling pathway con current to treatment may benefit radiotherapy by enhancing tumor oxygenation. Dr. Mansoor M. Ahmed, University of Miami (USA) delivered talk on regulation of radiation – induced signal transduction by EGR-1 in prostate cancer. He mentioned that EGR-1 interacts with WW-domain containing protein in response to radiation. According to him, this signal transduction event is crucial in regulating the response to radiation in prostate cancer. The other speakers were Dr. A.H. Friedman, NewYork (USA) , Dr. S. K. Apte , BARC, Mumbai,(India) Dr. E. Sage ,

Orsay (France) and Dr. M.R. Sunil Kumar , Manipal(India) .

Dr. M. R. Raju, MGM medical Trust, A.P. (India) delivered an overview about experiences in delivering cancer care in rural areas of Andhra-Pradesh "in symposium cancer care and chemo-radiotherapy. He stressed upon the need to develop awareness program about cancer care and treatment modalities for a common man in India. Dr. Punit Gupta, Apollo Hospital, Delhi (India) discussed the evolution of chemotherapy- past, present & Future. Dr. Anish Maru, SEAROC Cancer Center, Jaipur (India) delivered a talk on chemotherapy induced toxicity in cancer patients and their management. The other speakers were Dr. D.P.Singh , SMS hospital, Jaipur (India) , Dr. Sunil Gupta, Fortis Hospital, Delhi(India) Dr. Sunil Kumar, Ahemdabad (India).

On third day of the conference, 5 symposia were arranged in which 38 invited talk were delivered. In symposium radiation protection: cellular and molecular mechanisms, Dr. Elizabeth Trevis from MD Anderson Cancer center, Houston (USA) presented her lecture on targeting radio protector to the lung using genetic approaches where she mentioned about most recent data available on the genetics of radiation induced fibrosis and pneumonitis. Dr. Andrei Gudkov from Rosewell park cancer institute, Buffalo (USA) presented his talk on saving stem cells from ionizing radiation by pharmacological modulation of major death /survival pathways. He emphasized on the pharmacological modulation of p53 and NF-KB pathways mimicking the modes of their degeneration in tumor cells is a powerful approach to radioprotection. Dr.

■ आईसीआरबी-2008 के दूसरे दिन डॉक्टर्स और साइंटिस्ट्स ने रेडिएशन के टॉपिक्स पर चर्चा की।

कीमोथैरेपी और एंटी-ऑक्सीडेंट्स पर फोकस

सिटी रिपोर्टर. देश-विदेश से आए साइंटिस्ट्स और डॉक्टर्स कैंसर के इलाज और रेडिएशन के टॉपिक्स पर अपनी रिसर्च का मंथन कर रहे हैं। इंडियन सोसाइटी फॉर रेडिएशन बायोलॉजी और राजस्थान यूनिवर्सिटी के जूलॉजी डिपार्टमेंट की ओर से आयोजित 'इंटरनेशनल कॉन्फ्रेंस ऑन रेडिएशन बायोलॉजी एंड ट्रांसलेशनल रिसर्च इन रेडिएशन ऑन्कोलॉजी' (आईसीआरबी) के दूसरे दिन विभिन्न सैशंस में प्रेजेंटेशन दिए गए। बिड़ला ऑडिटोरियम में रेडिएशन साइटोजैनेटिक्स में करंट ट्रैंड्स, सिग्नलिंग नेटवर्क एंड थैरेपी रेजिस्टेंस, रेडिएशन के हैल्थ पर इफैक्ट्स, एंटी-ऑक्सिडेंट्स और प्लांट प्रोडक्ट्स से रेडिएशन प्रोटेक्शन और कीमो-रेडियोथैरेपी जैसे टॉपिक्स मुख्य रहे।

नेशनल इंस्टीट्यूट ऑफ हैल्थ, यूएसए की नारायणी रामकृष्णन ने विश्व में बढ़ रही आतंकवादी गतिविधियों में न्यूक्लियर पदार्थों के इस्तेमाल और रेडियो एक्टिव पदार्थों की अवैध तस्करी पर चिंता जताई। यूएसए के ही थॉमस मैक ब्रिड्े ने रेडिएशन से होने वाली ब्लड और स्किन प्रॉब्लम के ट्रीटमेंट की न्यू टेक्नोलॉजी पर डिस्कस किया। यूएसए से आए हैराल्ड एम. स्वॉर्ट्स ने न्यू रेडियोथैरेपी एप्रोच एंड ट्रीटमेंट मॉडेलिटी मैथड में ऑप्टिमाइजिंग रेडिएशन थैरेपी की चर्चा की। इस थैरेपी में ट्यूमर में मौजूद ऑक्सीजन का मेजरमेंट किया जाता है। जयपुर के डॉ.अनीश मारू ने कीमोथैरेपी की टॉक्सिसिटी और उसके मैनेजमेंट पर प्रेजेंटेशन दिया।

बर्तनों से भी हो सकता है कैंसर

सिटी रिपोर्टर. कहीं बर्तनों में कैडमियम और मीट में सोडियम नाइट्रेट तो मिक्स नहीं? इन कैमिकल्स से होता है कैंसर होने का खतरा। स्मोकिंग, एल्कोहॉल, मीट, तम्बाकू आदि के खतरे हमें पता हैं। लेकिन वे कौनसे प्रोडक्ट्स या कैमिकल है जिनके बारे में हम नहीं जानते या इग्नोर कर जाते हैं। सिटी भास्कर ने कॉन्फ्रेंस में आए साइंटिस्ट्स और डॉक्टर्स से इसी टॉपिक पर बात की। केरल से आए डॉ.नायर के अनुसार कई बार रेस्तरां में मीट को कलर देने के लिए उसे हार्मफुल सोडियम नाइट्रेट में डिप किया जाता है। इसी तरह बाहर के खाने में तेल को कई-कई बार यूज किया जाता है। इसका ज्यादा सेवन करने से कैंसर होने का खतरा बढ़ जाता है। ओवर कुक्ड फूड, एरोमैटिक डाई, फ्लोरोसेंट फूड कलर में भी कई हार्मफुल कैमिकल होते हैं।

एसएमएस मेडिकल कॉलेज के डॉ.अरुण चौगुले के अनुसार चाहे हमारी फूड हैबिट हो या एक्सरसाइज न करने जैसी कमी, यह कैंसर की ओर ले जा रहे हैं। इसके अलावा कुकिंग टेक्नोलॉजी में प्रिजर्वेटिव, माइक्रोवेव कुकिंग और विक कुकिंग हमारे खाने के कंटेंट को खराब कर रहे हैं। उनके प्रोटीन को नष्ट कर मॉलीक्यूलर वेट और फॉर्मूला को बदल देते हैं। यह काफी नुकसानदायक है। कैंड फूड और यहां तक कि कई बर्तन भी कैंसर का कारण हो सकते हैं। कई बर्तनों में कैडमियम मिक्स होता है। जो हमें इफैक्ट करता है। यूएसए के डॉ. विक्टर आर नारा क्लीनिंग एजेंट्स में मिक्स क्लोरीन को भी हार्मफुल बताते हैं। कुछ डॉक्टर्स का तो मानना है कि कई बार बच्चों पर सीटी स्कैन का असर भी खतरनाक होता है। जो आगे चलकर ल्यूकेमिया या कैंसर का खतरा पैदा कर देता है। वहीं प्रैग्नेंट लेडीज के लिए एक्स-रे कराना भी खतरे की घंटी से कम नहीं। इसी तरह डिटर्जेंट, डियोड्रेंट, स्मोक, सिन्थेटिक प्लास्टिक, कॉस्मैटिक्स, एक्सप्लोसिव आदि हमारे इम्यून सिस्टम को ब्लॉक करते हैं।

क्या हम यह यूज कर रहे हैं

- पेंट (खासकर जिनमें लैड मिला होता है)
- एस्बेस्टस (यह यूएसए में एक तरह से रेस्ट्रिक्टेड है)
- पेस्टिसाइड्स
- एंडोसल्फेन (केरल में काजू के प्लांट में यूज होता है)
- ओवर कुक्ड फूड
- प्रिजर्वेटिव
- माइक्रोवेव या विक कुकिंग
- एरोमैटिक डाई
- डिटर्जेंट
- डियोड्रेंट
- मीट (जो सोडियम नाइट्रेट में डिप हुआ हो)
- स्मोक
- सिंथेटिक प्लास्टिक
- कॉस्मैटिक्स
- एक्सप्लोसिव
- कैंड फूड
- बर्तन जिनमें कैडमियम मिक्स हो
- क्लीनिंग एजेंट

DAINIK BHASKAR 12 NOV 2008

MarkWhithnail, AFRRI, Bethesda (USA) discussed about radiation countermeasure research institute (AFRRI) . Dr. Vijay K.Singh from the same institute described cytokines as biomarkers for efficacy of radiation countermeasures.

On 3rd day of the conference, 5 symposia were arranged in which 38 invited talks were delivered. In symposium Radiation Protection: Cellular and Molecular Mechanisms, Dr. Elizabeth Travis from M.D. Anderson Cancer Center, Houston (USA) presented her lecture on targeting radioprotectors to the lung using genetic approaches where she mentioned about most recent data available on the genetics of radiation-induced fibrosis and pneumonitis. Dr. Andrei Gudkov from Rosewell Park Cancer Institute, Buffalo (USA) presented his talk on saving stem cells from ionizing radiation by pharmacological modulation of major death/survival pathways. He emphasized on the pharmacological modulation of p53 and NF-KB pathways mimicking the modes of their deregulation in tumor cells is a powerful approach to radioprotection. Dr. Mark Whitnail, AFRRI, Bethesda (USA) discussed about radiation countermeasures research at the US Armed Forces Radiobiology Research Institute (AFRRI). Dr. Vijay K. Singh from the same institute described cytokines as biomarkers for efficacy of radiation countermeasures. He suggested that specific cytokines may serve as biomarkers for efficacy of radiation countermeasures, and may prove to be useful as a predictor of outcome. Dr. K. B. Sainis, BARC, Mumbai (India) focused his talk on differences in low dose radiation-induced immuno modulation and gene expression in two strains of bred mice. Dr. A. Wahab, University of Miami (USA) discussed in her talk about the use of antagonists of growth hormone releasing hormones for protection during whole-body radiation.

One symposium was targeted on Molecular imaging and nanotherapeutics in radiation therapy. Dr. Rao Papieni, Carestream Health Inc. (USA), Dr. William E. McLaughin, Carestream Health Inc. (USA), Dr. Bala Krishnan, MD Anderson Cancer Center, Houston (USA), Dr. Mark Kester, Pennsylvania state University (USA), Dr. S. K. Nair, AIMS, Kochi (India), Dr. A. K. Mishra, INMAS, Delhi (India) and Dr. N. N. Mondal, SAHA institute of Nuclear Physics, Kolkata (India) delivered invited talks. These presentations were mainly focused to introduce radiation oncology clinicians and researchers to the potential application of recent advances in nanotechnology to the realm of radiation oncology.

In the symposium on Radiation induced genomic instability, Dr. G. Iliakis from university of Duisburg, Essen Medical School (Germany) delivered a talk on backup pathway of DNA double strand break repair in cells of higher eukaryotes. Dr. Dudley Goodhead, MRC (UK) presented his talk on consideration of radiation quality, dose and targets for induced genomic instability. He mentioned that it is an important area of study, with potential implications, not only for cancer risks, but also for other health effects. Dr. Munira Kadhim from Oxford Brookes University, Oxford (UK), delivered her talk on Genetic and dose effect on radiation-induced genomic instability. She concluded that her results may have implications for human health and radiation protection standards in particular at environmentally relevant exposures. In addition, Dr. Mohan Doss, Fox Chase Cancer Center (USA), Dr. Jean Cadet (France), Dr. Nirmal Bhogal, University of Toronto, Ontario (Canada) and Dr. R. Bhaskar, Singapore General Hospital (Singapore) also delivered their invited talk on the various aspects of radiation-induced genomic instability.

Seven invited speakers presented their talk in the session Dosimetry, Radiation Chemistry & Oxidative Stress. These included Dr. Ann Barry Flood (USA), Dr. Prem Kumar B. Sagnati (USA), Dr. C. Houee Levin (France) Dr. T. Mukherjee (India) Dr. E. James J. Samuel (India) and Dr. Subhankar Suman (India). Dr. Flood in her presentation discussed about policy considerations in approving and implementing EPR dosimetry to manage radiation exposure

to a large population. Dr. Prem Kumar Sanati presented models biological consequences for the anticipated human exploration in the context of the space radiation risk assessment.

In the symposium on Hyperthermia, Brachytherapy & Radiological Effects & Approaches, Dr. Jin Kyu Kim from Korea Atomic Energy Research Institute (Korea) delivered a talk on Recovery kinetics of cells treated with radiation and hyperthermia. Dr. K. Nerishi, Hiroshima (Japan) presented recent ophthalmologic studies in atomic bomb survivors. According to him atomic bomb survivors revealed significant radiation dose responses for posterior subscapular cataract, cortical cataract and retinal arteriosclerosis. In the same symposium, Dr. M. Hoshi from Hiroshima (Japan) made International laboratory comparison of tooth enamel dosimetry on semipalatinsk region. The other speakers were Dr. Girish Dahake, Global Applications Amerithrm Inc. (USA), Dr. Venkat R. Nara, University of Medicine & Dentistry (USA), Dr. Karan Peepre, GMC, Bhopal (India) and Dr. K. Kant, Faridabad (India).

Besides all these Symposia, Mrs. & Dr. M. R. Raju Award and Young Scientist Award sessions were also arranged. Dr. Damodar Gupta from INMAS, Delhi received Mrs. & Dr. M.R. Raju Award of Indian Society for Radiation Biology. Total 10 presentation were made from different institutions for Young Scientist Award.

Total 145 posters were presented during the conference from overseas and Indian participants in different areas of Radiation Biology & Radiation oncology.

SUMMARY

The International Conference on Radiation Biology & Translational Research in Radiation Oncology provided an active and vibrant forum for sharing new results, ideas and a great deal of stimulating discussions among spectrum of researchers in radiation biology and radiation cancer therapy clinicians. It is expected that the deliberations and recommendations of conference would help in formulating basic and applied radiation and cancer researchers as well as for the policy makers. Overall, the scientific deliberations during the conference will certainly generate many collaborations between Indian and foreign faculty as well as young and senior scientists/ clinicians. It is hoped that we can help our field garner the necessary resources for research, technological development, radiation protection and clinical care by linking science & societal needs in a manner understandable to both the founders and potential users. The complexity of the radiological sciences, technology and socio-economic issues could be best addressed through multi-disciplinary collaborative approaches during this conference which would brought the scientists & clinicians together to address the challenges and opportunities in radiation & cancer research.

6. UPCOMING CONFERENCE & WORKSHOP OF ISRB

International Conference on Radiation Biology 2010

International Conference on Radiation Biology, 2010 (ICRB-2010) would be organized at Shri Ramachandra Medical College and Research Institute, Shri Ramachandra University, Porur, Chennai (Madras), India. The Conference would provide unique opportunity to participants for scientific presentations and interaction with eminent scientists from India and abroad. In addition, Chennai and surroundings cities, are famous for its historical monuments, temples, traditional culture, and are attractive tourist sites in India.

Date of Conference: To be announced, likely to be in Nov. 2010
Abstract submission deadline: To be announced
Registration deadline: To be announced

Awards:
Indian Society for radiation Biology (ISRB) has the following awards. Details would be announced in due course of time.

- **Life time Achievement Award** : 1
- **M. R. Raju Award** : 1
- **Young Scientists Award** : 3
- **Poster Award** : 5

Contact Person: Dr Solomon F.D. Paul, Email: wise_soly@yahoo.com

For more details, abstract submission, registration and time to time update about the Conference please contact on the email or see update in upcoming issues of eNewsletter.

7. UPCOMING MEETINGS/ WORKSHOPS

- **100th Annual Meeting of American Association for Cancer Research,** Denver, CO. April 18 – 22, 2009. **www.aacr.org/home/scientists/meetings--workshops/aacr-100th-annual-meeting-2009.aspx**

- **Spatio-temporal Radiation Biology: Transdisciplinary Advances for Biomedical Applications Symposium**, Sant Feliu de Guixols, Spain. May 16 – 21, 2009. **www.esf.org/index.php?id=5241**

- **2nd Asia Congress of Radiation Research (ACRR-2009)**, May 17-20, 2009, COEX, Seoul, Korea organized by Korean Association of Radiation Research, **Deadlines:** Abstract Submission- December 31, 2008, Early Registration-

January 31, 2009. **Contact Person:** Yun-Sil Lee, ACRR 2009 Organizing Committee, 215-4 Gongneung-dong, Nowon-ku, Seoul, 139-706, Korea, **Email: yslee@kcch.re.kr**, Tel.: +82-2-970-1325, Fax: +82-2-970-2402

- **10th International Conference on Health Effects of Incorporated Radionuclides (HEIR)**

  The HEIR 2009 conference will address subjects related to Early and late-occurring health effects of radionuclides in man, including knowledge being gained from epidemiological investigations, cell and molecular studies, and measurement, bioassay and dose assessment methods relevant to human populations.

  Information from experimental animal studies concerning mechanisms of deterministic and stochastic biological effects, dose-response relationships, uniformity of radiation dose distribution including microdosimetry, will be included.

  New aspects of the use of radionuclides, particularly alpha-emitters, in medical therapy will also be addressed.

  Important Dates

  July 15, 2008: Announcement of the conference and call for papers

  February 6, 2009: Deadline for receipt of abstracts

  March 6, 2009: Notification of acceptance of abstract

  April 17, 2009: Deadline for registration

  May 11, 2009: Deadline for receipt of paper for publication

  Web page: http://www.lrri.org/heir/

- **Annual Meeting of Association for Radiation Research**, Scotland. June 22 - 24, 2009. **www.arr2009.co.uk**

- **8th International LOWRAD Conference "The Effects of Low Doses and Very Low Doses of Ionizing Radiation on Human Health and Biotopes" Rio de Janeiro, Brazil, 28 - 30 September 2009**

  Deadline for abstract submission: May 31, 2009

  www.lowrad2009.ird.gov.br

- **55th Annual Meeting of Radiation Research Society**, Savannah, GA. October 3 – 7, 2009. **www.radres.org/ECOMradres/timssnet/common/tnt_frontpage.cfm**

- **16th Annual Meeting of Society for Free Radical and Radiation Biology and Medicine (SFRBM),** San Francisco, CA. November 18 - 22, 2009
  www.sfrbm.org/annualMeetings.cfm

- **Gordon Research Conferences in 2009**
  Web page: http://www.grc.org/

- **International Conference on Radiation Biology, 2010 (ICRB-2010),** Shri Ramachandra Medical College and Research Institute, Shri Ramachandra University, Porur, Chennai (Madras), India.

  Date of Conference: To be announced, likely to be in Nov. 2010
  Abstract submission deadline: To be announced
  Registration deadline: To be announced

  Contact Person: Dr Solomon F.D. Paul, Email: wise_soly@yahoo.com

- **14th International Congress for Radiation Research** 2011, August 2011 in Warsaw, Poland.
  http://www.ptbr.org.pl/icrr2011/icrr2011_venue.htm

Important Notice: Are you organizing any Workshop/Meeting related to Radiation Research or in related research areas? You can add the announcement of event to this eNewsletter **free of cost**!! The announcement would reach to ISRB Community as well many more in India and abroad. The details of announcement may be communicated to: **isrb_enewsletter@yahoo.co.in**

8. AWARDS/HONORS TO ISRB MEMBERS

Congratulations *to the Member of Indian Society for Radiation Biology for prestigious Awards and Honors!!*
May God bless all of you many more in future!!

Name of the ISRB Member	Affiliation	Award/Honors	Year/ Period
Dr Damodar Gupta	INMAS, Delhi	**M. R. Raju Award** by Indian Society for Radiation Biology, at International Conference on Radiation Biology, Jaipur, Nov. 10-12, 2008	2008

9. CAREER FORUM

Positions and Fellowships

- **NIH Director's New Innovator (DP2) Award program t**o support new investigators of exceptional creativity, which have the potential to produce a major impact on broad, important problems in biomedical and behavioral research. For more information visit the link **http://nihroadmap.nih.gov/newinnovator/** and to view the 2009 Program Announcement **http://grants.nih.gov/grants/guide/pa-files/PAR-09-013.html**.

- **POSITION VACANT for Senior Lecturer / Assistant Professor Field of specialization: Radiation Biology / Toxicology**

  Job Description: Applications are invited for faculty positions at the level of Senior Lecturer and Assistant Professor in the areas of Radiation biology / Toxicology at Manipal Life Sciences Centre, Manipal a constituent institution of Manipal University. The responsibilities include establishing a successful extramurally supported research program, teaching radiobiology and biotechnology.

  The candidates with Ph.D. or equivalent degree in an associated field are eligible for the above said position. Candidates with Radiation biology / Toxicology background with hands-on experience in molecular biology techniques are preferred. The successful candidate will join the Radiobiology & Toxicology division focusing on basic and translational research in Radiobiology and Toxicology. Positions are open until it is filled. Interested applicants may submit their detailed CV to: **The Deputy Registrar**, HR, Manipal University. Manipal 576 104, Karnataka, India, Email: jobs@manipal.edu

- **Post doctoral Fellowship**

  http://www.nature.com//naturejobs/science/jobs/53406

- **Postdoctoral position in immunology**

  http://www.nature.com/naturejobs/science/jobs/61323

- **Postdoctoral Fellowship in Stem Cell Biology**

  http://www.nature.com//naturejobs/science/jobs/56183

- **Postdoctoral Fellow - Cell Signalling**

  http://www.nature.com//naturejobs/science/jobs/63000

- **Postdoctoral Fellowships for Training in Cancer Research**
  International Agency for Research on Cancer

Fellowships for junior scientists working in medical or allied sciences and, who wish to pursue their career in cancer research

http://www.iarc.fr/ENG/Fellowships/postdoc.php

- **Postdoctoral Research Fellowship**
  Post Doctoral Fellowship at MGH/Harvard Medical School, Boston, MA, USA to investigate DNA damage checkpoint signaling is regulated by epigenetic mechanisms, novel protein modifications and targeted protein degradation and investigate how the checkpoint can be exploited in targeted cancer therapy.
  http://www.nature.com/naturejobs/science/jobs/84411
- **INRA is recruiting engineers and technicians, scientists**
  http://www.international.inra.fr/join_us

Grants and Awards

- Looking for **Grants, Funds, Fellowships** related to **Radiation Research,** visit the Radiation Research Web page or following link

  http://www.radres.org/ECOMradres/timssnet/common/tnt_JobsFundingandFellowships.cfm

- **Pre- and Post Doctoral Fellowships from NIH**
  http://grants.nih.gov/training/extramural.htm

- **AACR-Gertrude B. Elion Cancer Research Award**
  http://www.aacr.org/default.aspx?p=3859

- **AACR Career Development Awards**
  http://www.aacr.org/default.aspx?p=3858

- **AACR seeks nominations of outstanding scientists for prestigious Landon-AACR Prizes for Basic & Translational Cancer Research.**
  Call for nominations now open through August 25, 2008
  For information, visit **http://www.aacr.org/page13893.aspx**
- **Science Foundation Ireland, (SFI)**

  The national foundation for excellence in scientific research is investing in academic researchers and research teams who are most likely to generate new knowledge, leading edge technologies, and competitive enterprises.
  www.sfi.ie

Article related to career issues

- **The issues of translation and tough choices in science careers.**

  http://www.nature.com/naturejobs/2008/080731/full/nj7204-661a.html

Important Web Sites

- **AACR Research Fellowships**

  http://www.aacr.org/default.aspx?p=3860

- ***GrantsNet*** is resource to find funds for training in the sciences and undergraduate science education. Through the support of HHMI and AAAS, this service is completely free.

  http://www.grantsnet.org/start.cfm?session_id=844615

- **Naturejobs** the career magazine from Nature with the hottest science jobs and details of career related issues.
  http://www.nature.com/naturejobs/index.html

- **Post Doc Jobs,** a site providing opportunities about Post Doc Jobs. It is a platform to bring students, Professionals and Research Institutes together.

  http://www.postdocjobs.com/

- ***Science's Next Wave*** is a weekly online publication that covers scientific training, career development, and the science job market. *Next Wave* is published by *SCIENCE* magazine and the American Association for the Advancement of Science.

  http://nextwave.sciencemag.org/?CFID=789744&CFTOKEN=78870222

  Important Notice: If you have any vacancy in your laboratory/Institute, you can advertise the post through this eNewsletter. In addition, any award in these fields may be also announced. **It is absolutely free!!** The advertisement would reach to Members of ISRB and many more, who may be interested about the vacancy. The details of vacancy may be communicated to: **isrb_enewsletter@yahoo.co.in**.

10. ARTICLES OF THE ISSUE

- **Bcl-2 inhibitors: small molecules with a big impact on cancer therapy**

  http://www.nature.com/cdd/journal/v16/n3/full/cdd2008137a.html

- **Reversibility of apoptosis in cancer cells**

  http://www.nature.com/bjc/journal/v100/n1/abs/6604802a.html

- **A direct view by immunofluorescent comet assay (IFCA) of DNA damage induced by nicking and cutting enzymes, ionizing 137Cs radiation, UV-A laser microbeam irradiation and the radiomimetic drug bleomycin**

  http://mutage.oxfordjournals.org/cgi/content/abstract/24/2/191?etoc

- **A phase I trial of Capecitabine+Gemcitabine with radical radiation for locally advanced pancreatic cancer**

  http://www.nature.com/bjc/journal/v100/n1/abs/6604827a.html

- **Radical cyberknife radiosurgery with tumor tracking: an effective treatment for inoperable small peripheral stage I non-small cell lung cancer**

  http://www.jhoonline.org/content/2/1/1

- **RPS2: a novel therapeutic target in prostate cancer**

  http://www.jeccr.com/content/28/1/6

- **The feasibility of gene therapy in the treatment of head and neck cancer**

  http://www.headandneckoncology.org/content/1/1/3

- **Molecular mechanisms of cell proliferation induced by low power laser irradiation**

  http://www.jbiomedsci.com/content/16/1/4

- **Iron oxide nanoparticles induce human microvascular endothelial cell permeability through reactive oxygen species production and microtubule remodeling**

  http://www.particleandfibretoxicology.com/content/6/1/1

- **Tumour cell survival signalling by the ERK1/2 pathway**

  http://www.nature.com/cdd/journal/v16/n3/full/cdd2008148a.html

11. OPEN ACCESS ARTICLES/SERIES OF ARTICLES

- **Free Access to Featured *Cell Research* Articles**

  Featured articles cover topics including but not limited to: apoptosis, stem cells, cell growth and differentiation, signal transduction, immunology, neurosciences and much more!

  http://www.nature.com/content/cr/best_of/index.html

- **Articles on anti-angiogenesis therapy in cancer**

  http://www.nature.com/nrc/focus/targeting_ang/index.html

- **Development of RNAi as a therapeutic strategy**

  Open access articles on RNAi in basic issues and therapeutic applications

  http://www.nature.com/mt/webfocus/rnai/index.html

- **Cell Signaling Articles**

  Cell Research presents a series of reviews on signal transduction in the context of stem cell self-renewal and differentiation, cancer and other human diseases.

  http://www.nature.com/cr/focus/cell_signaling_review.html

- ***Bone Marrow Transplantation* delivers articles in areas:**

  Hematopoietic stem cell transplantation, stem cell biology, transplantation immunology, kinetics and cytokine control, HLA and matching techniques, translational research, clinical results.

  Visit **www.nature.com/bmt**

- **Constitutional hypomorphic telomerase mutations in patients with acute myeloid leukemia**

  http://www.pnas.org/content/106/4/1187.abstract?etoc

- **Activated Wnt/ß-catenin signaling in melanoma is associated with decreased proliferation in patient tumors and a murine melanoma model**

  http://www.pnas.org/content/106/4/1193.abstract?etoc

- **ICRU: a historical perspective of 90 years of radiation science**

  http://rpd.oxfordjournals.org/cgi/content/extract/132/4/361?etoc

- **Brachytherapy versus radical hysterectomy after external beam chemo-radiation: a non-randomized matched comparison in IB2-IIB cervical cancer patients**

  http://www.wjso.com/content/7/1/19

- **Insights archive from Nature**

  http://www.nature.com/nature/supplements/insights/

- **Focus on TGFβ SIGNALING**

  http://www.nature.com/cr/focus/tgf_signaling_review.html

- **Targeting the ubiquitin system in cancer therapy**

  http://www.nature.com/nature/journal/v458/n7237/abs/nature07960.html?lang=en

Note: *Some of the open access articles are only for limited period.*

12. USEFUL LINKS

- **Radiation Research Podcast**
  You can listen, the telephone interviews to author(s) of selected paper published each month from the latest issue of international scientific journal ***Radiation Research***, official journal of the Radiation Research Society. In addition, you can also listen, the interviews by eminent scientists in radiation research about the current topics. Log on to

  http://lsmr1.lbl.gov:8080/xwiki/bin/view/Radiation+Research+Society/

Or Look for Journal Podcast under category 'Journal' and then 'Journal Podcast' on following web page

http://www.radres.org/ECOMradres/timssnet/common/tnt_frontpage.cfm

Or Look for 'Radiation Research Podcast' in Google Search

- **Radiation Research Society SIT Discussion Board**
  Another site, which may attract you to get information related to Scientific Meetings, vacancies and discussion in Radiation Sciences.

  http://www.radres.org/ECOMradres/timssnet/phpBB2/index.php

- ***Science's Next Wave*** is a weekly online publication that covers scientific training, career development, and the science job market. *Next Wave* is published by *SCIENCE* magazine and the American Association for the Advancement of Science.

  http://nextwave.sciencemag.org/?CFID=789744&CFTOKEN=78870222

- **Link to related other Professional / Academic Societies related to Radiation Biology and Oncology**

  http://www.radres.org/ECOMradres/timssnet/common/tnt_RelatedSocieties.cfm

- **Nuclear India**

  A publication by Department of Atomic Energy, Government of India about nuclear energy and various other related issues

  http://www.dae.gov.in/ni/nimain.htm

13. IMPORTANT JOURNALS

- **Annals of Oncology**

  http://annonc.oxfordjournals.org/

- **Acta Oncologia**

  http://www.informaworld.com/smpp/title~content=g779470932~db=all

- **BMC Cancer**

  http://www.biomedcentral.com/bmccancer/

- **Cancer Epidemiology Biomarkers & Prevention**

http://cebp.aacrjournals.org/

- **Cancer Prevention Research**

  http://cancerpreventionresearch.aacrjournals.org/

- **Cancer Research**

  http://cancerres.aacrjournals.org/

- **Cell Growth and Differentiation**

  http://cgd.aacrjournals.org/

- **Clinical Cancer Research**

  http://clincancerres.aacrjournals.org/

- **Clinica Chimica Acta**

  http://www.elsevier.com/wps/find/journaldescription.cws_home/506018/description#description

- **Free Radical Biology and Medicine**

  http://www.elsevier.com/wps/find/journaldescription.cws_home/525469/description#description

- **Free Radical Research**

  http://www.tandf.co.uk/journals/authors/gfrrauth.asp

- **Indian Journal of Radiation Research**

  For manuscript submission and, subscription and free sample copy of the Journal contact, Editor: Dr K. P. Mishra, Email: mishra_kaushala@rediffmail.com, Assistant Editor: Dr. H. D. Sarma Email: hdsarma1162@yahoo.com

- **International Journal of Radiation Biology**

  http://www.informaworld.com/smpp/title~content=t713697337

- **International Journal of Radiation Oncology, Biology and Physics**

  http://www.elsevier.com/wps/find/journaldescription.cws_home/525471/description#description

- **Iranian Journal of Radiation Research**

  http://www.ijrr.com/

- **Journal of Cancer Research and Therapeutics**

  http://www.cancerjournal.net/

- **Journal of Radiation Research**

  http://www.journalarchive.jst.go.jp/english/jnltop_en.php?cdjournal=jrr1960

- **Molecular Cancer Research**

  http://mcr.aacrjournals.org/

- **Molecular Cancer Therapeutics**

  http://mct.aacrjournals.org/

- **Radiation Measurements**

  http://www.elsevier.com/wps/find/journaldescription.cws_home/286/description#description

- **Radiation Oncology**

  http://www.ro-journal.com/

- **Radiation Physics and Chemistry**

  http://www.elsevier.com/wps/find/journaldescription.cws_home/331/description#description

- **Radiation Protection Dosimetry**

  http://rpd.oxfordjournals.org/

- **Radiation Research**

  http://www.rrjournal.org/perlserv/?request=get-archive

- **Radiotherapy and Oncology**

  http://www.elsevier.com/wps/find/journaldescription.cws_home/506042/description#description

14. RECENT BOOKS

- **Biomolecular Action of Ionizing Radiation**

  http://www.rrjournal.org/perlserv/?request=get-document&doi=10.1667%2FRRXX07.1

- **Radiation protection and measurement issues related to cargo scanning with accelerator-produced high-energy X rays, NCRP Commentary No. 20**

  http://rpd.oxfordjournals.org/cgi/content/extract/132/3/357?etoc

- **ENERGY: Promising the Sun**

  Focusing on scientists who have attempted to harness fusion to generate power, Seife sketches the history of fusion research over the past six decades.

  http://www.sciencemag.org/cgi/content/summary/322/5906/1328a

- **Atoms, Radiation and Radiation Protection**

  http://rpd.oxfordjournals.org/cgi/content/extract/132/4/420

- **Uncertainties in the measurement and dosimetry of external radiation, NCRP Report No. 158**

  http://rpd.oxfordjournals.org/cgi/content/extract/133/1/58?etoc

- **International Commission on Radiation Units and Measurements Report 78: Prescribing, Recording and Reporting Proton-beam Therapy**

  http://rpd.oxfordjournals.org/cgi/content/extract/133/1/60?etoc

- **Open Access and Global Participation in Science**

  http://www.sciencemag.org/cgi/content/abstract/323/5917/1025?sa_campaign=Email/toc/20-February-2009/10.1126/science.1154562

15. NOTICE BOARD

• Update your email and contact address

Dear Members of ISRB,

The enewsletter would be send to ISRB Members by email only. If your email address is getting changed or you have any other preferred email, please communicate to us as soon as possible on **isrb_enewsletter@yahoo.co.in**. In case, any other ISRB Member, who is not receiving eNewsletter, please intimate us his/her email address.

In addition, if any other friend or colleague is interested to receive the eNewsletter, please let us know his/her email address to be included in our mailing list. The eNewsletter is free to ISRB Members as well as non-Members too. **The subscription of eNewsletter is absolutely free!!!**

In addition, it is frequent problem to communicate with ISRB members due to change in address. If your contact address has been changed please intimate to Secretary, ISRB. This would help us to reach you and communicate, when ever needed.

• Join ISRB

Are you/your colleague/friend working in Radiation Research or related field and still not a Member of Indian Society for Radiation Biology? Join ISRB.

As Member of ISRB, (a) you would join with scientific community working in Radiation Research and related research areas. (b) You are entitled to participate in Meeting/Workshops of ISRB at reduced Registration Fee (c) Your interaction with Scientists and experts from India and abroad would help in your career.

To be a Member of ISRB, fill the attached application form (in last of eNewsletter) along with along with Membership fee to Secretary, ISRB. For details, contact Secretary or any of the Office Bearers of ISRB as given below.

The application form can be download from following link **http://www.freewebs.com/isrbenewsletter/ISRB%20Membership%20Application%20Form.pdf**

• Awards / Honors to ISRB Members

Editorial Board 'Radiation Science Today' is pleased to launch a new column "**AWARDS/HONORS to ISRB Members**". We hope the column would make us more aware with each other about our awards/ scientific achievements.

This column is only for Members of Indian Society for Radiation Biology. If you are Member of ISRB and received any award or scientific honor, you are requested to send details of same in following format on email address: **isrb_enewsletter@yahoo.co.in**, with **subject line**: Awards/Honors.

To avoid the verification of Membership and any ambiguity from non-ISRB Members, a line of statement is requested that 'I am a Member / Life Member of Indian Society for Radiation Biology'.

Details of award or scientific recognition can be submitted in prescribed format provided below as when received, which would be included in next upcoming issue of the eNewsletter.

Please circulate the announcement to your colleagues and friends, who are Members of ISRB. Please provide complete information to avoid unnecessary delay in publication in eNewsletter.

Name and Present Address of ISRB Member	Affiliation (if any)	Name of Award/Honor	Year/Period

Statement: I am Member/Life Member of Indian Society for Radiation Biology.

Name of the ISRB Member:

• You can contribute in this eNewsletter

You can send your contribution, which may be included in this eNewsletter under **'Reader's Column'**

Brief scientific article (maximum 1000 words, if reference needed, in 'International Journal of Radiation Biology' style) may be submitted for publication in eNewsletter. Your article may fall under following subject category: (i) radiation sciences or related research areas; (ii) your opinion on any scientific issue, technique or some general topics; (iii) any major finding or research concept from the archives of radiation sciences. The article should be original. It would be published in eNewsletter after general screening/reviewing of the article by the Editorial Board.

For any further clarification or submission of any article write to Editor on email address: isrb_enewsletter@yahoo.co

In addition, if you come across any recent journal / books published in radiation and related research areas, please send us the details of the book/journal on our

email: isrb_enewsletter@yahoo.co. The details of books/journal would be included in the eNewsletter **free of cost**!!!

Coming Soon

The following new column is considered to be launched soon in upcoming issues of eNewsletter. Your co-operation and contribution is requested.

Welcome to New Members of ISRB

We would like to welcome the new Members joining to ISRB with providing their affiliation, his/her research areas/expertise and recent photograph (if available). Secretary, ISRB is requested to provide their details of new Members joining to ISRB, as and when available.

INDIAN SOCIETY FOR RADIATION BIOLOGY
Executive Council (2009-11)

Prof. P. K. Goyal (President)	Department of Zoology, Rajasthan University, Jaipur, India
Dr. G. C. Jagetia (Vice-President)	Department of Zoology, Aizwal, India
Dr. N. G. Huilgol (Vice President)	Dr.Balabhai Nanavati Hospital, S.V.Rd Vile Pale (W), Mumbai 400 056, India
Dr. M. Bala (Secretary)	Department of Radiation Biology, Institute of Nuclear Medicine & Allied Sciences Brig. S. K. Mazumdar Marg, Delhi, India
Dr. B. N. Pandey (Treasurer)	Radiation Biology and Health Sciences Division, Bhabha Atomic Research Centre, Mumbai 400 085, India
Dr A. L. Bhatia (Member)	Department of Zoology, Rajasthan University, Jaipur, India
Dr. A. Chaugle (Member)	Department of Radiotherapy, SMS Medical College, Jaipur, India
Dr. H. D. Sarma (Member)	Radiation Biology and Health Sciences Division, Bhabha Atomic Research Centre, Mumbai 400 085, India
Dr. H. N. Bhilwade (Member)	Radiation Biology and Health Sciences Division, Bhabha Atomic Research Centre, Mumbai 400 085, India
Dr. Shreedevi (Member)	Radiation Physics and Advisory Division, Bhabha Atomic Research Centre, Mumbai 400 085, India
Dr. S. P. Mishra (Member)	Kamala Nehru Hospital, Allahabad, India
Dr. Purohit (Member)	Radiation Biology Laboratory, P.G. Department of Zoology, Govt. Dungar College, Bikaner, Rajasthan
Dr. S.C. Jain (Member)	Centre for Fire, Explosive & Environment Safety, Brig. S.K. Mazumdar Marg, Delhi – 110054, India
Dr S. S. Lahiri (Member)	Institute of Nuclear Medicine & Allied Sciences Brig. S. K. Mazumdar Marg, Delhi

Published by:

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(Reg. No. S-19927, dt. May 5, 1989)

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Lucknow Marg, Delhi-110 054 (INDIA)

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Web page: **www.icrb2008.org**, **www.isrb-india.com**

We hope you will find this Newsletter as a useful resource of information. However, we look forward for your active contribution and valuable comments/ suggestions for improvement of the eNewsletter on **isrb_enewsletter@yahoo.co.in** or any of the Member of Editorial Board.

You are being sent the eNewsletter since either you are member of Indian Society for Radiation Biology or identified as potential reader of the eNewsletter. If you wish to discontinue receiving the eNewsletter in future write to us: isrb_enewsletter@yahoo.co.in.

Disclaimer: *Every effort has been taken to provide up-to-date and correct information in the Newsletter. However, readers are advised to check the related source of information.*

Editorial Board

INDIAN SOCIETY FOR RADIATION BIOLOGY

(Regd. No. 5-19927, dt. May 5, 1989)
H.O.: Institute of Nuclear Medicine & Allied Sciences, Lucknow Road, New Delhi-110 054
http://www.geocities.com/isrb_india/

Application for Membership

To:

Secretary
Indian Society for Radiation Biology (ISRB)
Department of Medicinal Chemistry, Institute of Medical Sciences
Benaras Hindu University, Varanasi- 221005, India

Dear Sir,

I wish to apply for Life/ Annual/Membership for the Indian Society for Radiation Biology. My particulars are given below:

1. Full Name (Block Letters) ....……………………...........................……........................
2. Present Position/Title ……………………………………………………………………………...........……............
3. Date of Birth ... ………………………………………………………………………………………………..........
4. Academic qualifications: Degree University Year

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5. Field of Specialization ..…………………………………………………………………………………….……
6. Research Interest ……………………………………………………………………………………………...…

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7. Address: Official:
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Tel… ……………..Fax: ……………… E-mail
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Permanent
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8. Registration Fee: Annual Membership : Rs. 100.00 Foreign members: US$ 10
Life Membership : Rs 1000.00 Foreign members: US$ 100

Bank transfer/Draft/Cheque No. …………Date: …………Drawn on Bank. …………………………

……………………………………in favour of 'Indian Society for Radiation Biology' is enclosed.

Place: ………………..……….. Date:……….. Signature: ……………………………….……….....

Proposed by …………………………Membership No. and Signature ….…..……...….……………...……...

Seconded by ……………….…. Membership No. and Signature …………...……………………...…

For Use of ISRB Secretariat Only

Membership No. ....Type of Membership ....…..........………...……....…..................
Membership approved/not approved by Executive Council in its meeting held
on………………………………..
Payment received vide …………………………… on
…………………………………………………………...

Secretary/Treasurer: …………………………..

President, Indian Society for Radiation Biology

Please mail the Application for Membership along with two recent passport size photographs to: Dr Yamini B. Tripathy, Secretary, ISRB, Department of Medicinal Chemistry, Institute of Medical Sciences, Benaras Hindu University, Varanasi- 221005, India. E-mail:yaminiok@yahoo.com