National Conference on

Advances in Radiation Measurement Systems and Techniques

IARPNC – 2014

March 19-21, 2014

Multipurpose Hall
BARC Training School Hostel
Anushaktinagar
MUMBAI – 400 094
Conference Secretariat

Dr. M.S. Kulkarni
Convener, Organizing Committee IARPNC-2014
Head, RPIS
Radiological Physics and Advisory Division
Bhabha Atomic Research Centre,
Trombay, Mumbai 400 085, India
E-mail : kmukund@barc.gov.in & ksmukund@yahoo.com
Phone : 25595076 Mobile : +91 9969961663
Fax : 022 25505151
The Indian Association for Radiation Protection (IARP) is organizing its 31st National Conference (IARPNC-2014) on “Advances in Radiation Measurement Systems and Techniques” during March 19-21, 2014 at Multipurpose Hall, Training School Hostel, Anushaktinagar, Mumbai, Maharashtra.

The Indian Association for Radiation Protection (IARP), a non-governmental organization (NGO) of radiation protection professionals in India, was registered in 1968 under the Public Trust Act, 1950. The association has a large membership of the specialists and users of natural and man-made radiation sources. The Association is an affiliate of the International Radiation Protection Association (IRPA) since May, 1970. The Association has its six chapters in different regions of the country (Delhi, Kanpur, Hyderabad, Tarapur, Kaiga and Kalpakkam).

The aims of IARP include bringing about proper awareness of the benefits of ionizing radiations and as well as the hazards amongst their users in particular and the public in general. It encourages adoption of appropriate means / procedures for avoiding or reducing radiation exposure in the applications of ionizing radiations and nuclear technology in the country, such as power generation, industry, medicine, agriculture, scientific research etc., thereby maximizing the benefits to the society. It provides a forum for communication and exchange of information amongst specialists in the field of radiation protection and related disciplines in the country and with their counterparts in other countries. It conducts training courses to cater to the requirement of trained manpower in the industrial applications of radioisotopes in industry and research. The IARP publishes an open access web-based quarterly journal “Radiation Protection and Environment” (RPE).

IARP has been serving the national and international scientific community for the past 45 years by organizing national and regional conferences and workshops in the field of Radiation Protection and Safety. There have been tremendous advancements in nuclear
measurement techniques, utilization of software based applications, miniaturization of instruments; embedded systems, growth of large area/volume semiconductor detectors, sensitive techniques in environmental measurements, development of rapid radio-separation methods etc., in the last decade, which have made a huge impact in overall radiation protection. In view of these developments, IARPNC-2014 will be devoted to “Advances in Radiation Measurement Systems and Techniques”. The major thematic areas to be covered are: Radio-analytical and Measurement Techniques, Occupational Radiation Protection, Radiation Protection of the Environment and Public, Radiation Dosimetry, Radiation Protection Instrumentation, Regulatory Aspects and Environmental Legislations, Radiation Metrology and ICRP Recommendations. This conference is a forum for all the stakeholders to discuss various issues related to the developments in radiological and environmental safety of nuclear facilities.

As per the policy of IARP of holding every alternate conference in Mumbai, the 2014 IARPNC is being organized in Mumbai which happens to be the centre of major research and regulatory activities in the field of radiation protection and safety. It gives us immense pleasure in inviting you to participate in IARPNC-2014 and we look forward to your valuable technical contributions in the conference.

Dr. D.N. Sharma  
Chairman, Organizing Committee  
IARPNC-2014

Dr. K.S. Pradeepkumar  
President, IARP

Dr. M.S. Kulkarni  
Secretary, IARP &  
Convener, IARPNC-2014
The scientific programme of the conference will include Invited Talks, Proffered Papers, Posters, Panel Discussion and Technical Exhibition. Eminent persons in the field of Radiation Protection will be honoured by bestowing the following awards. 1) Dr. A.K. Ganguly Memorial Oration Award, 2) Dr. K.G. Vohra Memorial Lecture Award, 3) Shri A. Nagaratnam Memorial Oration Award, 4) Dr. A.K. Ganguly Felicitation Prize, 5) Dr. A.R. Gopal Ayengar Young Scientist Award, 6) Meritorious Radiological Safety Officer Award, 7) Meritorious Operational Health Physicist Award and 8) Dr. P.R. Kamath Radiation Environmentalist Award. The Oration lectures will be delivered in the Plenary Sessions. In addition to these, there will be best oral paper and best poster presentation awards, which will be declared during the last session of the conference. The major thematic areas to be covered at the conference are listed below:

- **Analytical Techniques**: Radiochemical Separation, Source Preparation, Environmental Chemistry, Conventional Pollutants.

- **Measurement Systems and Methods**: X, Gamma and Alpha Ray Spectrometry, Neutron Spectrometry, Liquid Scintillation Analysis and Beta Counting/Spectrometry.

- **Occupational Radiation Protection in Nuclear & Radiation Facilities**: Nuclear Fuel Cycle, Medical Exposure, Accelerator Facilities, Industrial Applications of Radiation.

- **Radiation Detectors & Nuclear Instrumentation**: Recent advances in the field of Radiation Protection and Safety.

- **Emergency Preparedness**: Prevention, Preparedness and Response to Nuclear and Radiological Emergencies, Radiological Accidents and Risk Assessment.


- **Radiation Dosimetry**: Internal, External, Medical, Risk Assessment, Monte Carlo Simulations.

- **Regulatory Aspects of Radiation Protection and Environmental Legislations**.

- **Radiation Standards, Metrology and Quality Assurance**.

- **Latest ICRP Recommendations including Dose to Eye Lens**.
REGISTRATION

Registration is pre-requisite for attending the conference and presenting a paper. Request for registration should be sent to the Convener, National Organizing Committee, by sending the completely filled up FORM-A. Registration fee payable is listed below:

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<tr>
<th>Type of registration</th>
<th>Amount payable (INR)</th>
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<tbody>
<tr>
<td></td>
<td>Regular up to 31/01/2014</td>
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<tr>
<td>IARP member</td>
<td>2000</td>
</tr>
<tr>
<td>Senior Citizen</td>
<td>750</td>
</tr>
<tr>
<td>Non IARP Member</td>
<td>2500</td>
</tr>
<tr>
<td>Associate delegate</td>
<td>1500</td>
</tr>
<tr>
<td>Student delegate*</td>
<td>750</td>
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<tr>
<td>Trade delegate (two Nos.)</td>
<td>5000</td>
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<td>Foreign delegate</td>
<td>150$</td>
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* To encourage the participation of young students, financial assistance to the deserving students will be provided subject to the availability of funds. Certificate from Head of the Institute/Department is required.

IMPORTANT DATES

Abstract Submission : 30/11/2013
Intimation of Acceptance : 15/01/2014
Registration and Accommodation Request (up to) : 31/01/2014
Registration and Accommodation Request – (late) : 01/03/2014
Full paper submission for Consideration in RPE journal (few suitable papers) : 31/03/2014
GUIDELINES FOR MANUSCRIPT PREPARATION AND SUBMISSION

Contributions should be brief with relevant scientific/technical details in the form of an extended abstract of one page, not exceeding 500 words. The objective of the paper should be clearly stated in the introduction of the abstract. The extended abstract should be of two column type containing Title, Affiliation, Introduction, Materials and Methods, Results and Discussions and References, strictly as per the template. The template of the abstract can be downloaded from the IARP website. The contribution can be submitted ONLINE through the abstract submission facility of IARP website (www.iarp.org.in) before the closing date. The abstracts can also be submitted OFFLINE by email to the convener (ddrao@barc.gov.in & ddrao217@gmail.com) of the Scientific Programme Committee of the conference. A maximum of only three most relevant references should be included in the abstract and listed as per the template. References in text should be indicated as given in the template. In the reference list, the author's name should be followed by initials, year of publication within parentheses, followed by comma, title of the paper, the journal in which it appeared, volume number and the page numbers. SI units should be used throughout. The illustrations such as figures and long tables should be avoided as far as possible, unless they are essential.

Abstract submitted for presentation in the conference will be reviewed independently by the two members of the scientific programme committee and experts in the field. A book of abstracts including abstracts of invited lectures will be published and distributed during the conference. Last date for abstract submission is 30/11/2013. The acceptance of the paper will be intimated within 45 days after the last date of abstract submission.

It is also planned to consider a few suitable papers for publication in the web based open access Journal of Radiation Protection and Environment, being published as a quarterly journal. For this, the full text of the paper including tables, figures, references, etc should be
prepared following the “Instructions for Authors” of RPE journal and submitted to the journal through ONLINE SUBMISSION SYSTEM of RPE (http://www.journalonweb.com/rpe) within 15 days after the conference. While finalizing the full manuscript, the authors are advised to address the comments/suggestions of scientific floor of the conference. The full paper submitted for the journal will be peer reviewed by experts in the field as per the policy of RPE journal. It is assumed that authors are fully aware of plagiarism and are submitting original research/developmental work for this conference.

The authors of the best papers presented at the conference will be given IARP Best Paper Award (Oral and Poster).

It is assumed that the authors have obtained clearance (if necessary) from the appropriate authority for presentation and publication of the material they are submitting.

**Dr. D. D. Rao**
Convener, Scientific Programme Committee,
Radiation Safety Systems Division,
Bhabha Atomic Research Centre,
Trombay, Mumbai 400 085, India
E-mail : ddrao@barc.gov.in , ddrao217@gmail.com
Tel.: 2559 8288

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**ACCOMMODATION**

Accommodation to the delegates will be provided on receipt of the completely filled Accommodation request form (FORM-B). Last date for receiving application for accommodation is 31/01/2014. Efforts will be made to accommodate delegates in BARC guest house or nearby DAE guest houses on payment basis. Standard tariffs of guest houses are applicable.
IARP AWARDS

Nominations/applications are invited for the following IARP awards. Secretary, IARP (kmukund@barc.gov.in & ksmukund@yahoo.com) may be approached for obtaining more information about these awards. Information on awards can also be found in the IARP web site (www.iarp.org.in)

- Dr. A.K. Ganguly Memorial Oration Award
- Dr. K.G. Vohra Memorial Lecture Award
- Shri A. Nagaratnam Memorial Oration Award
- Dr. A.K. Ganguly Felicitation Prize
- Dr. A.R. Gopal Ayengar Young Scientist Award
- Meritorious Radiological Safety Officer Award
- Meritorious Operational Health Physicist Award
- Dr. P.R. Kamath Radiation Environmentalist Award
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RSSD, BARC
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Ex-BARC
BRNS, DAE
RPAD, BARC (Convener)

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Director, HS&EG, Convener

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Head, PAD, DAE
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NDMA, New Delhi
Head, EMS, HSEG, BARC
Head, RSD, AERB
Head, IHS, HESG, BARC
HPD, BARC
RSSD, BARC
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Ex-BARC
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Dr. Munish Kumar RPAD BARC  
Dr. S.P. Tripathy HPD, BARC  
Dr. D.D. Rao RSSD, BARC - Convener  

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Mr. Probal Chaudhury RSSD, BARC  
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Mr. Kapil Deo Singh HPD, BARC  
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Mr. Rakesh Ras Bihari RPAD, BARC  
Mr. M.K. Chatterjee RSSD, BARC  
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Mr. R.H. Chilkulvar RPAD, BARC  
Mr. Manish Mishra HPD, BARC  
Mr. S.K. Sahoo HPD, BARC  
Dr. S.D. Sharma RPAD, BARC (Convener)
Arrangements for trade and scientific exhibition have been made at the conference venue. Interested vendors or companies can avail this facility for demonstrating their products. Companies/Traders can also send in their requests for publishing product advertisements in the book of abstracts/proceedings. Companies may send their requirement for trade exhibition through completely filled trade exhibition form (FORM-C) to Dr. M.S. Kulkarni, Convener, Organizing Committee, IARPNC-2014. Last date for receiving trade request forms for booking space is February 20, 2014 (20/02/2014).

<table>
<thead>
<tr>
<th>S.No.</th>
<th>ADVERTISEMENT/EXHIBITION/SPONSORSHIP</th>
<th>TARIFF (Rs.)</th>
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<td>1.</td>
<td>BACK COVER</td>
<td>20,000/-</td>
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<td>2.</td>
<td>BACK COVER INSIDE</td>
<td>15,000/-</td>
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<td>3.</td>
<td>FRONT COVER INSIDE</td>
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<td>4.</td>
<td>SPECIAL FULL PAGE INSIDE</td>
<td>12,000/-</td>
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<td>5.</td>
<td>HALF PAGE INSIDE</td>
<td>8,000/-</td>
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<td>6.</td>
<td>STALL SIZE (2m x 2m)</td>
<td>30,000/-</td>
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<td>7.</td>
<td>STALL SIZE (3m x 3m)</td>
<td>45,000/-</td>
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<tr>
<td>8.</td>
<td>HOSTING A LUNCH (Includes a stall of 2m x 2m, two free registrations, one special full page advertisement)</td>
<td>75,000/-</td>
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<td>9.</td>
<td>HOSTING A DINNER (Includes a stall of 3m x 3m, two free registrations, one special full page advertisement)</td>
<td>100,000/-</td>
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Form - A (Registration)

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<tr>
<td>1.</td>
<td>Name</td>
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<td>2.</td>
<td>Designation</td>
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<tr>
<td>3.</td>
<td>IARP Membership No.</td>
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<td>4.</td>
<td>Institution/Affiliation</td>
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<td>5.</td>
<td>Address (mailing)</td>
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<td>6.</td>
<td>Email id.</td>
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<td>7.</td>
<td>Associate delegate Name</td>
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<td>8.</td>
<td>Payment details</td>
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- DD/Local Cheque/Outstation Cheque
- DD/Cheque No.*
- Bank Name
- Amount (Rs./USD)
- Date of payment

*: DD/Cheques should be drawn in favour of - “IARPNC-2014” payable at Mumbai.

Date
Signature

Please mail the completed form to:

**Dr. M.S. Kulkarni**
Head, RPIS, RPAD
Convener, Organizing Committee IARPNC-2014
Radiological Physics and Advisory Division
Bhabha Atomic Research Centre, Trombay, Mumbai 400 085, India
E-mail: kmukund@barc.gov.in
### Form – B (Accommodation)

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<td>Name</td>
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<td>Type of accommodation</td>
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<td>Institution/Affiliation</td>
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<td>Address (mailing)</td>
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<td>Email id.</td>
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<td>7.</td>
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<td>Duration of stay</td>
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<td></td>
<td>Amount (Rs./USD)</td>
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<td></td>
<td>Date of payment</td>
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</tbody>
</table>

*: DD/Cheques should be drawn in favour of - “IARPNC-2014” payable at Mumbai.

Date                                               Signature

Please mail the completed form to:

**Dr. M.S. Kulkarni**
Head, RPIS, RPAD
Convener, Organizing Committee IARPNC-2014
Radiological Physics and Advisory Division
Bhabha Atomic Research Centre, Trombay, Mumbai 400 085, India
E-mail : kmukund@barc.gov.in
# Form – C (Scientific/Trade Exhibition & Advertisement)

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<table>
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<tr>
<td>1.</td>
<td>Name of the company</td>
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<td>2.</td>
<td>Contact Person</td>
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<td>3.</td>
<td>Address (mailing)</td>
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<td>4.</td>
<td>Number of stalls. 2x2 m or 3x3 m</td>
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<tr>
<td>5.</td>
<td>Brief description of the equipment/product</td>
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<td>6.</td>
<td>Advertisement in the Souvenir (type &amp; no. of pages)</td>
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<td>7.</td>
<td>Bank Name</td>
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<td></td>
<td>Amount (Rs./USD)</td>
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<td>Date of payment</td>
</tr>
</tbody>
</table>

*: DD/Cheques should be drawn in favour of - “IARPNC-2014” payable at Mumbai.

Date  
Signature

Please mail the completed form to:

**Dr. M.S. Kulkarni**
Head, RPIS, RPAD
Convener, Organizing Committee IARPNC-2014
Radiological Physics and Advisory Division
Bhabha Atomic Research Centre, Trombay, Mumbai 400 085, India
E-mail: kmukund@barc.gov.in