

Introduction to IAEA CRP

E3.50.08

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IAEA

International Atomic Energy Agency

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CRP on Biodosimetry

- E3.50.08 - Strengthening of “Biological dosimetry” in IAEA Member States: Improvement of current techniques and intensification of collaboration and networking among the different institutes (2012-2016).
- The major aim of the project is to increase the preparedness of biological dosimetry laboratories in IAEA and Member States to react on radiation and nuclear accidents nationally and in the region.
- IAEA Project Officer – Oleg Belyakov, Alternate - Eduardo Rosenblatt, started by Jan Wondergem.

Specific research objectives

- To implement adequate technical information and expertise in participant countries to perform biological dosimetry.
- To update conventional and to implement state-of-the-art cytogenetic assays for retrospective biological dosimetry after exposure to ionising radiation of different qualities.
- To unify/harmonise cytogenetic assays among different laboratories.

Specific research objectives, cont.

- To monitor individuals exposed to radiation environmentally, occupationally, clinically as well as accidentally.
- To complement and to develop IAEA and WHO activities in this field.

Participating institutions

CRP is consisted of 26 participants (21 research contracts and *6 research agreements–Italic*) funded by IAEA and PUI - Peaceful Uses Initiative (green).

ERC, India	IHT, Georgia	NNRI, Ghana	<i>LUMC, Netherlands</i>
<i>NIRS, Japan</i>	NIRPNS, China	IFJ, Poland	PTKMR, Indonesia
<i>RERF, Japan</i>	GIMR, Ukraine	UK, Sri Lanka	PNRI, Philippines
HPA, UK	CRNA, Algeria	MNA, Malaysia	KIRAMS, RO Korea
<i>CPHR, Cuba</i>	<i>IRBA, France</i>	KU, Thailand	KAERI, RO Korea
BIRM, China	NIR, Vietnam	IIBCE, Uruguay	EMERCOM, Russia
	RPC, Lithuania	NUS, Singapore	

Topics of research

- All institution work towards to the main goal of strengthening biodosimetry in IAEA Member States.
- It includes but not limited to improvement of current techniques, intensification of collaboration and networking among relevant organisations.
- These studies include production of an *in vitro* dose – response curve for four main methods of cytogenetic biodosimetry.

Topics of research

- CRP participants made a significant progress in establishing four major methods of contemporary biodosimetry in their labs:
 - conventional unstable chromosome (“dicentric”) analysis;
 - measurement of stable chromosome aberrations with FISH - fluorescent in situ method (“translocation analysis”);
 - premature chromosome condensation (PCC) analysis and;
 - the cytokinesis-block micronucleus (CBMN) assay.

CRP meetings and dissemination

- The first RCM - Research Coordination Meeting was held on 21-23 March 2012 at IAEA headquarters, the second RCM is planned in 2014.
- During the first part of the project period one educational event was arranged and two people trained in NIRS, Japan.
- Participants actively disseminate results of their original research via reporting at national / international meetings and publications in peer-reviewed national / international scientific journals.

List of research reports

09:30 – 10:00	Rajeshwar Sharan	India	Induction kinetics of biodosimetry techniques in ethnic population groups of North-East India
10:30 – 11:00	Yanti Lusiyanti	Indonesia	Establishment of standard calibration curves for biological dosimetry
11:00 – 11:30	Mohd Rodzi Ali	Malaysia	Development of calibration curves using PCC and micronuclei assays
11:30 – 12:00	Celia Asaad	Philippines	Enhancing biodosimetry capabilities in the Philippines for nuclear incident preparedness
13:00 – 13:30	Chang-Mo Kang	R. O. Korea	Monitoring of individuals following acute and chronic exposure to ionizing radiation
13:30 – 14:00	Prakash Hande	Singapore	Cytogenetic biomarkers of ionizing radiation exposure: a multiparametric approach
14:00 – 14:30	Wanwisa Sudprasert	Thailand	Preparedness for radiological emergencies in Thailand
14:30 – 15:00	Que Tran	Vietnam	Strengthening biodosimetry techniques at the Dalat Nuclear Research Institute