

## Introduction

The International Biodosimetry Research Symposium is being held April 18–19 on the grounds of the National Naval Medical Center in Bethesda, Maryland. The two-day conference, sponsored by the Armed Forces Radiobiology Research Institute and the Uniformed Services University, will include poster sessions and invited oral speakers. Symposium presenters will:

- Bring together disciplines involved in the research and development relevant to radiation biodosimetry;
- Present and discuss current biodosimetry related scientific data, results and issues;
- Encourage communication among researchers, educators, public health officials, medical personnel who respond to radiological incidents and funding agencies.

Topics of discussion will include:

- Large animal models for translational radiobiology research studies and bioindicators for acute radiation subsyndromes or sickness;
- Biological dosimetry including triage, field deployable and reference laboratory assays;
- Cytogenetic biodosimetry for radiation dose assessment.

Contact symposium chairman, Dr. William F. Blakely (Blakely@afri.usuhs.mil), or symposium officer-in-charge, CPT Nabil H. Latif (Latif@afri.usuhs.mil), to RSVP or learn more about these events. Questions may also be directed to BDSymposium@afri.usuhs.mil.

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W.F. Blakey, PhD Symposium Chair

M. Moroni, PhD Poster Session Chair

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# International Biodosimetry Research Symposium Basic Science – Validation Studies – Translational Research



April 18–19, 2011

Sponsored by the Armed Forces  
Radiobiology Research Institute and the  
Uniformed Services University

# AGENDA

## Monday, April 18

7:30 a.m.	Registration
8:30 a.m.	Administrative remarks <i>CPT N.H. Latif, DVM, MS, H(ASCP)</i>
8:35 a.m.	Welcome <i>COL M.A. Melanson, PhD</i> Armed Forces Radiobiology Research Institute in Bethesda, Maryland
8:40 a.m.	Introduction to AFRRI's Biodosimetry Research Program <i>W.F. Blakely, PhD</i> Armed Forces Radiobiology Research Institute in Bethesda, Maryland

### Session I Validation of biodosimetry applications using animal radiation models—Part I Co-chairs: G.L. King, PhD, and A. Romanyukha, PhD

9:00 a.m.	Dosimetry for animal radiation models <i>V. Nagy, PhD</i> Armed Forces Radiobiology Research Institute in Bethesda, Maryland
9:30 a.m.	Hematological Changes as Prognostic Indicators of Survival in Irradiated Minipigs <i>M. Moroni, PhD</i> Armed Forces Radiobiology Research Institute in Bethesda, Maryland
10:00 a.m.	Poster break
10:20 a.m.	In vivo tooth EPR biodosimetry in human and NHP models <i>B. Williams, PhD</i> Dartmouth University in Hanover, New Hampshire
10:50 a.m.	Value of circulating DNA measurements for simple and early assessment of radiation dosimetry for triage <i>P. Okunieff, MD</i> Department of Radiation Oncology at the University of Florida College of Medicine in Gainesville
11:20 a.m.	Metabolomics for discovery of urinary radiation biomarkers <i>C. Johnson, PhD</i> Laboratory of Metabolism at CCR/NCI/NIH in Bethesda, Maryland
11:50 a.m.	Lunch break

### Session II Validation of biodosimetry applications using animal radiation models—Part II Co-chairs: N.I. Ossetrova, PhD and S.G. Swarts, PhD

1:30 p.m.	Assessment of total-and partial-body irradiation in a baboon model: a comparative multiparametric study of chromosomal aberrations and hematological, biochemical and genomic parameters/preliminary results. <i>F. Herodin, PhD</i> Centre de Recherches du Service de Sant des Armes in France
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2:00 p.m.	ARS severity response scoring system for the Rhesus Macaque <i>G. L. King, PhD</i> Armed Forces Radiobiology Research Institute in Bethesda, Maryland
2:30 p.m.	Use of hematology and blood chemistry radio response for biodosimetry studies using the nonhuman primate radiation model <i>W.F. Blakely, PhD</i> Armed Forces Radiobiology Research Institute in Bethesda, Maryland
3:00 p.m.	Poster break
3:20 p.m.	Protein Biomarkers for Enhancement of Radiation Dose and Injury Assessment in Nonhuman Primate Radiation Model <i>N.I. Ossetrova, PhD</i> Armed Forces Radiobiology Research Institute in Bethesda, Maryland

### Plenary Lecture Chair: W.F. Blakely, PhD

3:50 p.m.	A nonhuman primate research platform: development of biomarkers for hematopoietic, GI and lung sequelae <i>T.J. MacVittie, PhD</i> University of Maryland in Baltimore, Maryland
4:50 p.m.	Adjourn

## Tuesday, April 19

7:30 a.m.	Registration
8:00 a.m.	Welcome and administrative remarks
<b>Session III Human biodosimetry—Use of clinical laboratory data and ARS signs and symptoms Co-chairs: A.L. Wiley Jr. MD, and R.E. Goans, PhD, MD</b>	
8:30 a.m.	Predicting hematological ARS severity scores based on peripheral blood cell counts taken within the first 3 days after radiation exposure <i>M. Abend, PhD, MD</i> Bundeswehr Institute of Radiobiology in Munich, Germany
9:00 a.m.	Multiple parameter biodosimetry lessons from clinical cases of human overexposures <i>R.E. Goans, MD, PhD</i> MJW Corp., Amherst NY and Radiation Emergency Assistance Center/Training Site in Oak Ridge, Tennessee

### Session IV Cytogenetic biodosimetry—Part I Co-chairs: A.C. Miller, PhD, and M. Yoshida, PhD

9:30 a.m.	Gamma-H2AX assay as an ionizing radiation biodosimeter <i>C. Redon, PhD</i> National Institutes of Health in Bethesda, MD
10:00 a.m.	Poster break

10:20 a.m.	PCC assay optimization <i>T. Miura, PhD</i> Hirosaki University in Japan
10:50 a.m.	Development of a novel chromosomal bioassay to discriminate military-relevant toxic exposures <i>A.C. Miller, PhD</i> Armed Forces Radiobiology Research Institute in Bethesda, Maryland

### Session V Cytogenetic biodosimetry—Part II Co-chairs: A. Ramakumar, PhD, and P. Prasanna, PhD

11:20 a.m.	Toward a North American network for biological dosimetry <i>R. Wilkins, PhD</i> Health Canada, Consumer and Clinical Radiation Protection Bureau in Ottawa, Canada
11:50 a.m.	Lunch break
1:30 p.m.	Use of the internet to facilitate network scoring of chromosomal aberrations <i>G. Livingston, PhD</i> Radiation Emergency Assistance Center/Training Site, ORISE in Oak Ridge, Tennessee
2:00 p.m.	Automated cytogenetics for biodosimetry applications <i>A. Ramakumar, PhD</i> Armed Forces Radiobiology Research Institute in Bethesda, Maryland
2:30 p.m.	The RABIT: A Rapid Automated Biodosimetry Tool For Radiological Triage <i>G. Garty PhD</i> Columbia University in New York City, New York
3:00 p.m.	Poster break

### Session VI Perspectives in translational biodosimetry Co-chairs: COL M. Melanson, PhD, and C.R. Lissner, PhD

3:30 p.m.	Overview of Defense Threat Reduction Agency/Joint Science & Technology Office Biodosimetry Program <i>K. Herring, PhD</i> Defense Threat Reduction Agency at Ft. Belvoir, Virginia
3:55 p.m.	Overview of NIH/NIAID Biodosimetry Program: Research and Development of Biodosimetry Techniques and Devices <i>N. Ramakrishnan, PhD</i> Radiation/Nuclear Countermeasure Program, Division of Allergy, Immunology and Transplantation (NIAID), National Institutes of Health, Department of Health and Human Services in Bethesda, Maryland
4:15 p.m.	Biodosimetry Challenges in Radiological and Nuclear Incidents: Initiatives within the HHS Office of the Assistant Secretary for Preparedness and Response <i>M.B. Grace, PhD</i> Project Officer, BARDA CBRN Medical Countermeasures Division
4:50 p.m.	Concluding remarks <i>M. Melanson, PhD</i> Armed Forces Radiobiology Research Institute in Bethesda, Maryland
5:10 p.m.	Adjourn