

## About AFRRRI



**50 years of service, 1960–2010**

The Armed Forces Radiobiology Research Institute celebrates five decades of advancements in the protection of soldiers and citizens. The AFRRRI mission is to preserve the health and performance of U.S. military personnel and to protect humankind through research that advances understanding of the effects of ionizing radiation. To these ends and using its unique resources, the Institute collaborates with other government facilities, academic institutions, and civilian laboratories in the United States and other countries to research the biological effects of ionizing radiation. In addition, it provides medical training and emergency response to manage incidents related to radiation exposure.

### Positioned for collaboration

Congress approved the construction of the AFRRRI facility on the grounds of the National Naval Medical Center in Bethesda, Maryland, on June 8, 1960; ground was broken on November 29 that year. The Institute was formally established as a joint agency of the three military departments on May 12, 1961, and has operated continuously since the first occupants moved into the research facility in 1962. Now part of the Uniformed Services University of the Health Sciences, the Institute is ideally situated to collaborate with the National Institutes of Health as well as the military medical and research communities.

## Resources available from the AFRRRI Web site

### Medical/operational guides at

<http://www.usuhs.mil/afri/outreach/guidance.htm>

Medical Management of Radiological Casualties handbook

Emergency Radiation Medicine Response, AFRRRI Pocket Guide

Policies on depleted uranium, potassium iodide, and Prussian blue

Textbook of Military Medicine—Medical Consequences of Nuclear Warfare

Quick Reference Information: Recommendations of the National Council on Radiation Protection and Measurements

TMT Handbook—Triage, Monitoring and Treatment of People Exposed to Ionising Radiation Following a Malevolent Act

Planning Guidance for Response to a Nuclear Detonation

### Biodosimetry tools at

<http://www.usuhs.mil/afri/outreach/biodostools.htm>

Biodosimetry Assessment Tool (BAT) software

First-responders Radiological Assessment Triage (FRAT) software

Medical data forms

### For more information about AFRRRI

Visit <http://www.afri.usuhs.mil>

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# Armed Forces Radiobiology Research Institute

A United States Department of Defense  
research laboratory



## Unique national resource

**A** tri-service laboratory, the Armed Forces Radiobiology Research Institute (AFRRI) seeks to understand the biological effects of ionizing radiation and to develop means of protecting against the effects, determining levels of exposure, and assessing risks associated with radiation injury combined with other battlefield threats.

Part of the Uniformed Services University of the Health Sciences (USU) since March 2006, AFRRI is directed by COL Mark A. Melanson, Medical Service Corps, U.S. Army. The scientific director is Christopher R. Lissner, PhD.

**T**he Institute's physicians, health physicists, biodosimetrists and nuclear engineers, as part of the Medical Radiobiology Advisory Team and in conjunction with the Defense Threat Reduction Agency, respond to radiological crises and consequence management missions. Their expertise is available to Department of Defense (DoD) and other federal, state, and local activities following a nuclear or radiological accident or incident.

AFRRI's ionizing radiation sources provide scientists with a variety of radiations, energies, and dose rates. A medium-sized research reactor, a high-energy irradiation facility, and a low-level irradiation facility are licensed by the Nuclear Regulatory Commission. With these facilities, almost any radiation exposure scenario can be simulated.

The animal care and use facility and program are accredited by the Association



for Assessment and Accreditation of Laboratory Animal Care–International. The facility supports studies conducted not only by Institute researchers but also by those with the USU School of Medicine, the Walter Reed Army Medical Center, and Navy activities.

AFRRI's Medical Effects of Ionizing Radiation (MEIR) Course improves the operational capabilities of the military services by providing medical and operational personnel with up-to-date information concerning the biomedical consequences of radiation exposure, how the effects can be reduced, and how to medically manage casualties.

The training includes nuclear incidents that can occur on or off the battlefield and that go beyond nuclear weapons events.

The postgraduate-level course addresses the following topics: fundamentals of ionizing radiation, ionizing radiation interactions with cells and organs, diagnosis and treatment of acute radiation syndromes and combined injuries, psychological effects of radiation exposure, internal radionuclide contamination, radiological defense, and radioprotection. Students are acquainted with the hazards of ionizing radiation, radiation pathology, human exposure resulting from radiation accidents, consequences of nuclear weapons detonation, and nuclear accident response by government organizations.



AFRRI received the DoD Joint Meritorious Unit Award

on February 17, 2004, for its exceptionally meritorious achievements from September 11, 2001, to June 20, 2003, in response to acts of terrorism and nuclear/radiological threats at home and abroad.



In August 2009, the American Nuclear Society designated the Institute a nuclear historiclandmark and recognized it as the as

the United States' primary source of medical nuclear and radiological research, preparedness, and training.