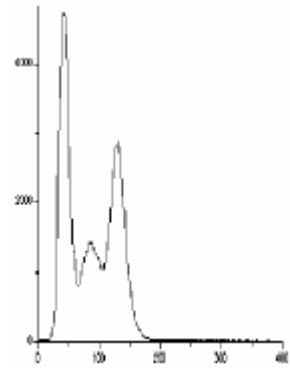




MIDWEST
CHAPTER

THE SPECTRUM

NEWSLETTER OF THE HEALTH PHYSICS
SOCIETY'S
MIDWEST CHAPTER
October 4, 2006
www.midwesthps.org



Fall Meeting, October 25, 2006

Sponsored by Image Technology, Inc.

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The Chernobyl Accident 20 Years Afterwards - Update of Health and Environmental Impacts

Guest Speaker: Burton G. Bennett
(Formerly Chair of the Chernobyl Forum, Chair of the Radiation Effects Research Foundation, and Secretary of UNSCEAR)

This year marks the 20th anniversary of the Chernobyl nuclear accident, which produced widespread contamination of the environment, harmful consequences to human health and substantial social and economic costs.

Our speaker will be an individual with deep knowledge of these topics. From 2003 to 2005, Dr. Bennett was Chairman of the Chernobyl Forum, a group sponsored by international organizations and the governments of Belarus, Russia, and Ukraine. The objective of the Forum was to provide an updated evaluation of the consequences of the accident, to make recommendations on managing its impacts, and to advise and assist the residents of the affected regions. From 2001 to 2005, Dr. Bennett was Chairman of the Radiation Effects Research Foundation in Hiroshima, Japan. Its epidemiological study of the survivors of the atomic bombings is the primary basis for establishing the risk of radiation exposures and for providing radiation protection standards. Before that, he served 12 years directing the United Nations Scientific Committee on the Effects of Atomic Radiation in Vienna, Austria.

Dr. Bennett will review the Chernobyl Forum's recently completed evaluations of the Chernobyl accident. For the most part, this was a low dose event. Marked increases in cancer have not been observed except for large numbers of thyroid cancers incurred by children from high doses of radioactive iodine. Dr. Bennett will address lessons learned about managing the response to such a catastrophe with effective countermeasures, protective actions, and recovery strategies.

As Dr. Bennett will discuss, evaluations of the Chernobyl accident have thus far found it difficult to draw epidemiological conclusions from the event. For this reason, the main basis for establishing radiological protection guidelines remains the lifetime study of atomic-bomb survivors undertaken by RERF. Dr. Bennett will provide a brief update of the results of this study.

LEGISLATIVE AND REGULATORY NEWS

Submitted by Darrel Wiedeman

Press release from the Institute for Energy and Environmental Research (IEER)

Cancer Risks for Women and Children Due to Radiation Exposure Far Higher Than for Men

**New National Academy of Sciences Report Raises Major Issues for Radiation Protection,
Independent Institute Claims**

Takoma Park, Maryland, July 7, 2005: The National Academy of Sciences (NAS) latest report on radiation risk, called the BEIR VII report, issued June 29, has major implications on how radiation protection regulations are made and enforced, according to the Institute for Energy and Environmental Research (IEER). "BEIR" stands for the Biological Effects of Ionizing Radiation. The NAS report issued this week updates the BEIR V report issued in 1990. The BEIR series of reports are the most authoritative basis for radiation risk estimation and radiation protection regulations in the United States.

"In 1990, the NAS estimated that the risks of dying from cancer due to exposure to radiation were about five percent higher for women than for men," said Dr. Arjun Makhijani, president of the Institute for Energy and Environmental Research. "In BEIR VII, the cancer mortality risks for females are 37.5 percent higher. The risks for all solid tumors, like lung, breast, and kidney, liver, and other solid tumors added together are almost 50 percent greater for women than men, though there are a few specific cancers, including leukemia, for which the risk estimates for men are higher." (Summary estimates are in Table ES-1 on page 28 of the BEIR VII report prepublication copy, on the Web at <http://books.nap.edu/books/030909156X/html/28.html>.)

Unlike the 1990 NAS report, BEIR VII estimates risks for cancer incidence rates as well as mortality and also provides detailed risk figures according to age of exposure for males and females, by cancer type. This is a great advance over the previous report. The BEIR VII report has thoroughly reviewed available human and animal cancer data and scientific understanding arrived at using cellular level studies. Cancer risk incidence figures for solid tumors for women are also about double those for men.

The BEIR VII report estimates that the differential risk for children is even greater. For instance, the same radiation in the first year of life for boys produces three to four times the cancer risk as exposure between the ages of 20 and 50. Female infants have almost double the risk as male infants. (Table 12 D-1 and D-2, on pages 550-551 of the prepublication copy of the report, on the Web starting at <http://books.nap.edu/books/030909156X/html/550.html>).

While the report states there is no direct evidence of harm to human offspring from exposure of parents to radiation, the committee noted that such harm has been found in animal experiments and that there is "no reason to believe that humans would be immune to this sort of harm." (Page 20, prepublication copy, on the Web at <http://books.nap.edu/openbook/030909156X/html/20.html>)

"I think it is high time that society protected those most at risk," said Dr. Makhijani. "The BEIR VII report has done the public a great service by putting the imprimatur of the NAS on solid research that has long indicated much greater risks for women and children. Now it is up to the Environmental Protection Agency to change the framework of regulation from averages of men and women to those who are most at risk."

Contrary to the beliefs of many in the nuclear industry, the BEIR VII report reaffirmed the conclusion of the prior report that every exposure to radiation produces a corresponding increase in cancer risk. The proportionality of risk means that at low exposures the risks are small, as the NAS report points out. The average risks to the population are estimated to be 10 to 15 percent higher than the reference value now used for radiation protection of the general population (565 cancer fatalities per million rem exposure in BEIR VII compared to 500 typically cited in the literature on radiation protection). While this average risk is in the general range of uncertainties and values reported previously, it indicates an increase of risk overall. Both incidence and mortality risk estimates are now greater. Finally, the committee also noted that relatively high levels of radiation exposure increase risk of heart disease and stroke, though it did not give specific risk estimates.

"I want to thank the BEIR VII committee for keeping a promise it made to IEER and 133 other organizations and individuals to consider crucial issues outlined in a letter we delivered to the committee in September 1999," said Lisa Ledwidge, Outreach Director of the Institute for Energy and Environmental Research. The Institute sent several letters to the BEIR VII committee, which can be viewed at <http://www.ieer.org/comments/beir/index.html>. The Committee's response to IEER is in Annex C of the BEIR VII report, on the Web at <http://books.nap.edu/books/030909156X/html/577.html>.

From the President's Desk

This is the year to increase membership of the Midwest Chapter. Our paid membership has dipped to the lowest anyone can remember so an outreach program has been started. Our mailing list was expanded, adding all members of HPS in the greater Chicago area. We're also asking each member to encourage colleagues to attend the meetings and think about joining the Chapter.

Some of you have fallen from the ranks over the years for various legitimate reasons. Many of you have never attended a meeting and do not know anything about the Chapter. As you read this message, please consider the benefits of meeting with peers in your profession several times a year. We always try to arrange an interesting technical program and welcome suggestions and even volunteers for future programs. Each technical meeting qualifies for CEU's towards re-certification with AAHP. Dues are only \$15 per year (a bargain) and are used primarily for printing this newsletter and expenses incurred by invited speakers.

So please help the Chapter regain its prominence as one of the first and most active chapters in HPS. Talk it up at work whenever you can. If you know of someone who would like to attend but has a problem with transportation offer that person a ride. If you have any questions or comments please call me at 847-491-2269 or send an email to: bsanza@northwestern.edu.

Bruce J Sanza CHP

MIDWEST CHAPTER HEALTH PHYSICS SOCIETY 2007 Membership Renewal

Please submit membership renewal with the **\$15.00** annual dues to:

Midwest Chapter Health Physics Society
P.O. Box 513
Westmont, IL 60559

Name: _____

email: _____

If your address has changed:

Street Address: _____

City: _____ State: _____ ZIP: _____

Fall Meeting

Sponsored by Image Technology, Inc.

Featured Speaker: Burton G. Bennett

(Formerly Chair of the Chernobyl Forum, Chair of the Radiation Effects Research Foundation, and Secretary of UNSCEAR)

Date: Wednesday, October 25, 2006	Menu
Time: 6:00 PM Social Hour 7:00 PM Dinner 8:00 PM Featured Speaker	Choice of:
Location: Casey's Restaurant 415 East North Avenue Lombard, IL 60148 630-932-4777	Baked Boston Scrod (broiled with a light bread crumb topping until golden and flaky)
Cost: \$22 per person (member and one guest) \$25 per person (others)	Chicken Kabob (tender chunks of boneless chicken breast broiled on a skewer with tomatoes, onions and green peppers, served on a bed of rice)
http://www.caseysrestaurant.com	London Broil (tender slices or prime char-broiled beef, served with bordelaise sauce and noodles)
	(choice to be made at the meeting)
Reservations: Phone or e-mail your reservation to Gerald Davidson, our Program Chair, at 630-252-8894 or gdaavidson@anl.gov by Monday, October 23.	

**Midwest Chapter Health Physics Society
P.O. Box 513
Westmont, Illinois 60559**