Health Physics News

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The Official Newsletter of the Health Physics Society

The Birth of the HPS: A Look Back

50 Years, 50 Presidents: The Foundation of Great Leadership

Mary Walchuk

The final test of a leader is that he leaves behind him in other men the conviction and will to carry on.
—Walter J. Lippmann

The great leadership of the Health Physics Society (HPS) helps make it a strong and lasting organization. Over the last 50 years, the 50 men and women who served as president of the HPS have worked hard to provide that leadership. It is not surprising that the majority of them began as physicists, but other specialties are also represented, including mathematics and pharmacy. One early president even took time off from his job to earn a law degree. It is also not surprising, given the times and the field, that only a few have been women, although a woman was one of the pioneers in the field and the HPS.

This month we honor those past presidents who are no longer with us, but who have left behind them in subsequent leaders the conviction and will to carry on as a highly professional and well-regarded Society.

Karl Z. Morgan—1956-1957

Karl Z. Morgan received AB (1929) and MS (1930) degrees in physics from the University of North Carolina and a PhD (1934) in physics from Duke University. From 1934 to 1943 he was chairman of the Physics Department at Lenoir Rhyne College and did cosmic-ray research in cooperation with Duke University. In the spring of 1943 he joined the Metallurgical Laboratory staff at the University of Chicago, where he was one of a group of six persons who developed and established the new science and profession of health physics. From the fall of 1943 until the latter part of 1972, he was director of the Health Physics Division at Oak Ridge National Laboratory (ORNL). He then joined the Department of Nuclear Engineering faculty at the Georgia Institute of Technology. In 1982 he became a consulting professor at Appalachian State University in North Carolina.

Morgan was the first president of the HPS and received the Western Pennsylvania Chapter's first Distinguished Service Award. He was the first editor-in-chief of *Health Physics*.

He was also a founder and the first president of the International Radiation Protection Association (IRPA), chairman of the International Commission on Radiological Protection (ICRP) Internal Dose Committee, and a member of many other professional organizations until his death at the age of 91 on 8 June 1999.

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From the President

Addressing the Needs of the Membership

During my visits with chapters last year, I asked members and others about what the Society could do to make the activities of the Health Physics Society (HPS) even better and to add value to membership. I received many good suggestions and saw these as areas that provided opportunity for the Society to pursue. I am pleased to report that several exciting initiatives are in play that are directed at meeting the needs of our members. Here are a few of the ongoing projects:

Journal on DVD—Coming soon to a computer near you: *Health Physics* on DVD, yes, the whole set (to date)! At the midyear Board of Directors meeting, the Board approved the funding of this project, some of which is anticipated to come from sponsors. The target date for the DVD production is late May. One Board member declared that he would now be able to clean out his basement that is currently filled with old paper editions.

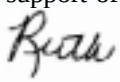
Continuing education enhancements—Many members who need continuing education for maintaining certification or simply for professional enrichment have expressed concern about their inability to travel to meetings. The Continuing Education Committee is working toward more alternatives to fill this need and to make PEP (Professional Enrichment Program) courses and CELs (continuing education lectures) available in electronic media. The HPS Resource Center has converted many of the educational videos to DVDs, which are available for purchase for $25 each. The Continuing Education Committee has also compiled PEP lecture handouts from the 2004-2005 meetings and has placed all of the materials from each meeting onto CDs in PDF format. These will be available at a cost of $30 for midyear PEP courses and $60 for annual meeting PEP courses. The committee is also planning to purchase a digital camcorder and other equipment in order to record as DVDs selected PEPs and CELs at upcoming meetings and/or to make them available through Web streaming through the HPS Web site. This will allow those who cannot attend annual or midyear meetings to participate in these for only the cost of the lecture.

New committee and director to focus on Society support—One of the goals of the Society under the Strategic Plan is to enhance support for Society membership. Other than the Board of Directors, there has not been a group assigned to devote its efforts solely to the support of chapters and sections and to address member concerns and internal communications. Under the newly approved restructuring plan for the Board and committees, a new Society Support Committee will be formed and start working on these charges during the 2006-2007 Society year. One of the director positions on the Board of Directors will also be assigned to this goal.

More opportunities for chapter and local involvement—Many of the activities of the Society, such as meetings, standards development, laboratory accreditation, and international relations, are geared to the national organization. However, more of our efforts now have a local component, not only the continuing efforts in support of science education and homeland security, but also interface on state legislative initiatives involving our profession, outreach to colleges and high schools regarding careers in health physics, and greater interaction with the media.

Member survey—Several years have passed since the Board has actually gone directly to the membership with an assessment of member needs. This spring, we will be developing a Web-based member survey that will give you an opportunity to provide input on new directions for the Society—what's good, what could be done better or differently, and new areas of endeavor we should pursue. I have asked each of the committees to provide a few questions that they would like to have included in the survey. When the survey is sent out, I encourage you to take the opportunity to complete it.

The Society is committed to making improvements in support of the membership. I believe these new initiatives will greatly expand our successes in support of this goal.



Ruth E. McBurney

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Frederick P. Cowan—1957-1958

Frederick P. Cowan received his AB degree in 1928 from Bowdoin College and remained the following year as a physics instructor. He then taught physics at Harvard University until 1935, serving also as assistant at Radcliffe College in the latter year. He received his PhD at Harvard in 1935 and served as instructor and assistant professor at Rensselaer Polytechnic Institute from 1936 to 1943.

Cowan was a research associate at the Radio Research Laboratory at Harvard from 1943 to 1945 and then joined the Engineering Division of the Chrysler Corporation. In 1947 he joined the staff of Brookhaven National Laboratory. At the time of his retirement in December 1971, he was acting chairman of the Instrumentation and Health Physics Department and head of the Health Physics Division. After retiring from his administrative responsibilities he was engaged in a variety of consulting, committee, and teaching activities.

Cowan was a member of the American Board of Health Physics (ABHP) (serving as chairman of the Board and as chairman of the Board's Examination Panel), the Atomic Energy Commission (AEC) Advisory Panel on Accelerator Radiation Safety, and many other professional organizations and committees. He died on 6 August 2002 at the age of 96.

Lauriston S. Taylor—1958-1959

Lauriston S. Taylor majored in physics at the Stevens Institute of Technology and Cornell University. He held honorary doctor of science degrees from the University of Pennsylvania and St. Procopius College.

In 1927 Taylor organized an x-ray standards program at the National Bureau of Standards (NBS) and accepted a position as the head of an x-ray group in the Atomic Physics Section. In 1941 he became chief of a new x-ray section.

In 1928 Taylor helped form what is now the ICRP, and in 1929 he established the Advisory Committee on X-Ray and Radium Protection, the forerunner of the National Council on Radiation Protection and Measurements (NCRP). In 1943 Taylor organized an Operations Research Division first in the 8th Fighter Command and then in the 9th Air Force. Beginning in 1946, he expanded the radiation physics program at NBS, soon becoming its Radiation Physics Laboratory chief. In 1951 he became Atomic and Radiation Physics Division chief.

In 1948 Taylor organized and headed a biophysics branch in the Division of Biology and Medicine for the AEC. In 1962 he became an NBS (now the National Institute of Standards and Technology) associate director. In 1965 he took a position with the National Academy of Sciences (NAS).

In 1971 Taylor left the NAS to devote full attention to his responsibilities as president of the NCRP until his retirement in 1977. He continued work in the field of radiation protection in many ways until his death at the age of 102 on 26 November 2004.

Taylor was a member of numerous professional societies and was certified by the American Board of Radiology and the ABHP.

Elda E. Anderson—1959-1960

Elda E. Anderson received her AB degree from Ripon College in Wisconsin and her MA and PhD degrees in physics from the University of Wisconsin. She was dean of Estherville Junior College in Iowa, a member of the summer faculty at the University of Wisconsin, and a professor of physics at Milwaukee-Downer College and at Milwaukee State Teachers College (now the University of Wisconsin at Milwaukee).

Anderson spent over three years during and after World War II with the Office of Scientific Research and Development at Princeton University and with the Manhattan Project at Los Alamos Scientific Laboratory. She was chief of the Education and Training Section of the Health Physics Division at ORNL from August 1949 until she died at the age of 61 on 17 April 1961.

Anderson conducted the First International Course in Health Physics in the fall of 1955, served as the chairman and founder of the ABHP in 1960-1961, and was a Fellow in the American Association for the Advancement of Science (AAAS) and a member of the American Physical Society, Sigma Xi, Sigma Delta Epsilon, the American Industrial Hygiene Association (AIHA), and the American Nuclear Society (ANS). Anderson was secretary of the HPS in 1956-1957.

The Society honors Anderson by presenting the Elda E. Anderson Award to a young member of the Society to recognize excellence in (1) research or development, (2) discovery or invention, (3) devotion to health physics, and/or (4) significant contributions to the profession of health physics.

John S. Laughlin—1960-1961

John S. Laughlin received an AB from Willamette University, an MS from Haverford College, and his PhD in nuclear physics from the University of Illinois. He received an honorary doctor of science degree from Willamette University and in 1972 received the Distinguished Service Award from the College of Engineering of the University of Illinois.

While at the University of Illinois, Laughlin developed the first medical applications of the betatron to the treatment of cancer. He was recruited from the faculty of the College of Medicine at the University of Illinois to serve as chairman of the Department of Medical Physics at Memorial Sloan-Kettering Hospital from 1952 to 1989. He was a professor of radiology at the Cornell University Medical College from 1980 until his retirement, member emeritus of the Memorial Sloan-Kettering Cancer Center, and vice president and chief of the division of biophysics of Sloan-Kettering Institute.

Laughlin's concern with the establishment of professional standards for radiation safety led to his working with Elda E. Anderson for the formation of the ABHP. Laughlin was elected a Fellow of the American Physical Society and a Fellow in Physics of the American College of Radiology. He died 11 December 2004 at the age of 86.

Walter D. Claus—1961-1962

Walter D. Claus was educated in St. Louis, Missouri, schools, including college and graduate studies at Washington University, where he received his PhD in x-ray physics in 1931. From 1931 to 1936 Claus was a National Research Council Fellow at the University of California and the University of Pennsylvania and a biophysicist with the Rockefeller Foundation Project at the University of Wisconsin. From 1936 to 1949 he was Industrial Research Fellow and biophysicist at Mellon Institute (Pittsburgh).

Claus worked at the Division of Biology and Medicine at the AEC from 1949 to 1955 as the chief of the Biophysics Branch and from 1955 to 1967 as special assistant to the division director. In 1967 he became a member of the adjunct faculty in the Department of Biological Sciences at Florida Atlantic University in Boca Raton.

Claus served on the HPS Board of Directors from 1956 to 1959. It was during this period that the HPS began the Journal, formed the ABHP, and became a nationwide organization.

Claus died 14 May 1995 at the age of 92.

C. Maurice Patterson—1962-1963

C. Maurice Patterson received a BS in pharmacy from the University of Nebraska in 1934. In 1941 he joined the DuPont Company as supervisor at a high-explosives plant near Joliet, Illinois. In 1943, he transferred to Oak Ridge, Tennessee, and in October 1944 he became superintendent of radiation protection operations at the Hanford Works. In 1951 he rejoined DuPont, coordinating radiological engineering during the design of the Savannah River Plant and directing the plant's preoperational environmental survey. With the completion of the plant, he established and guided the health physics program where he established the Radiological Sciences Division. In 1971 he returned to Savannah River Plant operations as health physics superintendent. After his retirement in 1979, he was appointed to state advisory committees related to radiation protection and public health.

Patterson was a member of the first HPS Board of Directors and was an editor of *Health Physics.* He was an active member of his local HPS chapter until his death 21 May 1989. He was also a member of the ABHP, the South Carolina State Radiation Control Council, the American Academy of Industrial Hygiene, and the AAAS.

William T. Ham, Jr.—1963-1964

William T. Ham, Jr., received his BS in engineering (1931), MS in physics (1933), and PhD in physics (1935) at the University of Virginia, where he was a research associate from 1935 to 1936. He worked as an instructor at Columbia University (1936-1937), a research physicist at Kendall Mills in North Carolina (1937-1938), president of W.T. Ham & Co., Inc. (1938-1940), a radar officer in the Marine Corps Reserves (1943-1946), head of the Institute of Textile Technology Division of Physics and Electronics (1946-1948), and associate professor (1948-1953) and professor and chairman of the Medical College of Virginia Department of Biophysics.

Ham was a consultant with the ORNL Health Physics Division, School of Aerospace Medicine, NAS Radiation Cataract Committee, NAS Atomic Bomb Casualty Committee, US Army Research and Development Command, Defense Atomic Support Agency, Food and Drug Administration Bureau of Radiological Health, University of California Lawrence Radiation Laboratory, and Smithsonian Institute on Laser Exhibit.

He was chairman of the AEC Special Fellowship

Board, the Virginia Academy of Science Research Committee, and the Gordon Conference on Lasers in Medicine and Biology. He was a Fellow of the American Physical Society and AAAS and a member of many other professional organizations.

Ham died 2 September 1998 at the age of 89.

Howard L. Andrews—1964-1965

Howard L. Andrews received his ScB in electrical engineering (1927), ScM in physics (1928), and PhD in physics (1931) at Brown University and then spent four years as an instructor in physics at Brown University.

From 1934 until 1942, Andrews worked at Bradley Hospital in Rhode Island and later at the US Public Health Service facility for drug addiction in Lexington, Kentucky. In 1942 he began work at the National Institutes of Health (NIH) in Bethesda, including much collaborative work with the US Navy.

At the official opening of the atomic age in 1945, Andrews headed the new NIH radiobiology section and later became chief of the radiation physics section. He organized and headed the NIH department of radiation safety from 1950 to 1965 for both the NIH Clinical Center and the research laboratories.

After retirement from the Public Health Service in 1965, he spent two years as assistant director for health and safety at the Puerto Rico Nuclear Center at Mayaguez and another two years as professor of radiation biology and biophysics at the University of Rochester. He helped organize and structure IRPA.

Andrews and Ralph Lapp explained the basics of nuclear energy in their popular textbook *Nuclear Radiation Physics*.

Andrews died 19 December 2000 at the age of 94.

Merril Eisenbud—1965-1966

Merril Eisenbud received a degree in electrical engineering from New York University and honorary doctorates from Fairleigh Dickinson University and Catholic University of Rio de Janeiro. From 1936 to 1947 he was an industrial hygienist at Liberty Mutual Insurance Company. He worked for the AEC from 1947 to 1959, during most of which time he was director of the Health and Safety Laboratory. He was professor of environmental medicine and director of the Laboratory for Environmental Studies at New York University Medical Center from 1959 to 1984 and continued after his retirement as professor emeritus of environmental medicine.

In the early 1950s, Eisenbud was among the first to express concern about the health effects of fallout from atmospheric weapons tests and in his role as the director of the AEC Health and Safety Laboratory provided comprehensive monitoring in a 200-500 mile annulus around the Nevada Test Site as well as evaluating the airborne fallout levels from large yield tests in the Pacific. He played a key role in the evaluation of the contamination of the crew of the Japanese fishing boat Fukuryu Maru and the subsequent panic over contaminated tuna. He also contributed greatly to the understanding of the epidemiology of beryllium disease, coauthoring in 1951 a paper that was awarded a prize by the Industrial Medical Association as the most important paper of that year in the area of occupational health.

From 1968 to 1970, Eisenbud was the first environmental protection administrator for the city of New York.

Eisenbud wrote the textbook *Environmental Radioactivity*. He died 15 August 1997 at the age of 82.

John R. Horan—1966-1967

John R. Horan received his BS in physics at Loyola University in Chicago in 1950 and held an AEC Graduate Fellowship in Health Physics at Vanderbilt University and ORNL in 1950-1952.

Horan worked at the Idaho Chemical Processing Plant in 1952, at the Naval Reactors Facility from 1953 to 1957, and as the AEC manager of environmental, safety, and health programs for the National Reactor Testing Station from 1957 to 1972.

Horan also toured atomic energy installations in many countries as a consultant to the International Atomic Energy Agency (IAEA). He was certified by the ABHP (1960), president of the American Academy of Health Physics (1988-1989), a member of the Executive Council (1966-1976) and Executive Officer of the Council (1970-1976) of IRPA, and a member of AIHA, the Occupational Health Programs Accreditation Commission, and the AEC Health Physics Fellowship Board.

Horan received the HPS Elda E. Anderson Memorial Award in 1964, was a member of the Board of Directors from 1962 to 1968, and served on many HPS committees, including Library (chairman) in 1961, Publicity in 1962, Finance in 1962, Membership and Program in 1963, Nominating from 1969 to 1973, Awards from 1967 to 1973, and History in 1973.

Horan died 16 April 1999 at the age of 76.

Walter S. Snyder—1967-1968

Walter S. Snyder received an AB degree from Ashland College in 1933, taught in Ohio public schools from 1933 to 1935, and in 1935 accepted an assistantship in mathematics at Ohio State University where he received an MA degree in 1937 and PhD in math in 1939. He was an instructor in mathematics at Ohio State from 1939 to 1941 and at Illinois Institute of Technology from 1941 to 1943. In 1943 he became assistant professor of mathematics at the University of Tennessee where he remained until 1959, advancing during this time to professor of mathematics.

Snyder was a consultant for the Chicopee Spinning Mills in Massachusetts in 1945 and, beginning in 1947, served as consultant to the Health Physics Division at ORNL, where from 1948 he was employed full time during the summers. In 1959 he accepted a full-time position as assistant director of the Health Physics Division. While there he supervised the technical work in the revision of the internal dose reports of the NCRP and the ICRP (ICRP Publication 2, 1960) and developed many of the equations and methods for estimating internal dose.

He was an editor of *Health Physics*, publications director of IRPA, secretary to the ICRP committee on internal dose, and a member of many professional organizations.

Snyder died 19 June 1977 at the age of 68.

Wright H. Langham—1968-1969

Wright H. Langham received a BS in chemistry from Panhandle A&M College (1934) and an MS in chemistry from Oklahoma A&M College (1935), pursued studies in organic chemistry at Iowa State University, and received a PhD in biochemistry from the University of Colorado (1943).

Langham worked as a research chemist at Oklahoma Panhandle A&M College Agricultural Experiment Station (1935-1937, 1939-1941), research chemist at the University of Chicago Metallurgical Laboratory (1943-1972), chemist, group leader, and associate division director for Los Alamos Scientific Laboratory Biomedical Research (1944-1972), and associate professor at the University of California at Los Angeles as part of his Los Alamos appointment. Langham worked extensively with plutonium and plutonium effects and thus he was often called "Mr. Plutonium."

Langham was involved in many special assignments and activities for groups including NCRP, AEC, the Air Force, the State Department, and the Department of Defense.

Langham was a member of the HPS Board of Directors from 1958 to 1961 and was chairman of the Awards Committee from 1969 to 1970.

He died 19 May 1972 at the age of 60 in a shuttle plane crash between Albuquerque and Los Alamos.

J. Newell Stannard—1969-1970

J. Newell Stannard received a BA in biology/chemistry from Oberlin College (1931) and an MA degree (1934) and PhD degree (1935) in general physiology from Harvard University.

Stannard worked at the University of Rochester, at Emory University Medical School, with the Public Health Service, with the NIH Division of Industrial Hygiene, and as a commissioned officer with the Navy Bureau of Medicine and Surgery. Stannard's contributions to radiation protection began in 1947 at the University of Rochester's Atomic Energy Project. From 1959 until he retired he was associate dean for graduate studies in the University of Rochester School of Medicine and Dentistry. In 1977 he moved to San Diego and was adjunct professor of community medicine and radiology at the University of California, San Diego, School of Medicine in La Jolla.

In the HPS, he was a distinguished historian and long-time member of the History Committee and a member of the Program, Awards, and Professional Development Committees. He was chairman of the Committee on Education and Training and chairman of the Awards Committee.

He was a member of numerous committees and professional organizations, including NAS, AEC, and NCRP.

Stannard wrote the book *Radioactivity in Health: A History*. He died 19 September 2005 at the age of 95.

Claire C. Palmiter—1970-1971

Claire C. Palmiter joined the Army Air Corps in 1942. He attended the University of California, Berkeley (1946) and the University of Michigan, Ann Arbor (1947) and received a BS in biology from Chico State College (1948).

He performed graduate studies at ORNL (1948-1949), Oak Ridge Institute of Nuclear Studies (1949), General Electric School of Nuclear Engineering (1952-1953), and the University of Michigan, Ann Arbor (1955-1957).

Palmiter worked for the Hanford Atomic Products Operation in Richland, Washington (1949-1955), the University of Michigan School of Public Health (1955-1957), the VA Hospital in Ann Arbor (1956-1957), the AEC Division of Inspection (1957-1960), and the

Federal Radiation Council (1960-1963). From 1963 to 1976 he was technical staff officer at the Environmental Protection Agency Office of Radiation Programs.

In the HPS, Palmiter was Local Arrangements Committee chairman, Proceedings chief editor, Program Committee chairman, and a member of the Publicity Committee, the Sections and Chapters Committee, the Publications Committee, the Baltimore-Washington Chapter, and the Board of Directors. He was the Society representative to the President's Conference on Occupational Safety and was a consultant to the World Health Organization and a member of IRPA.

Palmiter died 23 October 1999 at the age of 76.

Robley D. Evans—1972-1973

Robley D. Evans received his degrees in physics from the California Institute of Technology. In 1934 he joined the Massachusetts Institute of Technology faculty and established the world's first academic course in health physics. When he retired in 1972 he was made professor emeritus of physics. From 1973 to 1980 he was special project associate at the Mayo Clinic in Minnesota.

Evans discovered radiation effects on the health of radium dial painters in the watch industry, work which led to the coalescence of all radium studies in the Center for Human Radiobiology at Argonne National Laboratory. In the mid-1930s, he undertook the study of thyroid function with radiotracers and helped initiate the nuclear medicine program at Massachusetts General Hospital in 1937.

His 1955 textbook *The Atomic Nucleus* served several generations of nuclear physics students as an important guide in experimental research and applications.

Evans received the HPS Distinguished Achievement Award, AAAS Theobald Smith Medal and Award in the Medical Sciences, Presidential Certificate of Merit, American Medical Association Hull Award and Gold Medal, and British Institute of Radiology Silvanus Thompson Medal. The Society's Robley D. Evans Commemorative Medal is given in his honor.

Evans died 31 December 1996 at the age of 88.

James C. Hart—1974-1975

James C. Hart received his bachelor of science degree in chemistry and biology from West Virginia Wesleyan College (1940). In 1943 he began work with the Clinton Laboratories in Oak Ridge. He was transferred in 1944 to the Hanford Engineering Works in Richland, Washington. In 1946 he rejoined the health physics staff at ORNL and directed the applied health physics activities until 1963 when he took a leave of absence to study law at the University of Tennessee. He received his doctorate in law in 1966.

He put his formal training in law to good and effective use, shaping the organization and operation of IRPA as principal contributor to and chair of the committee that prepared its constitution and by-laws. He was also instrumental in reorganizing the HPS rules, by-laws, and membership categories, a task to which he devoted much personal time and many ideas, including the creation of the plenary member class, working in typical Hart behind-the-scenes fashion.

His untimely death on 2 November 1974 at age 57 occurred during his presidential year, and thus he was unable to see the full impact of his HPS organizational efforts. At that time he had been reviewing operational health physics procedures and evaluating technical applications in relation to applicable legal requirements and was the Oak Ridge coordinator for the AEC operations health and mortality study and was also chief of education and training in health physics.

Carl Unruh—1978-1979

Carl M. Unruh received his BS (1950) and MS (1954) degrees in physical chemistry from the University of Kansas. In 1952 he joined the staff of the General Electric Company at the Hanford site. He transferred to Battelle Memorial Institute in 1965 when it became the operating contractor for what is now the Pacific Northwest National Laboratory. He retired in 1986 after holding many positions, including manager of the Radiological Development Section, manager of the Environmental Technology Unit, research associate in Environmental and Life Sciences, manager of the Occupational and Environmental Protection Department, and senior staff scientist in the Health Physics Department.

Unruh served as project manager for the preparation of the Department of Energy Generic Environmental Impact Statement for Management of Commercially Generated Radioactive Waste. He was an HPS Fellow and a member of the HPS Columbia Chapter. He was also a member of the ANS, the Northwest Section of the AIHA, and the Washington State Radiation Advisory Committee. He was certified by the ABHP, a participant in IAEA seminars, and an ANS liaison with the NCRP.

Unruh died 2 December 2003 at the age of 75.

We have provided you just a small glimpse at the varied and industrious lives of these HPS past presidents. Those of you who knew these leaders know there is so much more to their lives than we could print here. We invite you to share with us your favorite memories of them (hpsnews@frontiernet.net or Sharon Hebl, 19890 Fish Lake Lane, Elysian, MN 56028).

We will be gathering more information about all of the past presidents to include on the HPS Web site in the near future.

In the April and May issues of *Health Physics News* we will chat with current President Ruth McBurney and all of the living past presidents of the Society.

Information for this story was found in many places, including Ron Kathren's *History of the Health Physics Society*; the HPS Web site; *Health Physics*; "Health Physics Society's 40th Anniversary: Past Presidents' Reflections," *Health Physics Newsletter*, July 1996; "In Memoriam," the Brookhaven National Laboratory newsletter, *The Bulletin*, April 2003; "Shielding the Public" by Emily Gold Boutilier, Brown Alumni Magazine Online, May/June 2001; and *Health Physics Newsletter* and *Health Physics News* obituaries by Matthew Morgan (8/99), Jean St. Germain (2/05), Joe Deal (8/95), Bill Mills (2/99), Norman Cohen (10/97), J. Newell Stannard (10/97 and 7/72), Bryce L. Rich (6/99), William J. Bair (12/05), Ardath H. Emmons and Donna Palmiter (8/00), the HPS Board (12/74), and Ronald L. Kathren and Iral C. Nelson (2/04).

Notes

Make Your Plans for Providence in June!

Tara Medich, CHP

The New England Chapter of the Health Physics Society (NECHPS) is busily putting the final touches on the local arrangements for the 51st Annual Meeting of the Health Physics Society. The meeting will be held 25-29 June 2006 at the Rhode Island Convention Center in downtown Providence, Rhode Island.

The technical tours should be enjoyable for not only meeting attendees, but their families as well. Brown University will be providing a demonstration of physics principles, which will bring concepts to life. This demonstration has long been popular for its fun and relaxed style. Brown is located in Providence, so travel time will be minimal.

One truly unique technical tour that is available is a walk-through of an actual Russian submarine that now makes its home in Providence. The K-77 (*Juliett*-class) was launched in 1965 and presumably patrolled the oceans shadowing American aircraft carriers. This is the submarine that was used in the movie *K-19: The Widowmaker*, and much refurbishment has yielded more information about the role of Soviet submarines during the Cold War. *[PLANNING NOTE: Proper footwear is required for this tour. No high heels, flip-flops, or open-toed shoes allowed.]*

Don't forget that the host hotel is the Westin Providence, which is connected to the Convention Center. The nearest airport is T.F. Green in nearby Warwick, and the Amtrak train station is one-half mile from the Westin.

The NECHPS looks forward to welcoming you to Providence to conclude the celebration of the HPS' 50-year anniversary. More information can be found at http://hps.org/newsandevents/meetings/meeting5.html.

Chapter News

Sierra Nevada Chapter

Marcia Hartman

The Fourteenth Annual
J. Newell Stannard Lecture Series

The fourteenth annual J. Newell Stannard Lecture Series, "Excellence in Radiation Protection," will be held 17 March 2006 at the Courtyard Marriott in Sacramento, California. The Lecture Series is a joint meeting of the Sierra Nevada and the Northern California Chapters of the Health Physics Society (HPS) and is in honor of the many contributions in health physics by Dr. J. Newell Stannard. We are heavy hearted this year because of Newell's death last fall. We will miss his pearls of wisdom but are sure that his spirit will be with us. The Sierra Nevada Chapter made a donation to the J. Newell Stannard Graduate Scholarship Fund at the University of Rochester as a memorial.

In late 1992, the Sierra Nevada Chapter established this lecture series to recognize Dr. Stannard for his valuable contributions to the HPS, including serving as its president in 1969-1970, his leadership in educating health physicists at the University of Rochester, his contributions to the National Council on Radiation Protection and Measurements (NCRP), his scholarly research on the health effects of radiation, and the preparation of *Radioactivity and Health: A History*, the 2,000-page tome which serves as the hallmark reference on the behavior of radionuclides in living organisms and the environment.

The keynote speaker for the one-day technical meeting will be HPS Past President Ray Guilmette, whose talk is titled "Dosimetry of Radionuclides in Wounds: Evolution of an NCRP Model." He will talk about the report that is currently in review with the NCRP and will be published this year.

We are still hoping to have some vendors sign up to sponsor the meeting. You can find the complete program and registration on the Sierra Nevada Chapter Web site under Meetings http://www.hps1.org/chapters/snv/.

Cincinnati Radiation Society

Henry Spitz

Cincinnati Radiation Society Learns About Ohio Radiological Emergency Response Capabilities

The highlight of the January meeting of the Cincinnati Radiation Society (CRS) was a presentation by David Mix describing the State of Ohio Radiological Emergency Readiness. David addressed over 35 CRS members during a dinner meeting at the Embassy Suites Hotel and described the extensive planning and resources that have been allocated to emergency preparedness in the state of Ohio. Ohio is an agreement state and has regulatory oversight of most radioactive materials users in Ohio. David Mix is the supervisor of the Ohio Department of Health (ODH) Radiological Assistance Program and is the state representative leading Ohio's assessment and support activities for radiological emergencies. The ODH has a radiological emergency response team which responds at the scene to larger incidents, assists the incident commander on health physics matters, and communicates with the Ohio Emergency Operation Center to coordinate other state functions. Ohio participates in the National Response Plan and complies with the National Incident Management System. We learned that Ohio has implemented a comprehensive Incident Command System with a secure Emergency Operations Center located in Columbus. A fully operational 800 mHz communications system has been installed throughout Ohio and is accessible to all the state emergency organizations. David described how the ODH is involved in helping local and regional responders to prepare for nuclear and radiological events, including radiation dispersal devices and improvised nuclear devices. The CRS has participated in a few of the training programs for local fire departments. The ODH

Cincinnati Radiation Society Executive Committee members, left to right, guest speaker David Mix, CRS President Jay Maisler, Joe Guido, President-elect Samuel Glover, Jerry Gels, Riasp Medora, and Henry Spitz (behind the camera)

Bureau of Radiation Protection leads the state's response to radiological emergencies at licensed facilities, at commercial nuclear power plants, and for nonlicensed events that include transportation accidents and criminal use of radiological or nuclear materials, including acts of terror. Prior to 2006, the majority of the funding to develop and support these programs was derived from licensing fees and the commercial nuclear power industry and not, as we thought, the Department of Homeland Security. The CRS is very grateful for the opportunity for David to meet with us and describe the comprehensive set of resources in manpower and facilities that Ohio has developed in response to the threat of radiological terrorism.

Other business at the meeting included soliciting volunteers for the Science Teachers Workshop being coordinated by Jerry Gels, Doug Draper, and Henry Spitz. The Cincinnati Public Schools are providing the facilities and helping to coordinate a full-day workshop that is scheduled for April. The existing CRS curriculum for the Science Teachers Workshop is being extensively modified to comply with the new Ohio K-12 Science Academic Content Standards. One of the most substantial changes in the workshop involves extensive use of the Internet to use the online resources available on the Web that will be introduced as part of the main lecture and during many of the small-group break-out sessions.

North Carolina Chapter

John McLamb, NCHPS President-elect

The fall 2005 meeting of the North Carolina Chapter of the Health Physics Society (NCHPS) was held at the Courtyard by Marriott at Carolina Beach on 3-4 November. With sunny skies and 70-degree temperatures, it was a testament to the strength of the presentations that few, if any, of the 53 members attending skipped out to the beach.

The first session started off with a discussion by Todd Baker on calibration of portable survey instruments for use in ^{125}I thyroid bioassay monitoring. The talk included a description of the methods used to calculate the absolute efficiency of ^{125}I. Gerry Wicks followed with an interesting synopsis of work being performed at the North Carolina State University Neutron Imaging Facility. Ben Edwards discussed some of the hazards associated with magnetic fields created in magnetic resonance imaging facilities. Bradford Taylor discussed treatment of liver cancer using microsphere brachytherapy. Wendy Tingle finished the day with a discussion of waste issues affecting North Carolina radiation users.

The second session began with Kevin Taylor recounting his efforts to characterize a room full of "forgotten" radioactive sources at the University of Illinois. Bill Fitzgerald followed with a discussion of recent trends in radiation usage at the National Institute of Environmental Health Sciences. Mark Waterman and Andrew Tompkins from Los Alamos National Laboratories finished the session with a talk about their efforts in the US Sealed Source Recovery Program. This program has recovered over 11,000 sources since 1997, including 2,210 sources from North Carolina alone. Derik Jokisch gave a presentation about his experience dealing with an *Esquire* magazine reporter. The reporter was researching the story of an atomic bomb accidentally dropped in South Carolina in 1958. Two significant points from Derik's talk were (1) make sure you know what you are grabbing if you pull yourself up onto an atomic bomb and (2) germanium detectors look like beer kegs to the general public. Gerry Wicks followed with a less entertaining description of his dealings with ABC News on its story about security at university reactors. Netiti Moori gave the final talk of the meeting on aircraft laser safety issues.

On 6 January 2006 the annual business meeting was held at Café Luna in downtown Raleigh. After an incredible lunch, HPS President-elect Brian Dodd gave an interesting talk on his work with the International Atomic Energy Agency and its efforts in control of radioactive sources. Dodd then encouraged the chapter to reactivate its Radiation Without Borders program and partner with a country that does not have an active health physics-related professional society. NCHPS president Gerry Wicks then gave a state-of-the-chapter address and Treasurer James Albright reviewed the 2005 budget and introduced the 2006 budget.

Our next meeting will be in Asheville, North Carolina, on 23-24 March. We are still looking for speakers—if you have a talk that would be of interest to the chapter, please contact me at mclamb1@niehs.nih.gov. We are also looking for participants in our Student Paper Competition. The grand prize of the Student Paper Competition is full reimbursement of the local chapter meeting expenses and, if presenting at the 2006 HPS Annual Meeting in Providence, Rhode Island, up to $750 in travel costs. Contact Felix Fong at felix.fong@ncmail.net for more information or to enter.

The 2005 HPS Salary Survey

Chris Graham, CHP, and Andy King
AmerenUE Callaway Plant

Introduction

This year's Health Physicist Salary Survey data was collected in conjunction with a Web-based survey of the entire Health Physics Society (HPS).

Readers should note that there are two salary surveys—one for CHPs and one for non-CHPs.

Gary Lautenschlager reported the CHP salary survey results separately in the December 2005 *CHP News*, Volume 15, Number 2. The results reported in this survey do not include respondents who are CHPs.

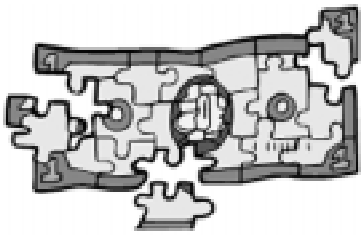
Questions about this survey should be directed to Chris Graham (cgraham@cal.ameren.com).

Data Analysis

The salary ranges marked by health physicists on the completed survey forms were rounded to the midpoints of those ranges before statistical analyses were performed. For example, if a salary was marked in the range $50,000 to $54,999, then it was rounded to the midpoint value of $52,500. For salaries greater than $175,000, the actual value was used.

Responses from those who were either part time or retired were not analyzed, since the data did not appear to allow meaningful comparisons to be made.

There has been no attempt to analyze and draw conclusions from the data; this is left to the reader.



In addition to the salary information, there are tables which provide a breakdown of experience by education level and of job responsibility by education level to assist the reader in interpreting the salary data. Health physicist salaries by region are also presented in this report.

Data Presentation

In an effort to make the results of the survey interesting and useful, health physicists were subcategorized in several ways by education, primary job responsibility, years of experience, region, and combinations of these subcategories.

Readers are cautioned that for statistical validity and in order to preserve anonymity, results are provided only if there were 10 or more responses within that subcategory. Data presented for one subcategory may not be possible for another subcategory.

Every effort was made to keep the subcategories consistent with the previous HPS Salary Surveys, however, the subcategories will vary from one year to the next based on the number of responses.

The tables show results for full-time health physicists who received health, vacation, and retirement benefits from their primary employer.

Acknowledgments

Many thanks to all who participated in this survey. Your participation benefits the entire health physics community. Special thanks to Scott Medling for his helpful comments and suggestions and for coding the survey and making it available on the Internet. A very special thanks to Gary Lautenschlager for initiating the CHP salary survey from which this survey was born some years ago. The careful reader may also note an uncanny similarity between this report and the CHP salary survey report. Any similarities are entirely intentional; let's call it recycling good ideas—again.

Table 1
Experience by Education Level

Education	Responses	<6 Years Experience	6-15 Years Experience	>15 Years Experience	<6 Years Current Job	≥6 Years Current Job
Nondegreed	10	1	1	8	4	6
Associate Degree	12	0	1	11	4	8
BS Health Physics	42	7	8	27	30	12
MS Health Physics	180	17	55	108	92	88
PhD Health Physics	33	1	16	16	17	16
MS Nuclear Engineering	30	4	5	21	14	16
PhD Nuclear Engineering	17	2	8	7	11	6
Bachelor's Other	115	8	27	80	48	67
Master's Other	66	6	19	41	34	32
PhD Other	44	4	8	32	15	29
Total Responses:	**549**	**50**	**148**	**351**	**269**	**280**

Table 2:

Job Responsibility by Education Level

Job Title	Responses	Nondegree Associate Degree Technical Degree	Bachelor's (all)	Master's (all)	Doctorate (all)
Technician	18	8	8	2	0
Professional Staff	327	11	92	161	63
Supervisor Professional Staff	97	4	27	46	20
RPM/RSO	112	3	41	62	6
VP/President/CEO	14	0	1	8	5
Total Responses:	**568**				

Table 3:

Salary by Education and Experience

Education	Experience	Responses	Average	Median	Min	Max	Std. Dev.
Associate Degree	>15 yrs	11	80,568	76,250	61,250	116,250	18,577
BS Health Physics	>15 yrs	29	93,060	93,750	43,750	156,250	27,222
MS Health Physics	<6 yrs	18	76,111	63,750	41,250	171,250	32,702
MS Health Physics	6-15 yrs	55	88,454	86,250	41,250	185,000	22,434
MS Health Physics	>15 yrs	110	90,704	98,750	43,750	151,250	20,406
PhD Health Physics	6-15 years	16	98,828	93,750	56,250	250,000	43,465
PhD Health Physics	>15 yrs	17	127,041	113,750	78,750	330,000	55,616
MS Nuclear Engineering	>15 yrs	21	101,607	98,750	58,750	133,750	19,402
Bachelor's Other	6-15 yrs	28	68,750	68,750	38,750	98,750	15,260
Bachelor's Other	>15 yrs	30	86,718	83,750	46,250	151,250	23,081
Master's Other	6-15 yrs	21	75,059	71,250	38,750	128,750	20,715
Master's Other	>15 yrs	42	90,667	93,750	48,750	173,750	25,892
PhD Other	>15 yrs	32	108,762	106,250	48,750	201,640	32,114
Total Responses:		**480**					

Table 4:

Salary by Region*

Region	Responses	Average	Median	Minimum	Maximum	Std. Dev.
Midwest	91	87,609	86,250	33,750	185,000	27,974
Northeast	92	90,869	91,250	31,250	171,250	33,076
South	184	90,713	86,250	38,750	330,000	32,623
West	145	89,633	93,750	36,250	250,000	28,684
Total Responses	**512**					

* The four major regions of the United States as defined by the US Census Bureau for which data are presented represent groups of states as follows:

Northeast: Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont

Midwest: Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, Wisconsin

South: Alabama, Arkansas, Delaware, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, West Virginia

West: Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, Wyoming

Table 5:

Salary by Employer

Employer	Responses	Average	Median	Minimum	Maximum	Std. Dev.
Federal Government	96	93,437	91,250	38,750	158,750	25,729
State Government	30	92,563	93,750	48,750	178,144	31,475
Medical Facility	59	93,877	96,250	48,750	143,750	22,881
Consulting Firm	48	89,921	81,250	33,750	330,000	44,839
University	100	91,737	88,750	31,250	185,000	31,629
National Laboratory	68	88,658	91,250	41,250	250,000	31,438
Government Contractor	66	86,937	88,750	36,250	201,040	28,211
Nuclear Power Utility	33	89,583	83,750	43,750	148,750	23,739
Other Commercial	58	87,931	88,750	41,250	151,250	20,787
Other Research	12	84,791	81,250	48,750	121,250	26,977
Total Responses	**570**					

Table 6:

Salary by Education Level

Educational Level	Responses	Average	Median	Minimum	Maximum	Std. Dev.
Nondegreed	10	78,000	78,750	41,250	138,750	31,337
Associate Degree	12	78,125	68,750	51,250	116,250	19,630
BS Health Physics	45	85,604	83,750	43,750	171,250	29,608
MS Health Physics	186	92,399	93,750	41,250	185,000	23,934
PhD Health Physics	34	111,838	101,250	46,250	330,000	52,004
MS Nuclear Engineering	30	92,666	91,250	41,250	133,750	23,522
PhD Nuclear Engineering	17	104,449	93,750	46,250	178,144	36,126
Bachelor's Other	116	79,710	76,250	31,250	151,250	23,663
Master's Other	69	89,093	83,750	38,750	173,750	26,517
PhD Other	45	105,425	106,250	48,750	201,640	29,814
Total Responses	**564**					

Table 7:

Salary by Job Responsibility

Job Responsibility	Responses	Average	Median	Minimum	Maximum	Std. Dev
Technician	18	53,750	51,250	31,250	81,250	14,090
Professional Staff	327	87,242	88,750	38,750	178,144	23,539
Supervisor Prof. Staff	97	94,471	93,750	43,750	171,250	26,799
RPM/RSO	113	92,951	91,250	41,250	173,750	25,822
VP/President/CEO	14	164,581	151,250	91,250	330,000	64,512
Total Responses	**569**					

Table 8:

Salary by Field of Expertise

Expertise	Responses	Average	Median	Minimum	Maximum	Std. Dev.
Administration	46	91,304	91,250	41,250	141,250	21,905
Applied Health Physics	172	86,373	86,250	31,250	185,000	25,223
Dosimetry	44	99,204	98,750	58,750	171,250	23,391
Education	14	75,135	66,250	38,750	178,144	41,425
Environmental	53	87,429	86,250	41,250	146,250	21,346
Nuclear Medicine	12	89,383	86,250	46,250	151,250	28,808
Radiological Assessment	40	104,437	95,750	61,250	330,000	48,952
Regulations/Standards	60	85,625	78,750	36,250	161,250	29,202
Waste Management	29	92,875	83,750	51,250	171,250	36,048
Reactors, Power	33	97,463	98,750	51,250	173,750	24,812
Medical Physics	18	79,722	83,750	48,750	118,750	23,579
Instrumentation	12	90,833	101,250	33,750	128,750	28,600
Total Responses	**524**					

Table 9:

Salary by Bachelor's Degree and Employer

Employer	Responses	Average	Median	Minimum	Maximum	Std. Dev.
Federal Government	29	80,818	76,250	38,750	156,250	28,134
State Government	10	82,500	73,750	48,750	131,250	35,664
Medical Facility	21	86,013	93,750	48,750	106,250	17,728
Consulting Firm	18	81,388	75,750	35,750	138,750	28,690
University	28	75,367	63,750	31,250	171,250	31,145
National Laboratory	14	88,928	82,750	53,750	151,250	26,301
Government Contractor	22	80,101	88,750	46,250	131,250	26,602
Other Commercial	19	82,828	81,250	51,250	111,250	18,970
Total Responses	**161**					

Table 10:

Salary by Master's Degree and Employer

Employer	Responses	Average	Median	Minimum	Maximum	Std. Dev.
Federal Government	49	97,423	98,750	41,250	148,750	22,512
State Government	15	91,416	96,250	51,250	146,250	30,086
Medical Facility	27	93,564	88,750	48,750	133,750	23,286
Consulting Firm	19	81,776	81,250	56,250	123,750	17,332
University	51	96,470	98,750	41,250	185,000	28,323
National Laboratory	34	87,794	93,750	48,750	171,250	24,456
Government Contractor	34	86,176	91,250	38,750	126,250	21,510
Nuclear Power Utility	20	88,500	83,750	43,750	113,750	19,192
Other Commercial	26	91,923	88,750	41,250	151,250	21,566
Total Responses	**275**					

Table 11:

Salary by Doctorate Degree and Employer

Employer	Responses	Average	Median	Minimum	Maximum	Std. Dev.
Federal Government	16	104,687	103,750	71,250	158,750	24,339
University	18	105,694	113,750	46,250	156,250	30,360
National Laboratory	12	102,187	83,750	48,750	250,000	52,013
Other Commercial	10	95,500	95,750	56,250	113,750	19,345
Total Responses	**56**					

Table 12:

Salary by University and Job Responsibility

Job Responsibility	Responses	Average	Median	Minimum	Maximum	Std. Dev
Professional Staff	54	82,731	78,750	41,250	156,250	26,743
Supervisor Prof. Staff	13	108,750	111,250	71,250	171,250	26,040
RPM/RSO	23	93,097	88,750	58,750	148,750	24,135
Total Responses	**90**					

Table 13:

Salary by Bachelor's Degree, Professional Staff, and Employer

Employer	Responses	Average	Median	Minimum	Maximum	Std. Dev
Federal Government	31	95,846	98,750	48,750	148,750	21,000
Medical Facility	16	94,687	96,250	48,750	128,750	23,872
Consulting Firm	12	79,166	71,250	56,250	123,750	19,330
University	26	87,788	86,250	41,250	133,750	25,446
National Laboratory	23	88,206	93,750	48,750	111,250	19,408
Government Contractor	18	79,166	81,250	58,750	111,250	22,135
Nuclear Power Utility	10	82,250	78,750	43,750	106,250	20,419
Other Commercial	17	88,308	88,750	41,250	131,250	20,486
Total Responses	**153**					

Table 14:

Salary by Master's Degree, Professional Staff, and Employer

Employer	Responses	Average	Median	Minimum	Maximum	Std. Dev
Federal Government	31	95,846	98,750	48,750	148,750	21,909
Medical Facility	16	94,687	96,250	48,750	128,750	23,872
Consulting Firm	12	79,166	71,250	56,250	123,750	19,330
University	26	87,788	86,250	41,250	133,750	25,446
National Laboratory	23	88,200	93,750	48,750	111,250	19,408
Government Contractor	18	79,166	81,250	38,750	111,250	22,133
Nuclear Power Utility	10	82,250	78,750	43,750	106,250	20,419
Other Commercial	17	88,208	88,750	41,250	131,250	20,486
Total Responses	**89**					

Table 15:

Salary by Doctorate Degree, Professional Staff, and Employer

Employer	Responses	Average	Median	Minimum	Maximum	Std. Dev
University	11	90,022	101,250	46,250	156,250	31,828
Total Responses	**11**					

Inside the Beltway

David Connolly
Washington Representative, Capitol Associates, Inc.

As some of you may be aware, my firm is located about three blocks from the Senate side of the Capitol. Years ago, the firm started the tradition of having one party each year, on the night of the President's State of the Union Address to the country. The idea was to bring together our clients with Members of Congress, their staffs, and Executive Branch officials to enjoy food, fellowship, and predictions about the contents of the President's speech shortly before his entrance into the House Chamber. Always included on the guest list were the president, incoming president, and congressional liaison of the Health Physics Society.

On 31 January, the date of the 2006 State of the Union speech, I just happened to be talking to Society Congressional Liaison Keith Dinger about the joint tasks we needed to perform in February on behalf of the Society. At the end of the conversation, he made a gentle inquiry to me about our State of the Union Party, a party, I quickly realized, he had not been invited to! I gulped. Once again, I had forgotten to do something my boss had instructed me to do, namely, contact all the usual invitees to the party to tell them that the party had been cancelled. Despite media reports to the contrary, we lobbyists do not usually walk around Capitol Hill handing out packages of unmarked $100 dollar bills to Members of Congress and their staffs. Yet, in this overreacting atmosphere of Washington these days, lobbyists cannot be seen giving anything, not even a plate with some crackers and cheese, to legislators or their staffs. Consequently, due to the notorious activities of Jack Abramoff and his associates, there was no Capitol Associates State of the Union party this year.

As is often the case, one rotten apple does taint the whole barrel, so we are in "hunker down" mode here in the nation's capital to see what new requirements will be placed on the government-relations community by Congress. In many respects it is "déjà vu all over again" as this is not the first time one lobbyist has gone too far. You may recall Tonsun Park, the Korean businessman/lobbyist of the 1980s known for his lavish parties and "loans." The problem with this sort of overreaction is that it impedes the flow of necessary information between the Congress and the people as to the practical effect of either legislation or the lack of legislation. For example, the Society is trying to give the Senate technical input on radiation aspects of the Yucca Mountain storage facility so Senators, who do not have expertise in the field, can make a rational decision on the future of this facility. If contact is restricted, then there is a chance decisions will be made in a vacuum that may have a very negative effect on a segment of the population when implemented. Right as I am writing this article, one of my colleagues has just informed me about an unanticipated, unintended negative consequence that a piece of legislation has had on one of his clients, an allied health profession. Like freedom of the press, the right to petition government (the Constitutional base for lobbying) was intended by the Founding Fathers to provide for the free flow of information among the citizenry. This wise judgment should not be abridged because of the activities of one rotten apple. This is particularly true when the focus of a lobbying effort is like that of the Health Physics Society—congressional member education.

Pluto and Plutonium

Marvin Goldman, HPS Past President
Professor Emeritus, University of California-Davis

To start with, I'd like to link these two words. Pluto, our farthest planet, was named after Pluto, the Roman god of the underworld, and plutonium is named after the planet Pluto. The "farthest out" elements are uranium, neptunium, and plutonium, named for the planets farthest out, Uranus, Neptune, and Pluto. For me it is ironic that my 40-year career has been spent worrying about the health effects of exposure to plutonium and for the past two years I also have been a member of a team of experts worrying about the plutonium on the 700-million-dollar spacecraft New Horizons-Pluto, now on its way to none other than our farthest planet, Pluto.

Our team of 15 experts* reviewed all the aspects of safety and risk associated with launching 26 pounds of ^{238}Pu encapsulated in the New Horizons RTG (radioisotope thermoelectric generator) a package which acts like a battery to supply about 200 watts of electricity to power all the instruments on the spacecraft. In the event of a launch accident severe enough to damage and rupture the RTG, it is possible that some respirable fine Pu particles might become airborne and pose an inhalation risk to populations downwind from the launch site. I was tasked with estimating the risk from postulate exposures. Our team produced a 60-page document, a "Safety Evaluation Report" for the President's Science Advisor, on which was based the decision to launch, since all spacecrafts carrying nuclear materials must have presidential launch approval. The White House approved the launch early in January and last week we went to the Kennedy Space Center at Cape Canaveral to watch the launch of the New Horizons-Pluto spacecraft.

Marv Goldman at the Kennedy Space Center, Cape Canaveral

I was able to get NASA VIP launch invitations for several members of my family. It was a family outing that truly could be called a blast. After two days of delay for high winds and a power outage in Maryland, we saw the spacecraft loft on an Atlas-V-Centaur rocket, the fastest launch in space history. The "bird" took off faster than any I had ever seen (and I've seen some 10 to date), passed by our moon in some nine hours, and soon reached a velocity of 36,000 miles an hour. In a year it will get an additional gravitational slingshot boost as it swings by Jupiter and will speed off at 47,000 miles per hour (10 times the speed of a bullet). Even at that astounding speed it will take 9.5 years to reach Pluto some three billion miles from here, where it will examine the planet and its moon Charon and explore the Kuiper Belt of ice/rock objects to get clues to the origin of our solar system.

We watched the launch at a VIP site about seven miles upwind of the launch pad. The countdown was delayed for 50 minutes to allow some clouds to pass and then the announcement of "okay to go" came and the 10-9-8-7-6 . . . count began with all of us adding our chorus to the announcer. At zero, the rocket was ignited and, in a brilliant flash and thunderous roar, it rapidly rose straight up and tilted off on its trajectory into space. The 500 of us all also roared our delight and happiness at seeing both the end of our preparatory ordeal and the beginning of our science adventure.

Although I played only a small part in the mission, I was proud to be among all the scientists, engineers, and others who each played a part in a remarkable piece of seamless interdisciplinary science and engineering. As we all shouted at the launch, "GO PLUTO"!

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*INSRP-Interagency Nuclear Safety Review Panel, including HPS members Lynn Anspaugh, Randall Scott, Robert C. Nelson, Edward A. Tupin, and Samuel W. Poppell (http://www.ne.doe.gov/pdf/SRPS_safety.pdf).

Health Physics Society Welcomes New Officers and Board Members for 2006-2007

President-Elect

Kevin L. Nelson, PhD, CHP

Kevin L. Nelson is the radiation safety officer and director of environmental health and occupational safety at Mayo Clinic in Jacksonville, Florida. Kevin and his staff are responsible for maintaining a medical broad scope license. Kevin is an assistant professor in the Mayo Clinic College of Medicine and is also involved in teaching and research activities.

Kevin began his carrier as a health physicist working for Ralph Wollan, brother of Ernest Wollan, at the University of Minnesota. While working at the University, Kevin completed his PhD degree through Dr. Donald Barber's program. Before arriving at the Mayo Clinic, Kevin worked as a health physicist at 3M, where he learned "almost everything he knows" about nonionizing radiation. He has consulted with a number of organizations, including the Minnesota Department of Health Radiation Control and Brookhaven National Laboratory. One of Kevin's greatest joys is maintaining the professional relationships he has built through the years.

Kevin is certified by the American Board of Health Physics and has recently served on the HPS Board of Directors and Finance Committee. He has chaired the Legislation & Regulation Committee and served on many other HPS committees through the years.

Kevin met his wife Brigette while she was working as a radiopharmacist in Jacksonville. Kevin and Brigette have been blessed with a daughter, Alexis, born in 2002.

Kevin's hobbies include working out, making furniture, and collecting game-used baseball memorabilia. Kevin has given up golf to focus on his favorite activity, spending time with his family.

Secretary-Elect

Kathryn H. Pryor, CHP

Kathryn (Kathy) H. Pryor is the chief health physicist at the Pacific Northwest National Laboratory, where she serves as a senior technical advisor to the Radiological Control Program, as well as the lead radiological engineer on the Pit Disassembly and Conversion Facility project. Kathy is certified by the American Board of Health Physics and has served on the ABHP as Board member and chair, as well as chair of the Part II Examination Panel. Kathy has also been active in the American Academy of Health Physics, serving as secretary, on the Nominating Committee, and on the Continuing Education Committee. She is currently serving on the HPS Board of Directors and has been a member of the Standards and Placement Committees. Kathy is a member of the Columbia Chapter and is a past president and past secretary of the chapter.

Kathy received her BS in biology and her MS in radiological sciences from the University of Washington.

Kathy and her husband Dale, who is deputy treasurer at the Benton Public Utility District, make their home in Richland, Washington. They have three teenagers, Jeff, Erik, and Lindsey, two dogs, and a rabbit. Kathy and her family are avid hikers and campers, and she is trying to stave off the effects of being 40-something by running half-marathons. They also are big Mariners fans and try to work in as many baseball games in as many places as possible.

Board of Directors

Nolan E. Hertel, PhD

Nolan E. Hertel is a professor of nuclear and radiological engineering at Georgia Institute of Technology. Prior to 1993, he was on the faculty of The University of Texas at Austin. He is the director of the Neely Nuclear Research Center and a Senior Research Fellow in the Sam Nunn Security Program.

Nolan and Jennifer, his beautiful wife of 32 years, are active in their church and have three children who are now adults. They live in Norcross and enjoy exercising and each other's company. Nolan recently made a couple of trips with Christian Leadership Ministries to give lectures, technical, professional, and otherwise, on university campuses in Poland and Belarus.

Nolan currently serves on the N13 and N17 National Standards Committees, chairs the Senior Review Group of the DOE Russian Health Studies, and is a member of the ICRP DOCAL Task Group addressing dosimetry computations. He is a Fellow of the Society, is an active member of the Accelerator Section, and has served as a member of the Health Physics Society Standards Committee.

Nolan received his BS and MS degrees from Texas A&M University and his PhD degree from the University of Illinois, all in nuclear engineering.

Michael Lewandowski, CHP

Mike Lewandowski is a staff health physicist with 3M Company. His primary responsibilities include ionizing and nonionizing radiation safety and training for 3M's manufacturing facilities in the United States. Mike is completing a temporary assignment as a Six Sigma Black Belt, where he is responsible for leading process improvement projects for 3M's health physics and occupational medicine organizations.

Mike received a BS in physics and mathematics from the University of Wisconsin – River Falls and an MS in health physics from Purdue University. He is certified by the American Board of Health Physics.

Mike served on the HPS Program Committee (1998-2003) including chairing the committee (2000-2003). In 2005 Mike joined the Rules Committee. Mike is active in the North Central Chapter, having served on its Executive Council and as its Affiliate Coordinator. He is currently serving as Webmaster and Science Teacher Workshop chair.

Mike and his wife, Dawn, have one five-year-old daughter, Samantha, and an infant daughter, Carissa. Both girls fully occupy their parents' time. Mike is working toward finishing off his basement at a painfully slow rate and when it is done there will be plenty of space for the girls to play and for Mike to renew his interest in N-scale model railroading.

Ali A. Simpkins

Ali Simpkins recently joined Southwest Research Institute's Center for Nuclear Waste Regulatory Analyses in San Antonio, Texas, where she will be working in the Performance Assessment Group. Prior to coming to Southwest Research Institute she was a principal engineer at Savannah River National Laboratory where she was a subject-matter expert in the field of environmental dosimetry. Ali received her BS and MS in nuclear engineering from the University of Missouri-Rolla.

Ali has been active in the HPS nationally and locally for years. She served on the Publications Committee from 1998 to 2004 and chaired that committee from 1999 to 2004. She currently serves on the Public Education Committee. She has served as secretary-treasurer for the Savannah River Chapter and was part of the Local Arrangements Committee when the midyear meeting was held in Augusta, Georgia. She is looking forward to becoming involved in the South Texas Chapter.

Ali has wanted to be a nuclear engineer since the eighth grade, so she is living out her dream. She enjoys spending time with her college sweetheart/husband, Phil, and their daughters, Angela, 5, and Christina, 6. They have four spoiled pets (three cats and a dog). Ali's favorite activities in her personal time include teaching group fitness, reading, and cross stitching.

Announcements

17th ASA Radiation and Health Conference—18-21 June 2006

Ken Mossman

The 2006 American Statistical Association's (ASA) Conference on Radiation and Health continues a decades-long tradition of bringing scientists working in the biophysical, biological, biostatistical, and public health aspects of radiation epidemiology together in a beautiful and relaxed atmosphere. The conference will be held 18-21 June 2006 at the Asilomar Conference Grounds in Pacific Grove, California.

The theme of this year's meeting is the 20th anniversary of the Chernobyl accident and the studies of its effects. In addition, the meeting highlights the epidemiological and scientific evidence of radiation effects on human health occurring at low dose levels and of cardiovascular and cerebrovascular consequences of exposures at high dose.

Partial travel support is available for new investigators. There will be a contributed poster session for new investigators and other attendees. More information about the conference, including the program, procedures for submitting poster session abstracts, and application deadlines for New Investigator awards, is available at http://www.amstat.org/meetings/radiation/2006/.

Registration information and other conference details are available on the conference Web site (http://www.amstat.org/meetings/radiation/2006/).

2nd International Conference on Biodosimetry and 7th International Symposium on ESR Dosimetry and Applications

David A. Schauer, CHP

The 2nd International Conference on Biodosimetry and 7th International Symposium on ESR* Dosimetry and Applications will be held 10-13 July 2006 at the Uniformed Services University of the Health Sciences in Bethesda, Maryland.

The conference will focus on passive dosimetry systems that provide dose information following some form of quantitative measurement (for example, concentration of spin flips, number of dicentrics) that may be performed minutes to millennia following the exposure. Topic areas to be discussed include:

- Dosimetry in biological systems (for example, ESR on teeth and bone, lymphocyte-dicentric assay, etc.)
- Physical dosimetry (for example, ESR on alanine and other materials such as carbonates for dating)
- Standardization and intercomparisons
- Automation and field deployability
- Emerging technologies

Presentations will emphasize synergy among various methods and the time frames in which they yield dose data.

International Advisory Committee

Recognized experts in all fields of dosimetry are serving on an International Advisory Committee (IAC) to assist the Organizing Committee in planning the conference. Currently the IAC members are Oswaldo Baffa, PhD (São Paulo, Brazil), Gareth Eaton, PhD (Denver, Colorado), Isamu Hayata, PhD (Chiba, Japan), David Lloyd, PhD (London, UK), Harold Swartz, MD, PhD, MPH (Hanover, New Hampshire), and Phillippe Voisin, DSc, PhD (Paris, France).

Consensus Committe

One of the major goals of the conference is to produce and publish a consensus document to serve as a standard reference on the relative strengths of biodosimetry techniques over a wide variety of timescales and scenarios. A consensus committee is being formed to draft this document and present it at the conference. A planned roundtable discussion will provide a forum for refining and editing the document.

Abstracts

Poster and oral presentations will be selected by the Program Committee. Abstracts can be emailed to biodos@rad.usuhs.mil before **1 March 2006**. A sample presentation, formatting guidelines, and information on hard-copy submission are available at http://epr.usuhs.mil. Notifications will be made for accepted abstracts by 15 March 2006.

Registration

Registration can be completed at http://epr.usuhs.mil/.

*Electron Spin Resonance

Edward W. "Ted" Webster
1922-2005

Frank Massé, CHP, HPS Past President

The Health Physics Society (HPS) and the community of medical and health physicists lost one of its most distinguished members with the death of Edward W. "Ted" Webster on 17 December 2005, at the age of 83.

Ted was educated in his native England and received his BSc and PhD degrees from the University of London in 1943 and 1946 respectively. He joined the Radiology Department at Massachusetts General Hospital (MGH) in 1950, became a full professor of radiology at the affiliated Harvard Medical School in 1975, and retired from both institutions in 2001 after 51 very active and productive years at the highest professional levels. His long bibliography includes over 100 technical publications in peer-reviewed journals and numerous book chapters and reports. In addition to being a long-term member of HPS, he was a founding member of the American Association of Physicists in Medicine (AAPM), a very active member of the National Council on Radiation Protection and Measurements (NCRP), active in many aspects of the American College of Radiology (ACR), and a member of the BEIR III Committee for the National Academy of Sciences National Research Council, just to mention a few.

Outstanding among the awards and honors bestowed on Ted in his long career was the AAPM Coolidge Award in 1983, the ACR Gold Medal in 1991, and the honor of presenting the 16th Annual Lauriston Taylor Lecture to the 1992 annual meeting of the NCRP. Ted was an honorary member of the NCRP Council at the time of his death.

During his 50 years in the MGH Department of Radiology and on the Harvard Medical School faculty, Ted taught radiological physics to thousands of budding physicians and allied medical personnel, many of whom have risen to prominent positions in the medical community. He constantly strived to improve the quality of radiological imaging, advancing the status and quality control of the radiological facilities at MGH and its affiliated hospitals during a critical 50-year period in the field. Many of his published papers have led to widespread improvement of radiological techniques that have benefited millions of patients.

Many prominent medical physicists benefit from Ted's activities in the development and advancement of the ACR board certification programs, aimed at the improvement and standardization of the professional qualifications of medical physicists in diagnostic and therapeutic radiology.

I was privileged to be in the right place at the right time, spending my career in health and medical physics in Boston beginning in 1952 and crossing paths with Ted many times over the past half century. We joined the HPS in the same year, 1959, as we prepared for President Elda Anderson's 1960 HPS Annual Meeting in Boston, before the New England Chapter was organized. We worked closely together on joint Massachusetts Institute of Technology (MIT)/MGH projects during the 42 years when my MIT career overlapped his MGH years, particularly after the MIT and MGH clinical research units were merged and we were involved in the interacting review committees on both sides of the Charles River. We worked together on many professional Society and regulatory committee activities over the years.

In his quiet way, Ted made many notable direct contributions to the benefit and welfare of patients and radiation workers during his career. He was a key participant in a local effort to provide the Boston teaching hospitals with guidance on appropriate radiation exposure limits for volunteer subjects participating in early nuclear medicine research studies in the 1950s, 20 years before the federal government established remarkably similar standards. He devised the method for calculating the effective dose equivalent from the readings from radiation dosimeters worn inside and outside the lead apron in radiology, based on extensive studies of Radiology Department exposure measurements at MGH, the now-standard effective-dose-equivalent calculation used by leading personnel dosimetry services. Ted was a gentle giant in his chosen field and a true gentle man to those who knew him well. His soft-spoken discussions and contributions will be missed.

He is survived by his wife of many years, Dorothea, sons John, Peter, and Edward, daughters Ann Wolfe and Susan MacPhee, and six grandchildren.

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ABHP Annual Activities 2005

Mary Birch, ABHP Chair

The American Board of Health Physics (ABHP) held two meetings in 2005—the summer meeting at the annual Health Physics Society meeting and a November meeting in McLean, Virginia. The Panel of Examiners held the Part II question workshop at the midyear Health Physics Society meeting and the Part I question workshop in McLean, Virginia, following the ABHP meeting.

2005 Examination

The Part I and II exams were successfully administered with 133 candidates sitting for the Part I examination and 75 candidates sitting for the Part II examination. The Part II exam had a passing rate of 20 percent and, as a result, the Board has certified 16 new CHPs, including one candidate who had previously passed the Part II exam. The 20 percent pass rate for the Part II exam was the lowest pass rate since the 1995 exam of 19 percent. The 2005 exam had a much higher proportion of calculational problems than in recent years. Efforts are under way to limit the number of calculational problems. The Part I exam had a passing rate of 56 percent, up from a passing rate of 33 percent the previous year.

10 CFR 35 Changes and Board Actions

The Nuclear Regulatory Commission (NRC) has recently made changes in its regulations regarding medical licenses for byproduct material. Until October 2005, the NRC accepted ABHP certification as evidence of fundamental knowledge required to be a radiation safety officer (RSO) listed under a 10 CFR Part 35 license. The NRC staff, in response to a petition for rulemaking regarding another portion of the training requirements, developed detailed requirements for a certifying body to be listed. Unfortunately, even though the NRC clearly based its requirements for an RSO on the existing requirements for ABHP certification, the requirements were modified slightly with the effect that the ABHP could not assure that all of its CHPs would meet the new requirements, although we did not know this when the requirements came to our attention in July 2005. The ABHP submitted an application to be recognized as a certifying body under 10 CFR 35 in August 2005. The application was essentially identical to the application that the ABHP submitted and that the NRC accepted to be listed as a certifying body in the earlier version of 10 CFR Part 35.

The NRC subsequently contacted the ABHP regarding four perceived "deficiencies" in our application. Two of the deficiencies related to the content of examinations and were easily closed. The other two problems were not as easily addressed. One issue involved the educational requirements to take the exam and these requirements were revised as a result of a special ABHP and AAHP meeting in September. The requirements now state:

> "As a minimum, the applicant must submit evidence (for example, official college transcripts or certified translations of official transcripts) of earning a bachelor's or graduate degree from an accredited college or university in physical science or engineering or in a biological science with a minimum of 20 semester hours in physical science."

The new academic requirements go into effect with the 2006 examination applications, however, there were a number of candidates who had already passed one part of the exam and not yet been certified. As an exam part is good for seven years, it was possible that without confirmation from a review of the files, it would be 2013 before we could assure the NRC that everyone met its requirements. Files of all candidates in this group were reviewed and all the candidates met the NRC academic requirements. The Board finally sent a letter to the NRC indicating that our application review found no candidates who were approved for 2006 or in process for potential future certification who did not meet NRC requirements. As for prior certifications, the letter stated the Board's rationale that all prior certifications were adequate as a measure of fitness for being an RSO. Needless to say, the NRC did not accept this argument and has listed the ABHP as meeting the RSO training requirements from 2006 onward.

Canadian Radiation Protection Association

The Canadian Radiation Protection Association (CRPA) has shown increasing interest in the certification process used by the ABHP. It currently has a process for technician-level personnel and has decided to gather more information to help decide if it should expand to the professional level. Two representatives from the CRPA met with the Board chair in Spokane to discuss the ABHP process. Representatives were invited to and attended the fall Board meeting and the Part I Panel workshop in November. Ongoing interactions were planned with attendance at the Part II Panel workshop in January.

Passing Point Workshop Planned

The last passing point workshop for the Part I exam was held in 2003. In accordance with the Policy Manual, a Passing Point Determination should be done at least once every three years. 2006 Part I Panel Past Chair George MacDurmon is planning on organizing a Passing Point Workshop at the annual HPS meeting in Providence. This is a good opportunity to get continuing education credits by participating.

Part I Examination Panel

George MacDurmon, Chair

The Part I Exam Panel is appointed by the American Board of Health Physics (ABHP) and is given the responsibility for producing Part I of the certification exam for health physicists. Due to the comprehensive nature of the ABHP certification, the panel is comprised of members representing the numerous fields in which health physicists work.

The Part I Exam Panel meets for two days each November near Washington, DC. The process of generating the Part I exam begins with a review of the previous year's exam. Panel members evaluate each question, along with new questions that have been submitted for consideration, and make determinations regarding the questions that will be removed or added to the exam. The first draft of the examination is prepared by the end of the two-day session.

Although most of the work by panel members is completed during the annual meeting, tasks are assigned throughout the year as necessary. These tasks may include such things as editing the final version of the exam, reviewing question solutions, and updating questions from the question bank. Members are appointed to the panel for a four-year term.

Participation in the Part I Examination Panel is quite rewarding. The efforts of panel members bear immediate fruit in the production of the exam. In addition, the insights and expertise of fellow panel members are quite valuable. Despite the hard work, panel members enjoy a collegial atmosphere along with the pleasure of making a significant contribution to our profession. If you are a CHP and interested in participating in the Part I Examination Panel, please indicate your interest when you submit your ABHP annual dues.

The 2005 Part I Panel Members are Chair George MacDurmon, Vice Chair Joe Greco, and members Kevin Doody, Rob Forrest, Jerry Hensley, Beth Hilt, Mike Hinz, Tony Huffert, Vicky Morris, Linda Sewell, Scottie Walker, and Jim Winstanley.

The Display Ads,
Short Course listings,
and Placement Center
are available in the
hard-copy version of *Health Physics News*.

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***Health Physics News* Contributions and Deadline**
Almost everything the Managing Editor receives by 20 March will be printed in the May issue.

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Article II, Section 1, of the Bylaws of the Health Physics Society declares: "The Society is a professional organization dedicated to the development, dissemination, and application of both the scientific knowledge of, and the practical means for, radiation safety. The objective of the Society is the protection of people and the environment from unnecessary exposure to radiation. The Society is thus concerned with understanding, evaluating, and controlling the risks from radiation exposure relative to the benefits derived." *Health Physics News* is intended as a medium for the exchange of information between members. *Health Physics News* is published monthly and is distributed to the members of the Society as a benefit of membership. Subscriptions for nonmembers are available. Libraries, institutions, commercial firms, government agencies, and any person not eligible for membership may obtain a subscription. A small inventory of recent back issues is maintained by the Society at the Office of the Executive Secretary to supply copies to new members not yet on the mailing list. Inquiries about back copies and about subscriptions should be directed to the HPS Secretariat.

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If you have a change of address, phone or fax number, or email address you may now make those changes via the Health Physics Society (HPS) Web site (www.hps.org) in the Members Only section. The changes will be made to the Web site database and will also automatically be sent to the HPS Secretariat so that changes will be made on the Society database.

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Odds and Ends from the Historical Archives

Paul Frame

High-Pressure Ion Chamber

This high-pressure ion chamber was designed and used by Hugh Carmichael in the mid-1930s at the Cavendish Laboratory. It is one of three that were constructed (with the financial assistance of John Cockcroft) to perform cosmic-ray measurements in the laboratory and deep underground in the London subway system. The chamber's primary purpose was the detection and characterization of cosmic-ray ionization bursts, that is, cascades of electrons generated by muons and photons. To reduce the probability of cascades being produced within the wall itself, the latter was made of Duraluminum, a low Z alloy.

The chamber is approximately five inches in diameter and eight inches long, its volume is one liter, and the fill gas is argon pressurized to 100 atmospheres. An interesting bit of trivia: one of the insulator components was fabricated from a condom.

I fondly recall hand-carrying it to the United States from Chalk River, Canada, and hearing the airport inspector yell "It's a bomb!" as my suitcase went through the x-ray machine.

Upcoming Events

2006 HPS Summer School
"Medical Health Physics"
http://nechps.org/SS06/ss06.html
18-23 June 2006
Brown University
Providence, Rhode Island

51st Annual Meeting
of the Health Physics Society
http://hps.org/newsandevents/meetings/meeting5.html
25-29 June 2006
Westin Convention Center
Providence, Rhode Island

NCRP 2006 Annual Meeting
"Chernobyl at Twenty"
http://www.ncrponline.org/
3-4 April 2006
Crystal City Forum
Arlington, Virginia

HPS Web Site: http://www.hps.org

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