



*Bernard L. Cohen*

# BERNARD L. COHEN

1924–2012

Elected in 2003

*“For fundamental contributions to our understanding of low-level radiation.”*

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SUBMITTED BY THE NAE HOME SECRETARY

**B**ERNARD L. COHEN, one of the nation’s first nuclear engineering scholars, who also memorably challenged activist Ralph Nader to a plutonium vs. caffeine duel, died March 17, 2012, at age 87.

Dr. Cohen was a Pittsburgh native who like many of his generation entered World War II before attending college. He served as an engineering officer in the US Navy in the Pacific theater. Upon his return, he earned his bachelor’s degree at Case Institute of Technology (now Case Western), followed by a master’s degree from the University of Pittsburgh and a PhD from the Carnegie Institute of Technology (now Carnegie Mellon University). His dissertation was “Experimental Studies of High Energy Nuclear Reactions.”

He spent the next eight years, until 1958, as group leader for cyclotron research at Oak Ridge National Laboratory. At that time, Pittsburgh was becoming the center of not only the world’s steel industry but also nuclear research. Bettis Atomic Laboratory in nearby West Mifflin developed Oak Ridge’s original design of the pressurized water reactor and the first US nuclear submarine engines; and the Shippingport Atomic Power Station, the first full-scale nuclear power plant devoted to peacetime use, was built just north in Beaver County.

It was at this time that Dr. Cohen began a long and storied career at the University of Pittsburgh. He joined the faculty in 1958 as associate professor of physics and chemistry, and helped to lay the groundwork for some of the university's strongest science and engineering programs. Named a full professor in 1961, he held numerous adjunct appointments in chemical and petroleum engineering, radiation health, and environmental and occupational health, and admirably served as director of the university's Scaife Nuclear Laboratory from 1965 to 1978.

He was elected to chair the American Physical Society's Division of Nuclear Physics (1974–1975) and in 1981 his extensive nuclear research at Pitt earned him the APS Tom W. Bonner Prize in Nuclear Physics.

During the 1970s Dr. Cohen's research moved from the application of nuclear energy to health, society, and the environment. Most notably during this period, research had begun to focus on sources of indoor radon, and in 1984 an incident on the other side of Pennsylvania at the Limerick Nuclear Power Plant brought radon to the forefront of public awareness. Only five years after the events at Three Mile Island, a worker at Limerick was setting off radiation detectors; it turned out that this was because of radon in his home, not radiation at the nuclear plant. Dr. Cohen focused his research on better radon detection techniques as well as correlation/causation studies of radon in 350,000 homes.

An author of six books, more than 300 journal publications, and about 80 magazine articles, Dr. Cohen was sought out by energy committees and advisory boards as well as national journalists including William F. Buckley and Barbara Walters. In recognition of his outreach he received in 1984 the American Nuclear Society (ANS) Public Information Award (now the Landis Public Communication and Education Award), and in 2008 he was selected for the ANS W. Bennett Lewis Award, which recognizes "persons who have made major lifetime contributions in nuclear science and engineering towards minimizing environmental footprint, attaining long-term global sustainable energy and development, and having

shown great foresight in elucidating these goals as recorded in archival publications.”

He was well regarded not only for his knowledge of nuclear energy and research but also for his outspokenness and willingness to challenge the media’s interpretations of dangers facing humanity. In a 1985 article, “The Myth of Plutonium Toxicity,”<sup>1</sup> he reported his challenge to Ralph Nader’s take on plutonium (Pu): “I offered to eat as much plutonium as he would eat of caffeine, which my paper shows is comparably dangerous, or, given reasonable TV coverage, personally inhale 1,000 times as much plutonium as he says would be fatal.” (Nader did not accept the challenge.) At the end of the article Dr. Cohen revealed his passion for research versus the media’s need for a headline-grabbing story, presciently describing today’s 24/7 news cycle:

It is often argued that there is a great deal we do not know about Pu toxicity. While this may be true, one would be hard-pressed to name another public health issue that is as well understood and controlled. Surely it would not be air pollution from burning coal, which is a million times more serious a problem. Surely it is not food additives or insecticides or such (the dangers from these have also been greatly exaggerated) that may well be doing real harm to our health. Pu hazards are far better understood than any of these, and the one fatality per 300 years they may someday cause is truly trivial by comparison.

In spite of the facts we have cited here, facts well known in the scientific community, the myth of Pu toxicity lingers on. The news media ignore us, and prefer to continue scaring the public at every opportunity. They don’t recognize the difference between political issues on which everyone is equally entitled to an opinion, and scientific issues, which are susceptible to scientific investigation and proof. The myth may linger forever.

<sup>1</sup> The article was published in *Nuclear Energy: A Sensible Alternative* (1985, Springer-Verlag US), ed. Karl O. Ott and Bernard I. Spinrad, pp. 355–365.

In 1992 Dr. Cohen received the Health Physics Society Distinguished Scientific Achievement Award, and in 2003 he was elected to the National Academy of Engineering “for fundamental contributions to our understanding of low-level radiation.”

He retired from the University of Pittsburgh as professor emeritus of physics in 1994. He inspired his students as well as his academic colleagues with a dedication to research and an insatiable appetite for truth, and he was never shy to answer his critics or challenge those who did not approach scientific study with such rigor. His wit and determined intelligence are a loss both to the University of Pittsburgh and to academe.

His daughter Judith wrote:

For all of his achievements he was a humble man who did not want a lot of attention for himself. He was practical, simple, down to earth and modest.

Few people in their last moments look back and think, “I’m proud of my professional accomplishments” or “I wish I had gotten one more grant.” I believe that the most meaningful measure of a person’s life is how they treated other people. You might assume from the above description that my father was primarily dedicated to his career and left the parenting primarily to his wife, as was common in their generation. But from our perspective, my father’s life was devoted to us.

Throughout my brothers’ and my lives my father was always a supportive presence, providing unconditional love. He always said that the best time of his life was when his kids were growing up. Many nights when my mother was working, my father would be in the living room with us. My brothers would be playing ball or watching TV in the living room and my father would be writing a book. In those days he really wrote a book, by hand with a pencil and a lined pad of paper. Far from ignoring us, my dad would join in the fun, not minding at all being interrupted or distracted. He [also] loved to play golf and all of his life looked back with joy on the summers he spent playing golf.

He was loving and supportive of his own family and my mother’s family, providing moral and financial support for his extended family. He had a wonderful, happy life filled with love given and received.

Dr. Cohen was preceded in death by his wife of 48 years, Dr. Anna Foner Cohen (who received a PhD in physics from Carnegie Institute of Technology the same year as her husband). He is survived by his children Donald, Judith, Fred, and Ernie Cohen; ten grandchildren; two great-grandchildren; and his partner, Ann Ungar.