



September 12, 2018

Randall S. Caswell, February 7, 1924 – August 13, 2018 In Memoriam

(obituary courtesy of Bert M. Coursey, with modifications)

Randall (Randy) Smith Caswell died on August 13, 2018 at the age of 94. Randy was first elected to NCRP 50 y ago in 1967 and served on the Board of Directors (1976 to 1981), the Nominating Committee (1973 to 1977), and the annual meeting program committee (1978). He chaired the committee that produced NCRP Report No. 82, *SI Units in Radiation Protection and Measurements* (1985) and served as chair, member or consultant to several NCRP committees dealing with standards and measurements. Randy became a Distinguished Emeritus Member of the NCRP in 1991.



Dr. Caswell was the driving force behind the Council on Ionizing Radiation Measurements and Standards (CIRMS) and one of its principal founders. In 1992, Randy was Chief of the National Institute of Standards and Technology (NIST) Ionizing Radiation Division when he realized that the nation needed an organization of scientists and engineers who were dedicated to standards and the measurement of ionizing radiation. His vision was that the organization would have equal representation from industry, academia and government, with the presidency and the vice-presidency rotating among these important constituencies. In 2002, CIRMS created the Randall S. Caswell Award to honor individuals who have made significant contributions to ionizing radiation measurements and standards for the Nation. Randy was, of course, the first recipient.

Randy was born in Eugene, Oregon in February 1924, the son of a physics professor. He studied physics for 2 y at University of Oregon but, when his father was called to the Massachusetts Institute of Technology (MIT) at the outbreak of World War II, he transferred to MIT. He continued his studies in physics and joined the Reserve Officers' Training Corps. He quickly enlisted for active duty as an Army private. He then attended Officer Candidate School at Aberdeen, Maryland, received a commission, and served as a junior officer in the Pacific campaign. He was promoted to the rank of Captain by the end of the war, and was scheduled for the second wave to go to Japan when the war ended.

After the war, Randy resumed his studies at MIT and obtained his BS degree in physics and then studied nuclear physics for a PhD under Dr. Robley D. Evans (author of the famous text book *The Atomic Nucleus*). He was an associate professor of physics at the University of Kentucky from 1950 to 1952, but was looking for an opportunity to pursue research in nuclear physics. He was hired at the National Bureau of Standards [NBS (now NIST)] in 1952 by Lauriston S. Taylor, and began his 42 y career in research on neutron standards. His early work was on experimental studies to characterize neutron sources and validate detectors used to measure neutron strength, fluence and absorbed dose. In 1957 he was promoted to Chief of the Neutron Physics Section. As Chief, Randy managed the experimentalists in the Section and his personal research turned to the theoretical dosimetry, with a

focus on neutron interactions, that lead to ground-breaking papers in microdosimetry, nanodosimetry, and the biophysics of radiation damage to tissue. This work was essential to understanding the health implications of neutron doses from occupational exposures to Boron Neutron Capture Therapy.

From 1969 until his retirement in 1994, Randy held a number of senior management positions in radiation research programs at NBS/NIST, ranging from Acting Director of the Center for Radiation Research to the Chief of the Ionizing Radiation Division. During this period, Randy was managing over 100 scientists in measurements and standards for radioactivity, photon and electron dosimetry, and accelerator physics, as well as neutron physics and neutron dosimetry. Yet he somehow managed to balance this responsibility, continue his personal research, and take a major role in the key national and international committees developing scientific documents and policy decisions in radiation research. He first paid his dues by contributing to committee reports for the National Council on Radiation Protection and Measurements (NCRP) and the International Committee on Radiation Protection. He was a natural leader in such organizations, and was selected as a commissioner, and then secretary, of the International Commission on Radiation Units and Measurements. He also served for nearly two decades as the U.S. delegate to the Section on Neutron Measurements of the *Conférence Générale des Poids et Mesures* in Paris.

In 1982, Ohio Senator John Glenn wrote to President Reagan's science advisor to complain that the Federal agencies did not have consistent positions on radiation research policies – on issues ranging from radon exposures and environmental radioactivity to health effects from nuclear weapons testing. In 1984, the White House created an advisory committee on radiation policies – the Committee on Interagency Radiation Research Policy Coordination (CIRRPC). CIRRPC had a high-level Policy Panel at the Assistant Secretary level, and a Science Panel comprised of senior scientists from each Federal agency. Randy, as the nation's chief scientist for radiation sciences, was selected as the Chairman of the Science Panel. Over the next decade, he led the agencies in the development of science-based reports to guide Federal policy on radiation research for environmental protection and occupational and therapeutic exposures to ionizing radiation.

Randy received numerous awards for his leadership in radiation research. He was a recipient of the Silver and Gold Medals of the U.S. Department of Commerce and the NIST Edward Bennett Rosa Award. He was elected a Fellow of the American Physical Society and served on the editorial boards of *Radiation Research* and the *Journal of Physical and Chemical Reference Data*.

Dr. Caswell was the beloved husband for 72 y of the late Jean Marden Caswell; father of Virginia Lee Caswell, Anne Marden Flynn (Brian), Ellen Sue Caswell, Julia Caswell Daitch (William), and the late Wendy Jean and William Edward Caswell (Jean); grandfather of Jean, Brian, Jennifer, Sean, Caitlin and Allison; great grandfather of Ben, Emma, Billy, Kate, Liam and Josephine; brother of the late John Caswell, Miriam Chaffee, and Dwight Caswell.

Over his half-century career, Randy served his nation as a soldier in wartime and as a teacher and researcher in peace; throughout his professional career, he has been recognized as a leader in radiation research. Randy is remembered by his friends and colleagues at NCRP, for his guidance and faithfulness during 50 y of service for the public good, and at CIRMS for his vision and leadership in setting up the Council, and for his kind support to colleagues in all the disciplines in the radiation sciences communities.