Naomi Hallden Harley, 1932–2023

Dr. Naomi Ann Hallden Harley, a longtime member of the Health Physics Society and the Greater New York Chapter, died on 11 June 2023 at her home in Hoboken, NJ, at the age of 90. She was still continuing her work as a Research Professor at the Department of Environmental Medicine in the New York University (NYU) School of Medicine at the time of her death.

Dr. Harley's research spans decades and includes a special interest in radon, especially its behavior in the environment, its detection, and the human dosimetry of its progeny. She represented the United States as a member of the United Nations Scientific Committee on the Effects of Atomic Radiation (UNSCEAR) and was a recognized expert on the epidemiology of radiation effects on exposed populations. In addition, Dr. Harley was a distinguished emerita member of the National Council on Radiation Protection and Measurements (NCRP) after a long membership dating from 1982 to 2000. She was also a member of the Association for Aerosol Research, the American Chemical Society, the American Association for the Advancement of Science, and was a Fellow member of the Health Physics Society.

At NCRP, she chaired several committees, including Scientific Committee-57-4, which produced NCRP Report 78, *Evaluation of Occupational and Environmental Exposure to Radon and Radon Daughters in the United States*; Scientific Committee-61, which published Report 97, *Measurement of Radon and Radon Daughters in Air*; and Scientific Committee-85, which reviewed the risk of lung cancer from radon. She was a co-author of Commentary No. 6, *Radon Exposure of the U.S., Population–Status of the Problem*, and served on Scientific Committee-73, which produced NCRP Report 77, *Exposures from the Uranium Series with Emphasis on Radon and Its Daughters*. Her other NCRP achievements include service on Advisory Committee 98 on Radiation Measurement and Dosimetry; chair of the 1988 NCRP Annual Meeting Program Committee (on radon); and as a member of the 2001 Program Committee; and the 1999 Lauriston S. Taylor Lecturer (on natural background radiation). The National Research Council benefited from her service on four committees as did a Rand Committee that reviewed the effects of depleted uranium on Gulf War veterans. Her name graces over 170 scientific publications.

Dr. Harley received her B.E. from The Cooper Union in New York City (1959) in electrical engineering. Her M. E. was awarded in 1967 in nuclear engineering from New

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York University (NYU), where she also completed her doctorate in Radiological Physics in 1971. In 1983, she earned an Advanced Professional Certificate in management from the NYU graduate business school. In recognition of her many scientific contributions, The Cooper Union inducted her into their Hall of Fame in 2010.

She was employed by the Atomic Energy Commission Health and Safety Laboratory (HASL, now the Department of Homeland Security National Urban Science and Technology Laboratory in New York City) from 1951 to 1965, eventually serving as the leader of the special projects group. John H. Harley, her future husband, was also a HASL colleague. Subsequently, she accepted a position at what was then the NYU Institute of Environmental Medicine in Sterling Forest, NY. There, she was a researcher, professor, and mentor to the fortunate students who sat for her classes in Radiological Physics, Radiation Dosimetry, and the Radiological Measurements Laboratory. She was an excellent lecturer, investing much time in the preparation of her classroom instruction.

Raised in Tenafly, NJ, but a New Yorker at heart, Naomi's office was located far from rural Sterling Forest in the basement of the NYU Medical Center on First Avenue, in the famous "C-90-E" laboratory. In its cramped spaces and under overhead pipes that always threatened to leak were housed the thermoluminescent dosimetry (TLD) instruments, the NYU whole body counter, and an inhalation research room. Naomi bemoaned the loss of the whole-body counter in the aftermath of the flooding that occurred as a result of Hurricane Sandy in 2012. Knowing that it was unique, she had hoped that another institution or even a New York City agency would acquire it so that it could be ready in case of a radiological dispersal device incident but, alas, that was not meant to be.

Dr. Harley was an advocate of field work, knowing full-well the value of well planned and executed environmental measurements. Her work with passive detection of indoor radon progeny—particularly with electrostatic detection—were models of methodical calibration and testing under controlled high humidity conditions followed by careful deployments of prototypes in homes with known high radon concentrations in such places as Uravan, CO. She co-registered a patent for such an electrostatic gamma-ray and radon detector (EGARD) in 1989, followed over the years by six other patents for other devices.

Naomi enjoyed travel, particularly to Italy, which she seemed to visit annually, often driving on her own from place to place. She happily celebrated her allegiance to that country with a varied Italian wine collection. She was an automotive enthusiast and the original owner of a 1976 Mercedes Benz 240D diesel, driven over 250,000 miles. She and the car were featured in a February 2013 article in the New York Times (https://www.nytimes.com/2013/02/03/automobiles/a-mercedes-with-tenure.html).

Naomi was soft-spoken, hard-working, committed to science, politically savvy, open minded and always diplomatic. She was unafraid to call anyone out if they were in error, but she could be so tactful that they were almost unaware that it had happened. She demanded commitment from her students, but in return she gave them all the guidance that they needed. They were indeed privileged to have her as a teacher and mentor.

All of us have lost a supremely accomplished radiation scientist, a supportive professional colleague, and most of all, a friend. Dr. Harley was preceded in death by her brother, Carl E. Hallden, Jr. She is survived by five nieces, many great nieces and nephews, and a very dear friend and former NYU colleague, Dr. Passaporn Chittaporn.

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