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CHEMICAL & ENGINEERING NEWS

Obituary: Darleane Hoffman

The famous nuclear chemist pushed the frontiers of the periodic table

by Sara Cottle
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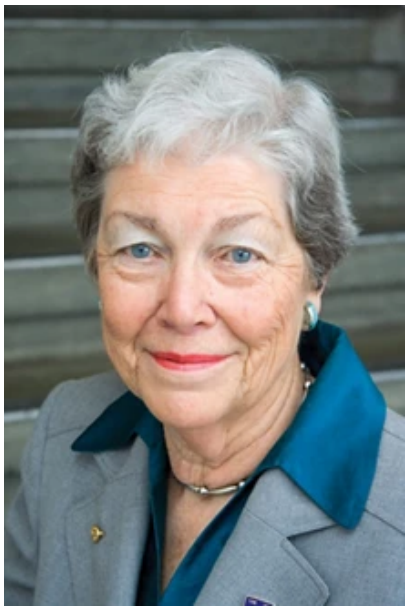

Darleane C. Hoffman, famous nuclear chemist, died Sept. 4, 2025, in Menlo Park, California. She was 98 years old.

“Darleane impacted the evolution of nuclear and radiochemistry in so many ways. She was a luminary in elucidating the chemical and nuclear properties of transuranium elements,” Carol Burns, deputy director of research at Lawrence Berkeley National Laboratory, says. “She was also a pioneer in the application of radiochemical separation processes in mission applications at the Department of Energy national laboratories—working in a field mostly dominated by men. Her contributions were profound.”

The born and raised Iowan started her career as a chemist at Oak Ridge National Laboratory in 1952. A year later, she went on to become the first female division leader of the Chemistry and Nuclear Chemistry Division at Los Alamos National Laboratory. In 1984, Hoffman transitioned again and joined the faculty in the Department of Chemistry at Berkeley and became leader of the Heavy Element Nuclear and Radiochemistry Group at Lawrence Berkeley National Laboratory. Later, she cofounded and served as the first director of the Seaborg Institute for Transactinium Science at Lawrence Livermore National Laboratory.

David Clark, retired Los Alamos National Laboratory Fellow, called Hoffman, “the force behind the establishment of the Glenn T. Seaborg Institutes for Transactinium

Science at all three of the University of California managed national laboratories.” Clark noted the importance of their establishment as, “vehicles for the US to maintain leadership in nuclear and radiochemistry and attract outstanding undergraduates, graduate students and postdoctoral fellows into the field.”

“Darleane leaves behind a large number of actinide scientists that were mentored by her over the years and are distributed all across the Department of Energy complex and US universities,” Mavrik Zavarin, director of the Glenn T. Seaborg Institute, says.

Burns knew of Hoffman’s work at Los Alamos but didn’t officially meet her until she was in graduate school at Berkeley. “She was so passionate about nurturing the next generation of scientists, and in particular advocating for young women in the field. She promoted these goals in everything she did, from work in the Nuclear Chemistry Section to her leadership in the Seaborg Institute,” Burns says. “Some of my own career steps benefited from the inspiration of her trailblazing path. From that point on, she was a generous mentor and friend.”

Hoffman was an American Chemical Society member for 76 years, and in 2000 was the second woman to receive one of the society’s most prestigious awards, the Priestly Medal. She was recognized for her leadership in the discovery of seaborgium. She and her colleagues were also the first to study bohrium. Her work added fundamental understanding of nuclear elements, especially understanding the fission process. Two years after receiving the Priestly Medal, Discover Magazine named her as one of the 50 most important women in science.

The late Glenn T. Seaborg, who served as ACS president in 1976 and shared the 1951 Nobel Prize in Chemistry, called Hoffman “the premier woman nuclear scientist in the world today,” and considered her “a highly valued colleague.”

Hoffman earned her BS in chemistry from Iowa State College in 1948 and her PhD in physical (nuclear) chemistry in 1951.

Hoffman is predeceased by her husband, Marvin M. Hoffman, and survived by her two children, Maureane and Daryl.

Sara Cottle Sara Cottle is the senior news editor for ACS News. Sara joined C&EN in 2023. This was a move back to her storytelling roots after a stint developing communications around international climate change mitigation. Before that, she focused on local and global community impact through environmental storytelling with ‘Chasing Coral’ and ‘Chasing Ice’ as well as campaign and strategic partner research for ‘The Social Dilemma’. She has also spent a considerable amount of time on science education creating curricula with the Smithsonian Science Education Center and breaking down barriers to sustainability through digital engagement with CU Boulder’s Environmental Center.Sara graduated with a B.Sc. from West Virginia University in 2014 and an M.A. in environmental journalism from the University of Colorado Boulder in 2020. During her time at CU Boulder she was able to specialize in digital media and environmental history, focusing on public lands and nurturing a start in filmmaking through environmental documentary courses. Sara’s first debut film (an Honorable Mention at the Environmental Film Festival in the Nation’s Capitol) was 'Connecting Congaree'.

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