

In Memoriam

Joseph Norbeck
Professor of Chemical and Environmental Engineering
UC Riverside
November 10, 1942 – August 24, 2016



Joseph Michael Norbeck, Professor of the Department of Chemical and Environmental Engineering, founding director of the Bourns College of Engineering Center for Environmental Research and Technology (CE-CERT), and former director of the UCR Environmental Research Institute, passed away on Wednesday, Aug. 24, 2016.

Joseph was born November 10, 1943 in Philadelphia, PA and was the oldest of son of Helen and Joseph (Thornton) Norbeck. After graduation from St. James High School in Folcroft, PA, Joseph served in the United States Air Force from October of 1961 to October of 1965. Joseph received his PhD in Theoretical Chemistry from the University of Nebraska in in 1972. He then spent one year in Sheffield, England and one year in Madison, WI as a postdoctoral researcher before joining the Ford Motor Company in Dearborn, MI, as research scientist, a position he held for 18 years. Joseph then joined the University of California, Riverside as a professor in the Bourns College of Engineering. Joseph retired in 2011, but kept active as emeritus faculty until his passing.

Joseph's teaching and research involved pollution control and sustainable energy. His research spanned environmental science and engineering, including atmospheric modeling, vehicle emission measurement, advanced vehicle technology, and production of liquid and gaseous fuels from clean, renewable resources. His teaching focused on fundamentals of air pollution engineering, and technology of air pollution control. He enjoyed interactions with students in the classroom and outside, and was an excellent mentor of undergraduate and graduate students alike. Professor Norbeck was honored with the 2002-2003 Chancellor's Award to the Faculty Mentor for Excellence in Fostering Undergraduate Research.

Professor Norbeck was a leader in a major program at UCR, supported by federal, state, and industry stakeholders, to develop a new generation of technology for measuring emissions from ultra-low-emission cars and light trucks. He similarly led a team that pioneered the measurement of “real-world” truck emissions by creating a mobile lab inside an on-road trailer. This technology ultimately lent itself to other in-field measurement needs, including quantifying and characterizing emissions from ships, aircraft, construction equipment, and pipeline pumps. This body of work gave scientists and engineers a clearer picture of how engines use energy, and thus a resource for better-informed policy and manufacturing decisions. Other research concentrated on the production of alternatives to gasoline from renewable resources, such as plant waste and municipal solid waste. This work dates to early in his UCR career, when he was the lead author of the book *Hydrogen Fuel for Surface Transportation* (Society of Automotive Engineers, 1996). He published more than seventy-five papers in his career.

Among Joseph’s other major accomplishments were to serve as the founding director of the College of Engineering Center for Environmental Research and Technology (CE-CERT) from 1992 to 2005, and as the founding director of the Environmental Research Institute (ERI) from 2005 to 2011. At CE-CERT for over 13 years, he created the vision and strategic directions for a research center that can serve as an “honest broker” by providing unbiased and reliable information that policy-makers and industry can use to inform decisions on how to balance public health, environmental quality, and economic considerations. This strategy built CE-CERT into the largest research center at UCR, and the model continues to guide CE-CERT’s mission to this day.

Among Joseph’s many awards and recognitions were his election as a Fellow of the American Association for the Advancement of Science (AAAS), a South Coast Air Quality Management District Clean Air Award, and the Valley Group Award in 1997 for Excellence in Environment and Research. He was elected as local leader for the City of Riverside and received the Regional Leader of the Year Award in 1998. He has held a gubernatorial appointment as an Air Quality Expert on the California Inspection/Maintenance Review Committee and served as a member of several other committees including the Cal/EPA Environmental Technology Partnership Task Force, the Executive Research Advisory Committee of the Society of Automotive Engineers, and Scientific Review Committee for the South Coast Air Quality Management District.

Joseph was a loving husband, father and grandfather. Left to cherish his memory are his wife of 50 years, Sharon; children Jason (Jenny) Norbeck and Allyson (Michael) Samborn; brothers William and Robert (Ruthann); sisters Helen (Greg) Uff and Maribeth (Wes) Payne; grandchildren Warren, Max and Jackson Norbeck and Ariadne Samborn; and many nieces and nephews.

This memorial was prepared by Reza Abbaschian, Professor in the Bourns College of Engineering (BCOE) with the information provided by Mitch Boretz, Angela Meluski and colleagues in BCOE, and <https://ucrtoday.ucr.edu/tag/joseph-norbeck>.