Julian Schwinger, one of the leading physicists of the 20th century, died on 16 July of pancreatic cancer. He was 76.

In 1965, Schwinger shared the Nobel Prize in Physics with Richard Feynman and Sin-itiro Tomonaga for their independent contributions to quantum electrodynamics. The theoretical achievements of Schwinger and Feynman in the late 1940s and early 1950s provoked a revolution in quantum field theory and laid the foundations for much of the spectacular progress in high energy physics and the ultimate structure of matter of the ensuing four decades.

Schwinger's career spanned some 60 years; his first scientific papers were published when he was 17, and he continued working intensively until a few days before his death. Born in New York City, Schwinger was educated at The City College of New York and at Columbia University, where he received his PhD at the age of 21. After postdoctoral studies at Columbia, Schwinger went to Berkeley to work with J. Robert Oppenheimer. Between 1935 and 1942, he made fundamental contributions to the emerging science of nuclear physics, which brought him international acclaim.

From 1943-46, Schwinger was a member of the wartime staff of the Radiation Laboratory at the Massachusetts Institute of Technology. Here he played a leading role in the development of radar that was crucial to the war effort. After the war, Schwinger became an associate professor at Harvard, moving to full professor in 1947 at age 29. Between 1948-1950, Schwinger published the monumental papers on quantum electrodynamics for which he later shared the Nobel Prize.

In 1972, Schwinger moved to the Department of Physics at UCLA, where he held the title of University Professor of the University of California. Beyond his Nobel prize-winning work in quantum electrodynamics, Schwinger made important contributions to other frontiers of modern theoretical physics. His total published work comprises nearly 200 papers, numerous books, and a large body of unpublished work.

A recipient of Sigma Xi award for distinguished teaching, Schwinger's accomplishments and his profound influence on the development of 20th-century physics have reached far beyond the research advances embodied in his own papers and books. Schwinger was, among physicists of his time, uniquely influential as a teacher and mentor. His lectures were elegant, lucid and inspiring. His course lectures form the basis for graduate instruction throughout the world. The mathematical techniques he developed are a part of every theorist's arsenal. He directed more than 70 doctoral theses and is the ancestor of at least four generations of physicists. To his own students he gave much more than guidance on their research. He gave them a depth of understanding and a mastery of the field that permitted each to become, not a Schwinger disciple, but an independent scientist, each in his or her own way.

Schwinger received numerous international awards and honours. In 1964, President Lyndon Johnson awarded him the newly created National Medal of Science. In 1949 Schwinger was awarded the US National Academy of Sciences "Nature of Light" prize and was a member of the academy for more than 45 years. In 1951, Schwinger shared the first Albert Einstein Prize with mathematician Kurt Godel.

A man of broad interests, Schwinger is remembered by colleagues for his love of music. He took piano lessons for decades; "If something is worth doing, it is worth doing badly," he once said of his piano playing. He is survived by his wife of forty-seven years, Clarice (Carrol) Schwinger.

(From Robert Finkelstein and David Saxon on behalf of their colleagues at UCLA.)