

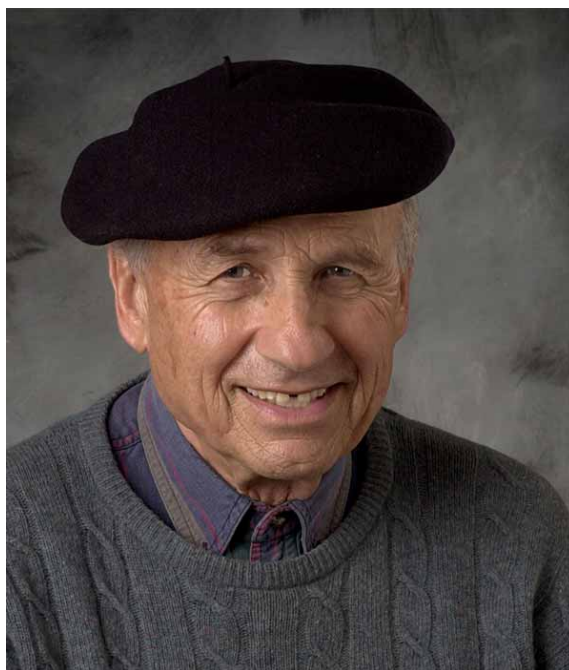
By Kim McDonald Apr 28, 2016

Former Chair of UC San Diego Physics Department and Nobel-Prize-Winner Walter Kohn Dies

Walter Kohn, one of the founding faculty members of the Department of Physics at UC San Diego who received the 1998 Nobel Prize in Chemistry while a professor at UC Santa Barbara, died at his home in Santa Barbara of cancer on April 19. He was 93.

Kohn came to the newly founded UC San Diego campus as a physics professor in 1960 after working for a decade at Carnegie Mellon University. He served as chair of physics from 1961 to 1963 and left the La Jolla campus in 1979 to accept a position at UC Santa Barbara as the founding director of what is now called the Kavli Institute for Theoretical Physics. He remained at UC Santa Barbara as an emeritus professor and research professor until his death.

Supported by the National Science Foundation, the Kavli Institute for Theoretical Physics brings leading scientists from around the world to work on major problems in theoretical physics and related fields. In 1994, the building that houses the institute was named Kohn Hall in his honor.



Walter Kohn

A condensed matter theorist, Kohn made seminal contributions to the understanding of the electronic structure of materials and played the leading role in the development of the density functional theory, which has revolutionized scientists' approach to the electronic structure of atoms, molecules and solid materials in physics, chemistry and materials science.

He also made major contributions to the physics of semiconductors, superconductivity, surface physics and catalysis. A member of the National Academy of Sciences, Kohn was awarded the National Medal of Science in 1988 and the Niels Bohr gold medal from the United Nations in 1998.

Benjamin Grinstein, chair of UC San Diego's Department of Physics, said Kohn had one of the most profound impacts on the field of physics over the past century.

"A study of citations from all *Physical Review* journals for the 110-year period 1893 until 2003 shows the paper by Kohn and our own Lu Sham (an emeritus physics professor at UC San Diego) to be the top cited paper and the one ranked highest in citation impact, and the paper by Hohenberg and Kohn as the second most cited paper and ranked second in citation impact," he added. "In fact, Walter authored five of the 100 papers with highest citation impact."

More specifically, said Grinstein, "Kohn started work on density functional theory during a visit with Pierre Hohenberg to the École Normale Supérieure in Paris. Then Walter and Lu expanded on that work to produce the now famous Kohn-Sham equations. The latter is the standard workhorse of modern materials science, and even used in quantum theories of plasmas."

On March 31, the UC San Diego Physics Department held its annual Memorial Lecture on a topic chosen to honor the 50th anniversary of the publication of the Kohn-Sham paper.

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