



Peter A. Wolff, professor physics emeritus at MIT, died on September 5, 2013 due to complications from Alzheimer's disease. He was 89.

Peter was a prominent condensed matter theorist who exerted great influence during his career at Bell Laboratories, MIT and the NEC Research Institute. A native of Oakland, California, Peter received his undergraduate and PhD degrees from Berkeley in 1945 and 1951, respectively, and joined Bell Laboratories in 1952. His work focused on semiconductors, optics and on magnetism and many-body physics. His 1966 paper with Robert Schrieffer deriving the Kondo exchange Hamiltonian, widely known as the Schrieffer-Wolff transformation, is still referenced in textbooks today. He also did pioneering theory work on light scattering from magneto-plasma modes in metals and semiconductors. He co-authored with P.M. Platzman a well-known book *Waves and Interactions in Solid State Plasmas* (1973) which summarized a list of his work from this period. In addition to his success as a research scientist, his talents as a manager were recognized at Bell Labs, where Peter rose through the ranks as department head and then Director of the Electronics Research Laboratory.

In 1970, Peter left Bell Labs to join the physics department at MIT. He was charged with bringing modern condensed matter physics to the physics department. Within a few years, Peter hired Marc Kastner, John Joannopoulos and Robert Birgeneau. Together they formed a core group of condensed matter physicists whose influence on the department can still be felt today. Peter was the Director of the Research Laboratory of Electronics from 1976 to 1981 and the Director of the Francis Bitter National Magnet Lab (then on the MIT campus) from 1981 to 1987. The fractional quantum Hall effect was discovered at the Magnet Lab during his tenure. Peter was greatly supportive of the research effort and provided opportunities and mentoring for graduate students such as Greg Boebinger (now Director of the National High Magnetic Field Laboratory in Florida) to work on the subject. His own research moved on to nonlinear optics and the theory of magnetic polarons in magnetic semiconductors such as Mn doped CdSe. He also worked closely with experimental colleagues and students on spin-flip Raman scattering in narrow gap semiconductors.

Peter retired from MIT in 1989 and started a new venture as Fellow at the NEC Research Institute at Princeton. He helped recruit many outstanding talents to the newly established Lab and helped establish NEC as a flourishing research center. When the experimental group there

made the surprising discovery that light can be transmitted through metal films with holes whose diameters are much less than the wavelength, Peter came up with a theory based on surface plasmon resonance, an explanation which has withstood the test of time.

Peter returned to MIT in 1994 and used his connections with industry to direct graduate students towards opportunities outside of academia. Generations of graduate students have benefited from his tireless efforts.

Peter possessed a deep intuitive grasp of condensed matter physics which allowed him to spot research opportunities and identify young talents. At the same time, he was honest to a fault and totally selfless in his dealing with colleagues and students alike. His easy going manner put everyone around him at ease and contributed to his success as a manager. His wise council, his caring ways and the generosity of his spirit will be missed by all those fortunate enough to have known him.

Peter loved the great outdoors and the visual arts. A collector of Native American and abstract expressionist art, he served as chair of the MIT Council of the Arts in 1987. His wife, artist Catherine Vance Carroll, died in 2000. He is survived by his daughter, Mia, an artist; his son, Whitney, a psychiatrist; and four grandchildren.

To share stories celebrating Peter's life or to express condolences, please visit the memorial website <http://forevermissed.com/peter-adalbert-woff/>.

Robert J. Birgeneau, MIT, Cambridge.

Gregory S. Boebinger, NHMFL, Tallahassee.

Eric D. Isaacs, ANL, Argonne.

Marc A. Kastner, MIT, Cambridge.

Patrick A. Lee, MIT, Cambridge.

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