

## **In Memoriam**

**Peter Edward Kaus**  
**Professor of Physics, Emeritus**  
**UC Riverside**  
**1924 - 2016**



Dr. Peter Edward Kaus, professor emeritus of physics and long-term faculty member at UC Riverside, died on November 6, 2016, after a day surrounded by the love of family and friends. He was 92.

Peter was born in Vienna, Austria, on October 9, 1924 to the well-known novelist and screenwriter Gina Kaus and her husband Otto. Peter attended the Schottengymnasium until the March 1938 political union of Austria with Nazi Germany, when the family fled from Austria, first to Paris and then to the US, settling down in Hollywood. Peter graduated from Hollywood High School in 1940 and continued his studies at UCLA. In 1944 he was drafted and became an American citizen. After the war, Peter returned to UCLA, and received a Ph.D. in Physics in 1954 under Robert Finkelstein. Peter was interested in Finkelstein's studies on the structure of the weak interactions, an interest that would, in one form or another, continue for the rest of his academic life. Peter met his then future wife, Eva Lewy, in the UCLA cafeteria annex in 1949, and they married one year later. They had three daughters, Toni, Nicola and Andrea.

In 1954 Peter and his family moved to Princeton, New Jersey, where he worked for the RCA Laboratories. His team at RCA designed the deflection yoke for the first commercially successful color TV tube, for which Peter shared the patent but not the commercial rights. Peter also held a position at the Institute for Advanced Study where he finished his doctoral thesis work on self-composite fermions (solitons). This work also supplied the mathematical background for C. Pittendrigh's original work on biological clocks (circadian rhythms). Peter returned to Los Angeles in 1958 for a position at the University of Southern California. In 1963 he and his family moved to Riverside, where he became a physics professor at the then-new UC campus. He remained at UCR for the

next 30 years, teaching and continuing his research in elementary particle physics. Peter was tenured in the 1967-68 academic year and he retired as emeritus professor in 1994.

Peter's research spanned a broad range of topics including quark and neutrino mass matrices, many aspects of quantum chromodynamics (equation of state, confinement, spectroscopy, quark potentials, mesons, S-matrix theory, Regge poles and non-Abelian field theories), as well as maintaining his interest in nonlinear field theories. He collaborated extensively with several prominent physicists such as F. Zachariasen, S. Gasiorowicz, P. Fishbane, S. Meshkov, B. Desai and R.S. Slansky; many became close friends. Peter held visiting positions at DAPNIA, Saclay, Lebedev Institute, and UC Santa Cruz; during the 1965-66 academic year he was a Fulbright Scholar at the Niels Bohr Institute in Denmark.

In parallel with his active research program, Peter was an excellent teacher and mentor. Among the highlights of this aspect of his career, he created, in collaboration with Fred Cummings, a basic undergraduate course on cosmology and the theory of relativity. In it, Peter introduced the innovative (at the time) idea of creating educational materials using computer-generated graphics. This course continued for decades and helped thousands of students understand the ways of science, and the beauty of one of the most amazing developments of modern times, the Theories of Relativity.

Peter's professional service was extraordinary. He was one of the charter signatories and mainstays of the Aspen Center for Physics (ACP), a unique institution that has provided the space and creative environment for scientists of diverse disciplines to discuss new ideas. This center has functioned for 60 years and continues to be a premier international institution for research in theoretical physics. Peter participated in the Center's founding research program in 1962 and every year thereafter for fifty years. He served the ACP in many capacities, including as General Member, Trustee, Vice President, and President (1983-85).

During his presidency Peter strengthened the Center's scientific program and enhanced the outreach activities of the ACP within the Aspen community. The Center allowed public access to its grounds, organized public lectures, and created a college advisory program for seniors at local high-schools. His presidency also coincided with some of the most turbulent years of the ACP. The Center is in one of the most beautiful (and expensive) pieces of real estate in Aspen, and developers (including D. Trump) were interested in construction in that area. This would have displaced the ACP.

Fortunately, the Center had strong support from the Aspen community, gained through the outreach programs. This, together with Peter choosing a very capable head for the Campus Planning Committee, served the ACP very well in the hearings to decide whether to turn the ACP grounds into a housing development. In the end the developer backed down, and the area was preserved for the ACP and the Aspen community. With this, Peter positioned the Center for its ultimate success in its long battle to ensure it owned the real estate where it is located; this happened in 1992. In recognition of his service, Peter was made an Honorary Trustee of the ACP from 1986 until his death.

The Kaus family have always been avid hikers. While in Copenhagen where the entire family lived for a year, they spent the summer hiking in Norway. Peter loved the summers spent on family burro trips in the Sierra Nevada. The ACP and the people associated with it were one of the centers of Peter's life, and Eva and he always looked forward to spending the summers and falls at their home on Pearl Court, often with children, grandchildren, and friends. For many years Peter led weekend hikes with the APC colleagues and their families throughout the mountains in the Aspen area, forming many lifelong friendships as well as scientific collaborations. He was legendary for demonstrating physics principles while hiking, including once jumping off a knife ridge during a climb to allay the fears of fellow hikers. "People are like jello, not rocks," he said, and indeed he did not fall far – but fall he did; he had an awkward time explaining to medical personnel what happened. These trips and excursions were extended to the Californias as well, where he, colleagues, friends, and family often hiked and explored the mountains and deserts of Southern California and Baja California. In his retirement, Peter and Eva moved to Prescott, Arizona. There he enjoyed watching grandsons Ben and Jake Marker grow up, and seeing his daughters enter happy marriages; Toni to Mary Trevor, Niki to Steve Smith, and Andrea to Jim Wood.

The above paragraphs intend to convey that Peter was an amazing scientist, colleague, and friend. But this summary of his scientific, professional, and personal activities fails to fully convey Peter's charm, wit, and kindness. He was a wonderful man and a good person, a mensch. He is very sorely missed.

This memorial was prepared by Dr. Jose Wudka, Professor of Physics at UC Riverside.