UC SANTA BARBARA

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Library acquires papers of Nobel Laureate Herbert Kroemer

A natural visionary, Herbert Kroemer (1928–2024) — Nobel Laureate in physics and notable professor emeritus of UC Santa Barbara — was always looking far ahead when it came to technology.

“From the beginning, I’ve always been interested in things that were several generations ahead of what people could do,” he once said. “Small steps didn’t really interest me. I was interested in big steps.”

Kroemer’s collection is now part of the UC Santa Barbara Library, which recently acquired his research and teaching papers, ephemera and digital materials, donated by his daughters Ursula Leimbach and Angela Sherwin.

“We are deeply grateful to Ursula Leimbach and Angela Sherwin for their invaluable gift to the library,” said Lidia Uziel, associate university librarian for research resources and scholarly communication. “UCSB Library is committed to being the home of Nobel Prize winners’ research. Making Herbert Kroemer’s papers available for study not only supports the future rigorous scientific inquiry of researchers from across the globe and the transformative education we provide students — but it also helps us to understand the achievements of the past and their profound impact on the society we live in.”

Considered one of the greatest technological visionaries and innovators of the second half of the 20th century and early 21st century, Kroemer received numerous

national and international honors and awards. In 2000, he was awarded the Nobel Prize in Physics for “developing semiconductor heterostructures used in high-speed and opto-electronics.” His award-winning concept of the double-heterostructure laser became the dominant design of semiconductor lasers and paved the way for the development of high-speed fiber-optic internet communications, satellite communications, mobile phones and bar-code readers.

Kroemer joined UCSB in 1976 and played a foundational role in transforming the university into a leader in engineering and materials science. He held the Donald W. Whittier Chair of Electrical Engineering in the Department of Electrical and Computer Engineering with a joint faculty appointment in the Department of Materials, where an endowed chair is named in his honor. He retired from UCSB in 2012, but continued to be an active member of the university community as a professor emeritus.

A German-born American physicist, Kroemer received his Ph.D. in theoretical physics from the University of Goettingen in 1952. His dissertation on hot-electron effects in transistors helped prepare him for a career in researching semiconductors and semiconductor devices. Prior to joining UCSB, he taught electrical engineering at the University of Colorado from 1968 to 1976 and worked in several research laboratories in Germany and the United States.

The Herbert Kroemer Faculty Papers will be housed in the University Archives, to which Kroemer donated several boxes of research materials in 2004 as the initial deposit for his collection. The University Archives collects and preserves historical documents related to UCSB’s legacy and includes unique archival materials of esteemed faculty, including the papers of three other Nobel Laureates – Walter Kohn (chemistry), Alan Heeger (chemistry) and Shuji Nakamura (physics).

“Since 2018, we’ve seen a great increase in the number of scientific papers donated to the University Archives, particularly in the field of physics. The collections of leaders in this field like Joseph Polchinski, James Langer, James Hartle and Stanley Peale have found a home here. We’re honored to add Herbert Kroemer’s papers to this growing collecting area,” remarked University Archivist Matt Stahl, who curates the collections.

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