



*Walter F. Kosonocky*

## WALTER F. KOSONOCKY

*1931–1996*

BY JAMES E. CARNES

WALTER F. KOSONOCKY, distinguished professor of electrical computer engineering, holder of the Foundation Chair in Optoelectronics Research at New Jersey Institute of Technology, and former fellow of the technical staff at RCA Laboratories, died suddenly of heart failure while dancing at a party on November 2, 1996. Walter loved to dance.

Walter was born in Sieradz, Poland, on December 15, 1931. Although his father was Ukrainian, Walter was very proud of his Ukrainian heritage. Growing up in Poland, Walter had been advised by a counselor, after taking an aptitude test, that his optimum profession would be as a sheet metal worker. Obviously Walter did not follow that advice. A young boy when the war started, Walter was forced to flee his home and repeatedly came into harm's way during the war years. At one time he literally begged for his life as soldiers killed all the males found hiding in an attic. Walter was spared because of his age. He also told of being barred from an air raid shelter as bombs fell around them. Somehow surviving, Walter and his father finally found their way to the Regensburg Refugee Camp at the end of the war, and in 1949 they emigrated to the United States.

Passing on the sheet metal advice, Walter enrolled at the Newark College of Engineering (now New Jersey Institute of Technology, NJIT) and received a BSEE degree in 1955 and an MSEE degree in 1957. He was then selected for the RCA Laboratories

Research Trainee Program and in 1965 he received his doctorate in electrical engineering from Columbia University.

As a young researcher at RCA Labs, Walter worked on a series of projects in solid-state electronics and computer memory technology. But as MOS (metal-oxide semiconductor) devices became practical in the mid-1960s, Walter focused his efforts toward the imaging applications of this technology.

By 1969, already well-entrenched in MOS imager work, Walter immediately understood the advantages and immense implications of a new device structure announced by Bell Labs researchers, the charge-coupled device (CCD). While Walter was not the inventor of the CCD concept, he immediately dropped all other work he was doing and focused his considerable energy, intellect, and experience on this new technology. He invented new gating structures, novel charge input and signal read-out devices, and numerous novel applications of CCDs. Many of Walter's fifty-six patents are related to CCD technology and applications, especially in the area of visible and infrared imaging. He quickly established himself as an international leader in the CCD field.

As an inventor, Walter was prolific. Interestingly, he was not an analytical, linear thinker. In some cases, not even logical. Rather his creativity was intuitive. He would sometimes suggest approaches that initially appeared to his colleagues to be mysterious, but which, after careful analysis by those same colleagues, turned out to be excellent ideas that opened up new avenues of investigation and progress.

After a thirty-year career with RCA, Walter joined the faculty at NJIT as distinguished professor of electrical engineering and NJIT Foundation Chair for Optoelectronics and Solid State Circuits. There for another nine years he taught and mentored graduate students, continuing to invent new CCD and MOS imaging structures.

Walter was an extremely active member of the Institute of Electrical and Electronics Engineers (IEEE), serving as chair of numerous conference committees, including the IEEE Executive Committee for Symposia on VLSI Technology (1972 to 1992); Symposium on VLSI Technology (1981); IEEE/Electron Devices Society (EDS) J.J. Ebers Award Committee (1986 to 1989); Tech

nical Programs, International Solid State Circuits Conference (1979); IEEE/EDS VLSI Committee (1979 to 1982); IEEE/EDS Integrated Circuits Technology Committee (1974 to 1978); and the IEEE/Circuits and Systems Society, Solid State Circuits Committee (1973 to 1977).

Walter authored or coauthored over ninety publications, and he served as associate editor for image sensors and displays for the *IEEE Transactions on Electron Devices*, where he was editor of five special issues.

In addition to being a Fellow of the IEEE, he was also a member of Academy of Engineering Sciences of the Ukraine, Society for Imaging Sciences and Technology, the International Society of Optical Engineering, and the National Academy of Engineering (1992).

Beyond those distinctions already mentioned, Walter received awards from many institutions, including the David Sarnoff Award for Outstanding Technical Achievement (RCA's highest technical honor) twice, in 1981 and 1984; the New Jersey Inventors Congress and Hall of Fame "Inventor of the Year" Award in 1989; the NJIT Foundation Harlan J. Parlis Award for Excellence in Research in 1989; and the prestigious J.J. Ebers Award from the IEEE in 1985.

But beyond all of Walter's considerable accomplishments, his patents, papers, committee chairs, and honors, more important than all of that was Walter, the friend and mentor, Walter, the loving husband and adoring father. Many of us were fortunate to have Walter as a friend and mentor—to learn from him and to laugh with him, for Walter always had a broad smile and a positive outlook. He always had a special project that he was excited about, whether it was a new device he had just invented or his new ten-speed bike!

Walter was married to his wife, Sinaida, for many years and was the proud father of four children, George, Stephen, Maria, and Anna and three grandchildren, pictures of all of whom he was quick to show.

All of Walter's considerable circle of friends and colleagues around the world admire him and miss him.

Sheet metal worker, indeed!