

In Memoriam:

## Arnold M. Katz, MD

(1932–2016)

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**D**r. Arnold “Arnie” M. Katz was born in Chicago in 1932. His father, Dr. Louis N. Katz, was a renowned cardiologist who had received a Lasker award and served as President of the American Heart Association and the American Physiological Society.

Dr. Arnold Katz graduated from the University of Chicago College in 1952 with a bachelor of arts and honors in Natural Science. As a college student, he spent a summer at the Marine Biological Laboratory at Woods Hole, Massachusetts, working on the physicochemical properties of muscle. He attended medical school at Harvard and spent the summers working with his father in Chicago, studying factors that influenced coronary blood flow and the functional properties of the left ventricle.

He graduated cum laude from Harvard Medical School in 1956 and did a medical internship at the Massachusetts

General Hospital. Thereafter, he spent 2 years in Dr. C.B. Anfinsen’s laboratory at the National Institutes of Health, working on protein chemistry. One of his early papers, co-authored with Dr. Anfinsen on peptide separation and analysis, has been identified in *Current Contents* as among the 200 most-cited papers.

Subsequently, Dr. Katz returned to the Massachusetts General Hospital as a medical resident. During that same time period, he was awarded a Moseley Traveling Fellowship from Harvard University to spend a clinical year at the National Heart Hospital in London, working with Dr. Paul Wood. Upon his return to the United States in 1961, Dr. Katz took a position as an Advanced Research Fellow at UCLA, working in muscle biochemistry. He published several papers in which he compared the contractile proteins of the heart and skeletal muscles, and defined the specific roles of tropomyosin, troponin, and calcium in regulating the interactions between the contractile proteins. He was selected as an Established Investigator of the American Heart Association while at UCLA.

In 1964, he was appointed as Assistant Professor of Physiology at Columbia University, where he established a laboratory to study cardiac contraction and relaxation. He showed the importance of calcium in the contraction process and of the sarcoplasmic reticulum and calcium in the relaxation of heart muscle. In 1967, he was named Associate Professor of Medicine and Physiology at the University of Chicago. In 1969, he became a named Professor of Medicine (Cardiology) at the Mt. Sinai School of Medicine. The role of phospholamban, a protein kinase A substrate that regulates cyclic AMP control of the sarcoplasmic reticulum, was discovered in his laboratory in New York.

In 1977, Dr. Katz moved to the University of Connecticut Medical School to become its first Chief of Cardiology. There, he continued his pioneering work in elu-



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cidating the importance of calcium in the contraction and relaxation of heart muscle. This work added insights into the influence of left ventricular hypertrophy on intracellular calcium kinetics and the relaxation of heart muscle. His subsequent research focused on heart failure, and he correlated findings from basic research in failing heart muscle with clinical findings in patients.

He retired from the University of Connecticut in 1998 and became Visiting Professor of Medicine and Physiology at Dartmouth Medical School. In 2008, he was appointed Visiting Professor of Medicine at Harvard Medical School, where he lectured on heart failure in a core curriculum for second-year medical students.

He published more than 400 papers on his research work, and 15 books. His single-authored book, *Physiology of the Heart*, is currently in its fifth edition.

Dr. Katz received many honors during a distinguished career as a basic scientist in cardiovascular work, including his election to membership in the American Society of Clinical Investigation, the Association of American Physicians, his being named the initial editor of the *Journal of Molecular and Cellular Cardiology*, and his serving as an advisor to and member of the National Heart, Lung, and Blood Institute in Bethesda and local and national American Heart Association committees. He received the Research Achievement Award of the American Heart Association in 1969; an Honorary Doctorate of Medicine from Carol Davila University (Bucharest, Romania) in 1991; the Peter Harris Distinguished Scientist Award of the International Society for Heart Research in 2004; the Lifetime Achievement

Award of the Heart Failure Society of America in 2007; and the Medal of Merit of the International Academy of Cardiovascular Sciences in 2011.

He was married to Phyllis C. Beck—a distinguished scholar in her own right—for 57 years at the time of his death in January 2016. They have 4 children.

In the memories and images that we have of Arnie Katz, we are immediately aware of his great smile, welcoming approach, keen intellect, great kindness, enthusiasm toward the effort to discover new truths in cardiovascular science, and the joy he had when others succeeded, especially the younger scientists.

Arnie Katz was a very special person, scientist, medical historian, friend, mentor, and teacher, and one who already is greatly missed by all those fortunate enough to know of his very substantial scientific accomplishments and contributions to cardiovascular science.

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