Obituary

Dr. Frederick H. Kasten 1927 – 2014

Dr. Frederick H. (Fred) Kasten, 87, Johnson City, Tennessee, died Monday, April 14, 2014 at the Johnson City Medical Center following a lengthy illness. The son of the late Isaac Kasten and Anna Goldblum Kasten, Fred was born in Harlem, New York City and raised in the Bronx. He maintained contact with the “Amerks Club,” a group of childhood friends. He grew up in the Jewish faith. He went to New York City public schools, graduated from Samuel Gompers Vocational High School with a specialty in radio electronics and the Bronx High School of Science. He also took evening courses at Morris and Theodore Roosevelt High Schools.

Fred was a World War II veteran, having served with the Merchant Marines as a radio operator in the North African Theatre and with the U.S. Navy as an aviation electronics technician.

Fred was an internationally recognized cell biologist and historian of science and medicine. He was the author of three books, more than 25 scientific book chapters, 70 research publications, 35 reviews and many miscellaneous letters and obituaries. He was the recipient of numerous honors and awards throughout his career of more than fifty years.

A member of several national and international societies, Dr. Kasten traveled and lived all over the world during his professional career. After earning a B.A. degree in biology at the University of Houston, he completed graduate studies in zoology at the University of Texas in Austin (M.S., 1950; PhD., 1954). He carried out postdoctoral research at Columbia University, Justus-Liebig’s University in Giessen, Germany, and the Institut de Recherches Scientifique sur le Cancer, in Villejuif near Paris, France.

Fred’s career also included teaching and research positions at Roswell Park Memorial Institute, Texas A & M University, Pasadena Foundation for Medical Research, University of Southern California School of Medicine, and Loma Linda University School of Medicine. Fred was a visiting professor at Alexandria University, Alexandria, Egypt; Ain Shams University, Cairo; and Jagiellonian University, Crakow, Poland. Fred was the first American scientist to do long-term research in communist East Germany and he also conducted research in the former Soviet Union. He was fascinated by reading his “Stasi” Secret Service file from East Berlin after the wall went down. He retired as Cell Biology Professor from Louisiana State University Medical School in New Orleans after 27 years of service, and was named Professor Emeritus of Anatomy. He then served as Adjunct Professor of Anatomy and Cell Biology at the East Tennessee State University’s Quillen College of Medicine in Johnson City, Tennessee. In August 2009, he was honored to be chosen Scholar-in-Residence at the Sherrod Library at ETSU.

Throughout his life, Dr. Kasten played leadership roles in professional societies and in civic and community causes, with his wife Marie by his side. He played a major role in organizing C.H.I.P. in Pasadena, CA, an organization dedicated to providing dental care for needy school children. At College Station, Texas, he was the co-chairman of Citizens’ Fellowship, an interracial group devoted to achieving justice by providing postal service for black residents. He and his wife were dedicated to integrating the city’s public school system by legal means. In 1996, the National Depressive and Manic-Depressive Association awarded a “Chapter Excellence Award” to Fred and Marie, who had been...
co-leaders of the New Orleans Manic-Depressive Association for 12 years. Fred had been an amateur ham radio operator since 1944 and contacted two hundred countries as a DX’er. He enjoyed his hobby of growing unusual and large vegetables and won honors at the Appalachian Fair.

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Remembering Fred Kasten

Fred H. Kasten, Ph.D., was deeply involved with the Biological Stain Commission (BSC) for many years and he remained active until shortly before his death. He served as BSC President from 1985 to 1990, having been Vice President the four preceding years. The collection of narratives here are reflections on Dr. Kasten’s contributions.

Janet C. Dapson, 2014

An interest in Schiff reagents

I was first introduced to the work of Dr. Kasten when I read his chapter in Introduction to Quantitative Cytochemistry II, edited by G. L. Wied and G. F. Bahr and published in 1970. Dr. Kasten’s contribution was entitled “The Potential of Quantitative Cytochemistry in Tumor and Virus Research.” At the time of this contribution, Fred was working with the Department of Ultrastructural Cytochemistry at the Pasadena Foundation for Medical Research. This book chapter summarized the areas of science that inspired Fred’s scientific curiosity and continued throughout his career. At the time this book chapter was published, Fred already was the author of fifteen papers in major journals including Nature, Histochemie, Acta Histochemistry, J. Cell Biology, J. National Cancer Institute, and J. Histochemistry and Cytochemistry. Two of these papers remain as seminal papers for anyone interested in Schiff reagents and their use in histochemistry. These two papers together are the definitive study of dyes that can be used to form Schiff reagents and the protocols for preparing these reagents. Fred also published a third paper directed specifically toward the formation of fluorescent Schiff type reagents. It should be noted the first of the Schiff reagent papers appeared in 1959 (Schiff-type reagents in cytochemistry. Theoretical and practical considerations. Histochemie 1: 466–509, 1959).

Fred continued his interest in Schiff type reagents throughout his career and he also contributed to the quantitative use of these reagents. Fred became well known as a scientific historian, beginning with Robert Feulgen, who first applied a Schiff reagent in histochemistry. A number of Fred’s publications document the work of Feulgen, and many other contributions of Feulgen and his contemporaries to our current understanding of histochemistry and cytochemistry. In later years, Fred also developed a strong interest in the work of Ehrlich and some of this work also has been published. Fred was a firm believer in understanding the history of scientific knowledge as a foundation for future investigations.

Fred will be remembered for his many scientific contributions, his sharp wit, and his love of his garden, which occupied his time during his retirement.

Alton D. Floyd, 2014

Encouragement to develop a new stain

I first met Fred Kasten in 1983 at the Annual Meeting of the Biological Stain Commission, shortly after I had joined the organization. As was his enduring custom, he sought me out and welcomed me as a newcomer. Over the intervening years, we always managed to have lengthy and pleasant conversations. As a histochemist, I had known of Fred’s work through the scientific literature and was well aware of his seminal work on Schiff reagents (see Bibliography from 1958 through 1964). Thanks to those references, and especially to our personal conversations at BSC meetings, I was able to solve a problem for the demonstration of Helicobacter pylori.

In the late 1980’s, there was heightened interest in gastric and duodenal ulcers, stomach cancer and their relationship to the bacterium, Helicobacter pylori. Giemsa-type stains had been used to demonstrate the organism, but afforded rather poor contrast because Helicobacter lies embedded in mucus. Silver stains were suitable when they worked, but they were capricious, time-consuming and expensive. For many labs, the method of choice was to stain mucus yellow with Alcian yellow, then reveal the bacteria with toluidine blue. Blue against yellow was much easier to read than blue against purple or purple against pink. Unfortunately, just when the technique gained popularity, Alcian yellow became unavailable. Even the starting components for its synthesis were obsolete. Because mucus is readily stained with the periodic acid-Schiff procedure, I decided to try to make a yellow Schiff reagent. Fred graciously took me through a variety of options and encouraged me to proceed. The trick was not just to make a yellow Schiff, but to make it look just like Alcian yellow, a very clear, pure yellow color without a hint of green or brown.
I perfected a yellow Schiff stain that had good shelf life, but despaired that I could not make the solution colorless. Again, Fred helped out by explaining why and when leuco forms are created. During synthesis of a Schiff reagent, if the sulfuric acid attaches to the dye in a way that alters the chromophore, color is lost to create the leuco form. Attachment sites are not always within the chromophore, however, in which case color is preserved and the leuco form cannot be made. I was happy with that explanation and went to market with a viable product. Fred’s interest in the project and his helpfulness were and are deeply appreciated. I am certain that everyone in the Biological Stain Commission benefitted from the breadth of accomplishment of this amazing man.

Richard W. Dapson, 2014

**Collaborating with Taiwanese scientists**

While constructing Dr. Kasten’s bibliography, Richard Horobin came across a paper published in 2013 showing Dr. Kasten as co-author with a Taiwanese group, which demonstrates that Fred was involved scientifically until his final illness. Dr. Horobin contacted the corresponding author to invite him to contribute a personal account of his association with Dr. Kasten. Professor Chang kindly obliged and his response is paraphrased here.

“I had corresponded with Dr. Kasten in 2009 concerning the use of SG cells (human Smulow-Glickman cells), an oral keratinocyte cell line he had established. Although we never met, I felt that he was a very kind and enthusiastic person through the e-mails. I had written several e-mails to him before submitting the manuscript, but he never replied to me, probably, I now realize, because of his illness. I promised him that he would be one of the co-authors in publications related to SG cells. We had very good results with glycomic analysis of SG cells and we published the manuscript in CCA, 2013. I appreciated his contribution very much.”

Chuan-Fa Chang, Associate Professor
Secretary General of Taiwan Proteomics Society
Department of Medical Laboratory Science and Biotechnology, College of Medicine
National Cheng Kung University,
Tainan 70101, Taiwan

**Dr. Frederick H. Kasten: a scholarly legacy**

Books authored and edited, book chapters, review articles and research papers are listed, plus biographical sketches of contributors to fields in which Dr. Kasten worked and essays about the historical context within such people worked. Abstracts, book reviews and letters are not listed.

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