

## Obituary

### Dr. Takeru Higuchi (1918–1987)

Dr. Takeru Higuchi, an international leader in pharmaceutical research and development, died Tuesday, March 24, 1987, at a Columbia, Missouri hospital. He had undergone cardiovascular bypass surgery there after becoming ill while attending a professional conference at Lake Ozark, Missouri, the previous week.

Dr. Higuchi, University Regents Distinguished Professor of Pharmaceutical Chemistry and Chemistry at the University of Kansas, was known for the first systematic application of physical chemical principles to drug design, delivery, and analysis. His scientific accomplishments earned him most of the major awards in his field and the informal title of "father of physical pharmacy."

Dr. Higuchi is also credited with extraordinary business savvy that forged lucrative partnerships between university biomedical researchers and industry over the past 20 years. Under his guidance, the University of Kansas became an internationally acknowledged leader in pharmaceutical research and development. Research in his laboratories resulted in drugs that treat specific ailments while minimizing harmful side-effects, including products to treat glaucoma, seizures, and high blood pressure. A contraceptive he developed is marketed widely in Europe.

Dr. Higuchi trained more than 200 doctoral and post-doctoral pharmaceutical researchers, wrote more than 300 pharmaceutical chemistry publications, and held more than 50 patents.

He also was known on campus for his personal generosity. Between 1968 and 1985, he and his wife, Aya, established eight funds with the Kansas University Endowment Association to support research, graduate education, and economic development. Among his gifts were the Higuchi/Endowment Research Achievement Awards, which annually provide \$10,000 grants to support the work of outstanding researchers in medicine, basic sciences, humanities and social sciences, or projects of special importance to Kansas. In 1985, the Higuchi's made a substantial donation to establish the Higuchi distinguished professorship in bioanalysis.

"Tak Higuchi was one of the great figures in the history of the University of Kansas," said KU Chancellor Gene A. Budig. "As a teacher, scholar, entrepreneur and benefactor he leaves an indelible mark on KU."

"He embodied the finest academic traditions, the highest standards of personal integrity and professional achievement, and the deepest commitment to KU and the Lawrence community."

"Few individuals are blessed with such a wealth of talent and of the finest humane qualities. The university mourns the loss of a true friend. Mrs. Higuchi and the family have our deepest sympathy."

Dr. Higuchi was born January 1, 1918, at Los Altos, California. He received an A.B. degree with honors in chem-

istry from the University of California at Berkeley in 1939, and completed his Ph.D. in physical and organic chemistry at the University of Wisconsin in 1943.

He spent three years as a research chemist with the University of Akron (Ohio) Office of Rubber Reserve, then joined the University of Wisconsin pharmacy faculty in 1947. He taught for 20 years at Wisconsin, where he became the Edward Kremers professor of pharmaceutical chemistry.

Higuchi joined the University of Kansas faculty in 1967 as regents distinguished professor of pharmacy and chemistry and chairman of the Department of Pharmaceutical Chemistry.

Soon after coming to the University of Kansas, he persuaded the ALZA Corp. to establish a pharmaceutical research institute at the university. Under Higuchi's guidance, the venture later became the independent INTERx Research Corp. and eventually merged with Merck & Co., Inc. Now 20 years old, it is acknowledged as a model university-industry high-technology partnership.

Prompted in part by the success of INTERx, the 1983 Kansas Legislature created "centers of excellence" supported by private matching funds at three state universities.

Dr. Higuchi also guided the development of the university Center for Bioanalytical Research to develop advanced technology and methods for measuring minute amounts of chemical compounds in living systems. He directed the center during 1984–85, and, at the same time, orchestrated the creation and transfer of a new private company, Oread Laboratories, to the Kansas University Endowment Association. Oread Laboratories markets center discoveries; the profits support future research.

For his business genius and his service as a member of the Kansas Advanced Technology Commission, Kansas Business News magazine named Mr. Higuchi in 1985 its executive of the year.

That honor joined more than three dozen citations for professional achievement in pharmacy and chemistry. He won the Kolthoff Gold Medal in analytical chemistry from the American Chemical Society, the Volwiler Award of the American Association of Colleges of Pharmacy, and the Remington Honor Medal of the American Pharmaceutical Association. He held most of the distinguished lectureships in his field and was elected to fellowship in many professional societies in the United States and abroad. In 1985 he was named an Honorary Fellow of the Pharmaceutical Society of Great Britain.

The University of Kansas recognized him in 1982 with its Distinguished Service Citation for lifetime contributions to society, and in 1984 the biomedical research complex on the west campus of the University of Kansas was named in his honor.

Throughout his career, Dr. Higuchi has fostered international scientific exchange. He has encouraged interna-

tional meetings and was currently taking a major role in the organization of the Japanese–United States Congress of Pharmaceutical Sciences to be held December 2–7, 1987 in Honolulu, Hawaii. He has constantly had scientists from throughout the world, especially from Japan, in his laboratories. Tak was also instrumental in establishing a joint Ph.D. program between the University of Kansas and the Victorian College of Pharmacy in Melbourne, Australia.

Dr. Higuchi took a leading role in establishing professional societies for pharmaceutical science in the United States. He was the first president of the Academy of Pharmaceutical Sciences in the American Pharmaceutical Asso-

ciation. Recently, he provided counsel and financial support for the organization of the American Association of Pharmaceutical Scientists.

Dr. Higuchi is survived by his wife and four children, Dr. Chie Craig, a Shorewood, Wisconsin audiologist; Dr. Kenji Higuchi, an oral surgeon, Spokane, Wash.; Dr. Junji Higuchi, a San Antonio, Texas physician; and Peter Higuchi, a Kansas City, Missouri attorney.

The Higuchi Foundation Memorial Fund has been established by the family at the Kansas University Endowment Association to receive memorials in his honor.