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In Memoriam

James Louis Lehr, MD
1940-1989

DR JAMES LOUIS LEHR died on February 4, 1989, in the arms of his family. He is survived by his mother, father, former wife, and two children. He was an internationally known and singularly talented scientist, a physician superbly skilled in the applications of computers to radiologic health care, and a highly competent administrator. His ready sense of humor was always close to the surface, and he was loved and respected very much by those who knew him.

Dr Lehr was born on March 23, 1940, in Kirksville, Missouri. A brilliant student and superb musician, Jim attended Amherst College, where he was elected to Phi Beta Kappa. In 1962 he was graduated magna cum laude and enrolled as a graduate student in physics at the University of Pennsylvania. However, Jim was a polished clarinetist and a talented director, and could not give up the ideal of becoming a professional musician. At this time he married Sharon Ruth

Hill, a long-time friend from Kirksville. Undecided about his future career, he chose to teach for a year at Lawrence College in Groton, where he could make up his mind while Ruth attended Holyoke. Jim's father, an osteopathic physician, was unenthusiastic about the idea of his pursuing music as a career, and finally persuaded him that medicine was a more appropriate choice. He was accepted to the University of Missouri Medical School class of 1968.

While Jim was a medical student, his interest in physics and mathematics led him to participate in research of computer-aided diagnosis and automated information systems in the Department of Radiology at Missouri. As a third-year student, he was coauthor of proceedings about a radiology information management system for an international conference in Stockholm, Sweden. As a fourth-year student, he coauthored, with the head of the Department of Statistics at Missouri, proceedings on a new modified Bayes theorem. He spent his internship at the University of Chicago, and in 1969 returned to Missouri to become a Research Trainee and resident in radiology.

Dr Lehr's progress was meteoric. On the year of his return, he became project director of the Radiology Regional Medical Program. In 1971 he was appointed instructor and head of the Section of Computer Research. In 1972 he was appointed Assistant Professor; by 1974 he was a tenured Associate Professor and associate chairman of the Department of Radiology. In 1975 he received a joint appointment as Associate Professor of Bioengineering. This rapid rise was occasioned by his research brilliance and productivity, his clinical dedication, and his success in being willing to undertake tough administrative tasks aimed at introducing new technologies into the management of hospital radiology departments.

Two of Dr Lehr's papers reflect his special creative skills: the first, "Computer Algorithms for the Detection of Brain Scintigram Abnormalities,"¹ and the second, "Direct Measurement of the Effect of Film Miniaturization on Diagnostic Accuracy."² The former is one of the earliest papers (if not the first) on automated detection of disease from images. The latter modeled the basic methodology for measuring intelligence content of images, and experimentally showed that one method of miniaturizing

radiographic images did not diminish the accuracy of human interpretation. These and other excellent papers placed Dr Lehr in an ascendant position in the international ranks of radiology, and in 1976 earned him the appointment as chairman of the ACR Committee on Computer Applications.

In 1976, Dr Lehr left Missouri to become Associate Professor of Radiology and associate chairman of the department at the University of Chicago. There, he continued his leadership role in medical computer applications and participation in creative research. In 1982, through the creation of an ad hoc committee, he initiated the action which resulted in the formation of the ACR-NEMA Joint Committee on Digital Imaging and Communication Standards. In 1984, he became the interim chairman of the Department of Radiology at the University of Chicago. Dr Lehr was also responsible for converting the Missouri Automated Radiology System, for which he was substantially responsible at Missouri, into a new system regarded as a model of current technology. At the time of his death, Dr Lehr was a full professor at the University of Chicago and a member of the editorial board of the *Journal of Digital Imaging*.

Jim had a quiet but sparkling personality and was a fine decision-maker. It was characteristic of him to sit through a confusing and complex technical discussion, and then, often with wry humor, quietly discuss the problem in a way that cut through all of the verbiage to reach a concise, often detailed, solution. He was loved very much by those who knew him. His continued dedication to music was expressed in his membership in a quartet at the University of Chicago. He was also a consummate chef. Jim was deeply attached to his family. His son, Jonathan, is now a student at Amherst.

Dr Lehr's scientific and organizational skills have been a major asset to radiology. He was very much needed by his profession, and he will be missed.

REFERENCES

1. Lehr, JL, et al: Computer algorithms for the detection of brain scintigram abnormalities. *Radiology* 98:269-276, 1970
2. Lehr, JL, et al: Direct measurement of the effect of film miniaturization on diagnostic accuracy. *Radiology* 118: 257-263, 1975

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