Leslie Alexander Geddes 1921 - 2009

We are saddened to announce the death of Leslie Geddes, Showalter Distinguished Professor Emeritus of Biomedical Engineering and one of the pioneers of our field. He died on October 25, 2009. Professor Geddes was born on May 24, 1921, in Port Gordon, Scotland. He began his university studies in Canada several years after moving there with his family. He was awarded a bachelor's degree in electrical engineering in 1945 and a master's degree in electrical engineering in 1953 from McGill University in Montreal. Six years later Dr. Geddes earned a doctorate in physiology from the Baylor University College of Medicine, where he remained on the faculty until 1974 when he moved to Purdue University in Indiana. During his time at the Baylor University College of Medicine he rose through the faculty ranks from Assistant Professor to Full Professor of Physiology. He also was Director of the Division of Biomedical Engineering at Baylor, one of the early programs in this discipline.

Dr. Geddes is remembered for his many contributions to the field of biomedical engineering. He is credited with 30 patents of biomedical devices in the cardiovascular area ranging from a blood pressure cuff for use on premature infants to rate-responsive pacemakers with many devices and concepts in between. During his time at Baylor, he developed some of the physiological monitoring systems used by NASA for the early astronauts. His careful study of the physiological concepts associated with biomedical devices led to a better understanding of how to optimize the application of these devices in the clinic such as determining the best body sites for external pacing and defibrillation of the heart. With his colleague, Lee Baker, at Baylor some of the earliest studies of the physiological application of electrical impedance measurements were made.

Les Geddes was also known as a prolific author. In addition to many scientific papers, he was well known for his books on *Electrodes and the Measurement of Bioelectric Events*, Wiley, 1972; *The Direct and Indirect Measurement of Blood Pressure*, Year Book, 1970; *Cardiovascular Devices and their Applications*, Wiley, 1984; and with Lee Baker, *Principles of Applied Biomedical Instrumentation*, Wiley, 1989 (Third Edition). I remember this book well as an earlier edition of it was the first text I used in teaching many years ago. A very special aspect of Dr. Geddes' writing was his love of the history of medical devices. Several of the previously listed books had sections describing the early devices used for physiological measurement, and we were especially pleased to have had historical columns in this magazine by Professor Geddes.

Many national and international awards were presented to Dr. Geddes over his career. He received the award for leadership in biomedical engineering from the Alliance for Engineering in Medicine and Biology (1985); was elected to the National Academy of Engineering (1985); the IEEE Engineering in Medicine and Biology Society Career Achievement Award (1986); the Association for the Advancement of Medical Instrumentation Laufman-Greatbatch Award(1987); the Outstanding Educator Award of the American Society for Engineering Education (1989); the IEEE Edison Medal in 1994 for fundamental contributions to applied biomedical instrumentation and the understanding of the electrical properties of the cardiovascular system, and the 2006 National Medal of Technology for his contributions to electrode design and tissue restoration. He was awarded a D.Sc. *honoris causa* by his Alma Mater, McGill University in 1971.

Although I did not know him very well, I remember my first opportunity to meet Professor Geddes. He was a site visitor for a program project grant from Case Western Reserve University where I as a new Assistant Professor had a small role. What a thrill it was to meet this great man whom I had known through the scientific literature. We met on similar occasions many times through my career, and my respect was never diminished even though very difficult questions were frequently asked.

Leslie Geddes, contributions to biomedical engineering will be remembered for many years to come. He will be greatly missed.

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