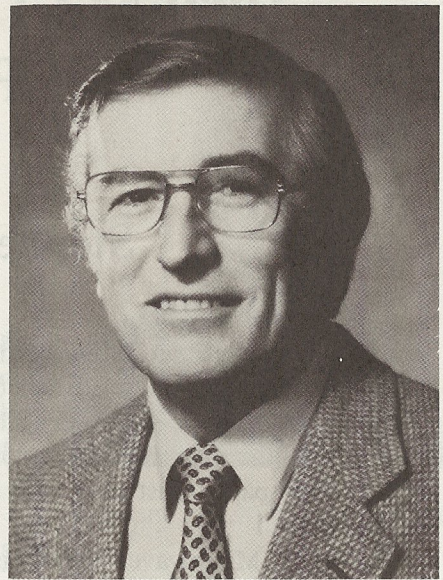


1989 Microwave Applications Award

Kenneth L. Carr



“For the application of microwave technology to the detection and treatment of cancer.”

The Microwave Applications Award is presented periodically for an outstanding application of microwave theory and techniques. The eligibility requirements are the creation of a new device, component or technique, novel use of components, or both. This year's recipient is Mr. Kenneth L. Carr.

Mr. Carr has been involved in the application of microwave technology to the detection and treatment of cancer for many years. In 1979, under NASA support, he delivered a microwave radiometer to the staff of the Eastern Virginia Medical School at Norfolk, VA. A second system was installed in Japan in 1984 at the Nippon Medical School Hospital. Results from these and later systems have shown that microwave thermography is effective in monitoring the course of treatment, and that the application of heat, regardless of the technique or frequency, can be used to enhance detection. Other medical applications have developed from his work. One is a microwave sterilizing device for use in kidney dialysis. This patented device, now under test, is intended to reduce the risk of contamination and infection in dialysis patients.

Mr. Carr (S'53, A'54, M'59, SM'81, F'86) was born in Cambridge, Massachusetts on 15 February 1932. He received his B.S. in Electrical Engineering from Tufts University in 1953.

During the past thirty-five years, he has worked at Philco, Sylvania, and Airtron.

In 1958 Mr. Carr co-founded Ferrotec, Inc., serving initially as Technical Director and later as President. Following the acquisition of Ferrotec in 1970 by M/A-COM, INC., Mr. Carr became Senior Vice President and Technical Director.

In January 1985, while maintaining his position at M/A-COM, INC., he co-founded Microwave Medical Systems, Inc., serving as its Chairman and Technical Director.

Mr. Carr is currently a Trustee of Wentworth Institute of Technology, Boston, Massachusetts; a Director of the East Coast Aeronautical Technical School, Bedford, Massachusetts; a Member of the staff of the Eastern Virginia Medical School, Norfolk, Virginia; and a member of the Engineering Advisory Council for Southeastern Massachusetts University, North Dartmouth, Massachusetts. He is also serving as Technical Advisor to both the University of Pennsylvania and the Medical Physics Department at Tufts New England Medical Center. In conjunction with his duties at the University of Pennsylvania, Mr. Carr is now serving as Chairman of their Bioengineering Advisory Council.

He also maintains membership in the AAPM, NAHG, BEMS, IMPI, RRS and the Association of Old Crows. In December 1985, Mr. Carr was made a FELLOW of the IEEE. He was also appointed the 1985-1986 MTT Distinguished Microwave Lecturer. Most recently he has accepted a position on the newly formed Health Care Engineering Policy Committee of the IEEE.

Mr. Carr presently holds 14 patents with 3 patents pending, and is widely published in peer related journals. He was the recipient of the 1978 IR-100 Award for the TERRASCAN® Underground Utility Locator. Much of his recent work has been in the development and application of microwave techniques to medicine and, in particular, to the detection and treatment of cancer for which he received NASA's Certificate of Recognition in 1980 and again in 1983 for his technical innovations and scientific contributions.