

## Memorial Hall of Fame

Established in 1981, the Memorial Hall of Fame serves as a posthumous tribute to a creative and devoted physician, research scientist, or other individual who has been an active member of the AIUM and contributed to the field of ultrasound in medicine.



### **Peter N. T. Wells, PhD, CBE, FMedSci, FREng, FIET, FInstP, FLSW, FRS, FAIUM**

Dr Wells was a medical physicist who played a major role in the application of ultrasound technology in medicine. In 1958, he obtained his BSc in electrical engineering and received his PhD from the University of Bristol in 1966. He became the professor of medical physics at the Welsh National School of Medicine at Cardiff University in 1972, and a decade later he became the chief physicist at the United Bristol Healthcare National Health Service Trust.

He invented instruments for ultrasonic surgery, tumor detection, ultrasonic power measurement, a 2-dimensional articulated-arm general-purpose ultrasonic scanner, and a water immersion ultrasonic breast scanner. He explored ultrasonic pulsed Doppler range gating and discovered the ultrasonic Doppler signal characteristics of malignant tumor neovascularization. His other notable work included the design of dynamic focusing with annular array transducers, acoustic speckle and quantification of the blood flow volume rate, and the measurement of Doppler blood flow signals. Dr Wells investigated ultrasound bioeffects and also developed ultrasound safety guidelines. In addition, Dr Wells conducted research on ultrasound diagnosis and made significant contributions to the advancement of light transmission, electrical impedance, nuclear magnetic resonance imaging, and interventional telepresence. He was highly instrumental in developing ultrasonic Doppler and phase-insensitive tomography.

Dr Wells was awarded handsomely for his research. Some of his awards included the Sir Frank Whillte Medal, awarded annually by the Royal Academy of Engineering to an engineer for outstanding and sustained achievement that contributed to the well-being of the nation. He received the Royal Medal from the Royal Society for pioneering the application of the physical and engineering sciences to the development of ultrasound as a diagnostic and surgical tool, which has revolutionized clinical practice. He also earned the Gabor Medal, which is awarded biannually by the Institute of Physics for distinguished contributions to the application of physics in an industrial, commercial, or business context. Dr Wells was also appointed Commander of the Order of the British Empire in the New Year Honours list for his services to health care science. His work has gotten the attention of several prestigious entities: the Royal Academy of Engineering, Royal Society, and AIUM have all honored him as a fellow.

He volunteered his time in numerous capacities. Dr Wells was the president of the Institute of Physics and Engineering in Medicine, British Medical Ultrasound Society, and British Institute of Radiology. He lent his expertise to the Science Council by chairing the Science in Health Group and was an active participant in the Focus on Biomedical Engineering lecture series hosted by the Royal Academy of Engineering. He held several roles with the World Federation for Ultrasound in Medicine and Biology.

Not only was he the editor-in-chief of the *Ultrasound in Medicine and Biology* journal for more than a decade, but he was also a member of several of their committees. While serving as the chair of the History and Archives Committee, he established an archive of historical articles of ultrasound development.

Dr Wells had published hundreds of articles and more than a dozen textbooks. His work has been used extensively inside and outside the classroom, by professors and researchers alike. He was world renowned for his research, which gave him the opportunity to give lectures in more than a dozen countries.

Dr Wells had a profound desire to remain in the ultrasound community, so much so that, although he officially retired in 2011, he couldn't stay away from scientific research. He accepted the position of distinguished research professor at Cardiff University. In this role, he made additional critical advancements for the medical community by developing ultrasonic computed tomographic scanning to use in breast imaging. Dr Wells was passionate about his work, and he wanted to make a difference.

His passing in April 2017 has left many in mourning. He is survived by his wife Valerie Wells. It is irrefutable that Dr Wells was a giant in the medical ultrasound community. His legacy will remain for years to come.

