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.

David O. Cosgrove, MA, MSc, FRCR, FRCP, FAIUM

Dr Cosgrove was a world-renowned teacher, colleague, and friend. He believed in the power of knowledge, and he made it his life's mission to educate.

In 1961, he received a BA in physiology from Oxford University, and 2 years later received a BM, BCh (bachelor of medicine, bachelor of surgery) from St George's Hospital Medical School in Tooting, London. He went on to get an MSc in nuclear medicine from the University of London and an MA from Oxford University. David worked in hospitals throughout London and briefly returned home to work in the Jomo Kenyatta Hospital in Nairobi, Kenya. After a short while, he determined that he could have a greater impact on the world by returning to London, so he did.

Dr Cosgrove was involved with advancing the clinical role of "radiologic" (ie, nonobstetric) ultrasound by producing several first reports of clinically significant ultrasound findings. Some of his reports focused on the features of biliary tree dilatation, pneumobilia, hemangiomas, abdominal tumors of various types, and the use of Doppler imaging in breast diagnosis.

Dr Cosgrove furthered understanding of the basic mechanisms of the ultrasound image-forming process and of Doppler imaging. He did this by authoring a series of reports on the mechanisms of ultrasound appearances and by collaborating with the Department of Physics at the Institute of Cancer Research. The result of the collaboration provided insight into the extreme complexity of the interactions between ultrasound and tissue that may yield practical applications. His Doppler research focused on the clinical evaluation and introduction of new techniques such as color and power Doppler imaging.

Applications of microbubble echo-enhancing (contrast) agents for ultrasound was one of his major focuses of study. He helped establish a research team to investigate this unique opportunity from both fundamental and clinical points of view. The fundamental studies included nonlinear imaging and quantification of the change in echogenicity with the microbubble concentration, leading to functional indices and imaging. His clinical studies included phase III trials with a range of microbubble agents (especially in the liver and in tumors) and functional studies (especially in diffuse and focal liver diseases and in tumors). He was also very instrumental in the preparation and publication of a series of guidelines for the clinical uses of contrast agents.

Although he officially retired in 2004, he still remained highly active in the medical community. Dr Cosgrove became an emeritus professor at Imperial College in addition to becoming a senior research investigator at King's College Hospital. Dr Cosgrove was also a consultant radiologist at Hammersmith

Hospital and a consultant in nuclear medicine and ultrasound at the Royal Marsden Hospital. He was so valued for his expertise that companies invited him to participate in various consultant capacities. Some of those companies included the Dutch Cancer Society, Royal Society, Toshiba, Bracco, and numerous other organizations.

His understanding of physics and engineering of ultrasound was undeniable. He was critical in advising on the development of one of the early commercial phased array abdominal ultrasound scanners; he reviewed the first high-resolution computer-controlled ultrasound system; and he was instrumental in the development of new transducers and specialized color Doppler software for the breast. He participated as an advisory board member for SuperSonic Imagine and he led their worldwide multicenter breast clinical study with 15 distinguished institutions.

Dr Cosgrove was so dedicated to the field of ultrasound that he cofounded and sat on the board of the International Contrast Ultrasound Society. His expertise granted him the opportunity to speak at conferences all around the world, and his desire to share his knowledge with the world prompted him to publish more than 200 peer-reviewed articles and about 30 textbooks/book chapters. He had also served as a reviewer for several medical journals.

Dr Cosgrove helped the AIUM advance the safe and effective use of ultrasound in medicine through various collaborations. As a member of the AIUM Quantitative Imaging Biomarkers Alliance Volume Flow Committee, he helped introduce 3-dimenisonal volume flow as an ultrasound biomarker application. He was also one of the AIUM Contrast Ultrasound Team members. This group of individuals worked hard to set the stage for the US Food and Drug Administration's review and ultimate approval of contrast agent use in the United Sates. Dr Cosgrove was instrumental in coauthoring the *AIUM Recommendations for Contrast-Enhanced Liver Ultrasound Imaging Clinical Trials* special report, and he gave several presentations at our conventions.

Dr Cosgrove, a pioneer in the clinical applications of ultrasound technologies, died on May 16, 2017, at St Raphael's Hospice, North Cheam, London, after a short battle with cancer. Dr Cosgrove is survived by his partner Zhen "Jason" Li. The AIUM and the ultrasound world grieve with his family on the passing of this exceptional scientist.