

Obituary

Louis Challis, acoustics expert with an ear for bad vibrations

Louis Challis AM spent his life making unwanted noise and vibration inaudible and making good noise crystal-clear. Challis had a reputation as Australia's leading acoustical engineer. He provided outstanding acoustical designs and advice for some of Australia's most important and prestigious buildings. Foremost among these was his eight-year involvement in the architectural acoustic design and supervision of Parliament House in Canberra. Other landmark public buildings and infrastructure projects include the Parliament Houses of New South Wales, Queensland and Papua New Guinea; the Olympics 2000 project at Homebush Bay, and Sydney Harbour Tunnel.

In the 1970s, Challis designed and developed an audio-tactile push-button signalling system, so pedestrians who are sight- and/or hearing-impaired can easily determine whether the signal is displaying "Walk" or "Don't Walk" simply by touching the button. Although the New South Wales Department of Main Roads offered Challis the right to patent his invention, he declined to do so on the basis that he believed the innovation should be made as widely available as possible at the lowest possible cost. The system he designed is used not only in all Australian cities but also around the world.

His professional career pervaded his life. When he built a new family home in the 1970s in Dover Heights, in Sydney's east, he selected a site on a hillside to enable him to build a full-size acoustic laboratory including a reverberation chamber the size of a squash court. When working on Parliament House in Canberra, Challis and his team tested for three months the acoustical properties of prospective materials using a 1:10 scale model of the House of Representatives chamber in a space big enough to do so: the living room of his home.



Born in 1936, Challis was the son of Rubin Chalezky and Celia Mruz, both of whom migrated to Australia from eastern Europe in the 1920s. After matriculating from Canterbury Boys High in 1953, Challis spent a year in Israel and then completed a Bachelor of Electrical Engineering at the University of Sydney, later followed by a Master of Architectural Science from the same university. His first job on graduation was in underwater acoustics for the Royal Australian Navy. After working there and OTC, now part of Telstra, he started Louis A. Challis & Associates in 1966. His wife, Anna, left her career as a geophysicist in 1973 to work with Challis in his practice. Over the next 40 years, they worked together building a successful practice in Woollahra and then Kings Cross.

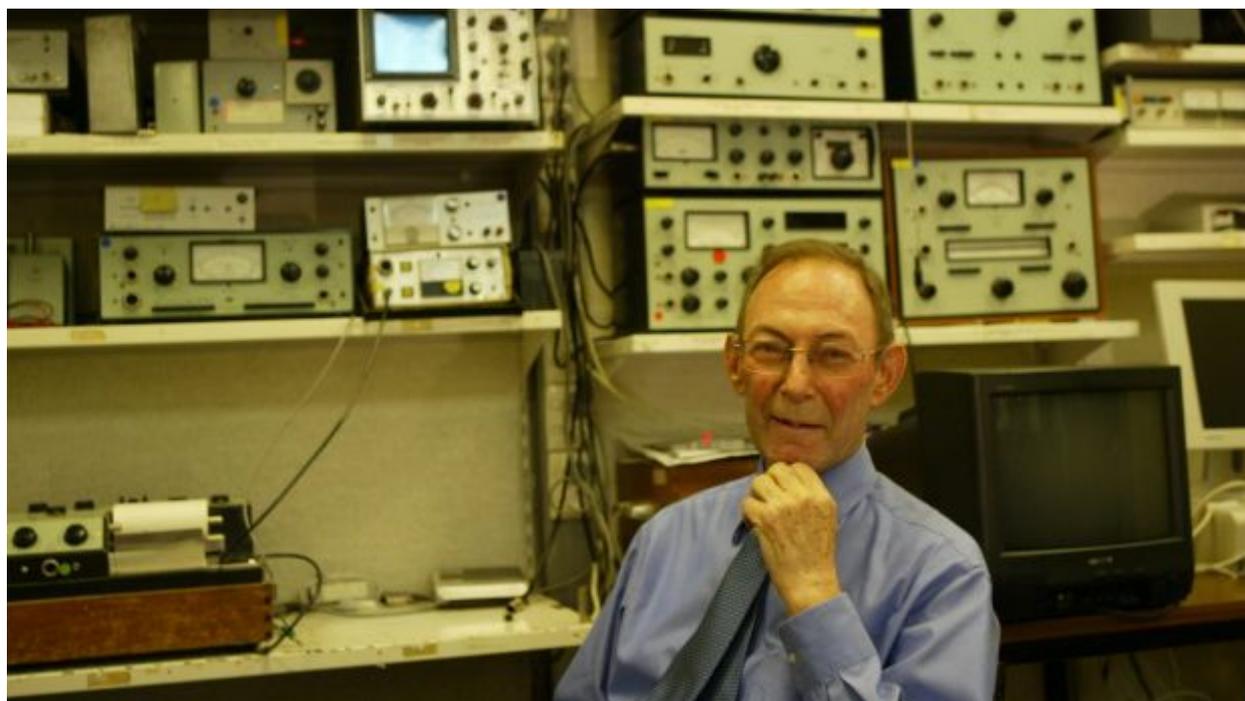
Challis served in the Royal Australian Air Force Reserve as a specialist adviser in acoustics, where

he attained the rank of Wing Commander. He also acted as specialist adviser on forensic assessment of tapes for ASIO, the New South Wales Independent Commission Against Corruption and the New South Wales Crime Commission. He generously donated his time serving on committees to develop acoustical standards, many of which are still in use today. He also wrote hundreds of reviews of hi-fi equipment for the leading electronic magazines, *Electronics Today International* and *Electronics Australia* – his approach was unusual in that it combined objective laboratory testing with subjective experience.

As a testament to Challis' pioneering work, service and contributions, he received numerous awards. His first was in 1976, recognising his work on New South Wales Parliament House. He was elected as a Distinguished Corresponding Member of the Institute of Noise Control Engineering of the United States in 1993. He was made an Honorary Fellow of Engineers Australia in 1998. He was selected by the Australian Academy of Technological Sciences and Engineering to be a Fellow in 2000. He was honoured with the Centenary Medal in 2001; Membership of the Order of Australia in 2005, and a Doctor of Engineering (Honoris Causa) from the University of Sydney in 2015. Over the course of his career, he received an unprecedented 12 Engineering Excellence Awards from Engineers Australia and Consult Australia.

Challis passed away following several years of dialysis. Despite his failing health, he retained an incredible zest for life, enjoying the arts, friends and family. He is survived by his wife, Anna, their two sons and five grandchildren.

Darren Challis



Louis Challis seen in 2005 in the acoustics laboratory he had built at his Sydney home. Photo: Brendan Esposito