

Biographical Sketch



Dr. Malcolm Swinbanks has worked for 23 years as an engineering consultant through his UK Company, MAS Research Ltd. (Mathematical & Scientific Research) and, more recently, as Chief Scientist to the U.S. Company Vibration & Sound Solutions Ltd. of Alexandria, Virginia. Encouraged to study applied mathematics, he gained 1st class honors at Trinity College, Cambridge, in 1970, before taking his Ph.D. under Professor Sir James Lighthill, one of the foremost applied mathematicians of the 20th century. He addressed theoretically the control of distributed parameter systems, focusing on fluid mechanics and wave propagation, and in 1972 filed his first patent on active control of sound propagation in ducts.

To broaden his skills in practical engineering, he worked as Marine Consultant Engineer for YARD Ltd (Yarrows Admiralty Research Department). Yarrows was a Scottish shipbuilder whose founder, Sir Alfred Yarrow, gave the first graphic demonstration of vibration cancellation in a torpedo boat, in 1892.

While he was addressing vibration isolation in naval ships, the National Research Development Corporation took up his patent, funding development of the first industrial active gas turbine exhaust silencer at Duxford, near Cambridge. Dr. Swinbanks returned to Cambridge University to lead this project successfully from 1979-1981, as Consultant to Topexpress Ltd.

He established MAS Research Ltd. to provide consultancy to the UK marine and aerospace industries. Rolls-Royce Aero Engines invited him to participate in their program for Active Control of Compressor Surge and Stall, resulting in the first successful demonstrations on a Viper jet engine in 1991. He worked for Douglas Aircraft and GEC Avionics on active silencing for propeller noise in aircraft cabins, and from 1990 collaborated with GEC Marconi Research on Project M, an offshore DARPA research program in active vibration control. In 1995, the U.S. Congress requested that this project transfer to the United States. Vibration & Sound Solutions Limited (VSSL) was formed to provide the focus, and the work was successfully transitioned, leading to a one-quarterscale demonstration of a large-scale machinery installation in 2000. Subsequently, the Office of Naval Research asked VSSL to investigate potential application to mitigating shock for occupants of high-speed vessels. Present R&D is focused on bringing active and passive techniques to fruition in this context.

Dr. Swinbanks is inventor of 15 patents, with three pending.