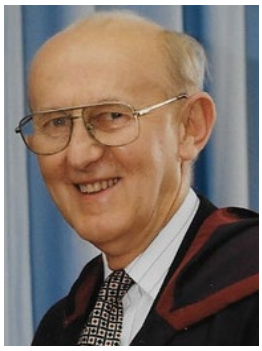

Professor Stanley James Stevens

(11th Apr. 1933 – 14th Feb. 2019)

The news that Stan Stevens had passed away last month came as a great shock to Stan's many friends and colleagues. Stan was a constant source of inspiration and enthusiasm within the Loughborough Engineering Faculty throughout his 33 years' service at the University. He was considered by many to represent the perfect role model for a senior Professor. He was hard-working, totally committed, and extremely successful in both teaching and research spheres. His communication skills were first class (and included an ever-present sense of humour), whether dealing with U/G students, research students/staff, technicians, administrators, fellow academics, or external research sponsors.

Stan was born in Coventry (experiencing the WW2 bombing campaign) just a few streets away from where Frank Whittle was born – a remarkable coincidence, given that Whittle's invention of the gas-turbine would dominate Stan's working life. His engineering career began in 1950 as an Aeronautical/Automotive Engineering apprentice at Armstrong-Siddeley Motors Ltd. in Coventry (later renamed Bristol-Siddeley Engines Ltd. and eventually part of Rolls-Royce). He remained there for 11 years during which he was awarded company sponsorship to study for a Diploma in Aeronautical Engineering at Cranfield (winning the best student prize). From 1958-1961 he worked as a Research Engineer and Project Engineer, becoming an assistant to the Technical Director and contributing to such projects as the liquid-fuelled rocket engine for the supersonic Blue Steel missile. At about this time Stan dabbled a little with part-time (evening) lecturing at Coventry Technical College; this may have prompted him to apply for a Lectureship at Loughborough College of Advanced Technology, a post he took up (in the Department of Transport Technology) in 1961.

The knowledge and experience Stan gained working in the aerospace industry soon influenced the Aero. Eng. degree course. Stan began teaching fundamental subjects (Thermodynamics/Aerodynamics) but his most important contribution was the development of Aerospace Propulsion and Gas-Turbine Design courses. He quickly earned a reputation amongst students as the lecturer most ready to provide help when asked. For these efforts Stan was promoted to Senior Lecturer in 1970. He assumed the post of Deputy HoD in 1985 and subsequently served as HoD from 1990 until his retirement in 1994. During his term of office Stan led the design and launch of 4-year MEng. Aero. Eng. and Auto. Eng. U/G courses and made a significant contribution to the development of the multi-department BAE Systems-sponsored Systems Engineering course, using contacts with BAES senior Engineering staff who were Dept. graduates. Stan's vision of a Dept. collaborating closely with Aeronautical and Automotive industries at both undergraduate and research levels made a large contribution to the University success in winning an award in the first competition for the Queen's Anniversary Prizes for Higher/Further Education in 1994. He was also a long-term and enthusiastic supporter of the Loughborough Branch of the Royal Aeronautical Society (formed in the mid 1960's by Dept. staff), becoming actively involved in planning the lecture programmes and providing much encouragement to students to attend these (he imposed a 3-line whip on students registered for his own lecture courses); he continued to attend Branch meetings whenever possible.

On the research side, Stan was surprised (typical of Stan he would say 'shocked') to see no research in direct support of industry when he joined the Dept. He decided to create (from scratch) an experimental aerodynamics activity at Loughborough focussed on challenges in the gas turbine industry. He began by enrolling as an external researcher at Nottingham University, studying flow in annular diffusers. This led to his first journal publication and the award of an M.Sc. in 1966, rapidly followed by Stan winning the first ever Research Council Grant awarded to the Dept. to continue this work, for which he was

awarded a Loughborough PhD in 1970. In 1972 he completed his 'learning curve' in academic research by spending a 4-month study leave at DFVLR (in Göttingen, Germany, in the Institute founded by Prof Ludwig Prandtl) working with Dr J. C. Rotta (one of the 'fathers' of turbulence modelling). His work on diffuser flow aerodynamics came to the attention of the National Gas Turbine Establishment and Rolls-Royce, who saw the relevance of Stan's work to problems they were experiencing with airflow supply to the RB211 combustion system. The University recognised the research progress Stan had made and promoted him to Reader in 1976. Stan began to acquire a steady stream of research grants/contracts; gradually facilities were extended and improved and research and technician staff increased. He was awarded the title of Professor of Aeronautical Propulsion in 1987. In 1991 his research group was approached by Rolls-Royce, who were beginning to focus and organise their University research programme into 'University Technology Centres' (UTCs) representing critical mass centres of excellence in key technology areas supported by long-term arrangements. Loughborough became the 3rd UTC to be launched, specialising in Combustion System Aerodynamics (the global UTC network has today increased to 30+). The best indication of the forward-looking nature of Stan's research strategy is that the Loughborough UTC has grown from a team of 3 academics/5 researchers in 1991 to 8 academics, 30+ researchers, 3 administrators and 5 technicians. Its specialised experimental test facilities (the 'Stan Stevens Unsteady Fluid Mechanics Lab') have recently been more than doubled in size via the creation of the National Centre for Combustion and Aerothermal Technology (NCCAT). Although the official NCCAT opening will only occur later this year, it is a source of great solace to Stan's close work colleagues that the NCCAT Director (Prof. Jon Carrotte – a PhD student of Stan's) was able to show Stan around the facilities in November 2018 and see the pride and pleasure he took at what can be fairly described as Stan's principal Loughborough University legacy.

Outside his professional life, Stan was also the epitome of a family man. His marriage to Rita (née Lloyd) in 1956 was followed by 50 years of a very happy and busy partnership, including - as Stan was never slow to mention - winning a Midland Ballroom Dancing Championships. They had two daughters – Carol and Kathryn – and greatly enjoyed the company of their 3 grandchildren. Stan and Rita engaged in many shared pastimes – walking, painting (Stan's friends will miss the meticulously drawn and painted water colours of steam trains sent out as Christmas cards), entertaining and playing tennis. Stan always had a fascination with steam railways, operating a large scale model railway in his back garden (a small store of small diameter plastic tubing was kept in the UTC lab for emergency repairs on its pneumatic brakes). He was always an avid sports fan, following athletics, golf, rugby, but particularly cricket and football (a Nottingham Forest and latterly also a Manchester Utd. season ticket holder together with a close friend from Rolls-Royce). He played golf as a member of Rushcliffe Golf Club, but his real passion was for tennis. He and Rita joined the Loughborough Tennis Club in 1976 and were very active members. Stan was Match Secretary 1978 – 1995 and elected Club President in 1981. He was made a Club Life Member when in 1986 he stood down as President due to increasing involvement as a Council Member and Chair of the Competitions Committee at the Leicestershire LTA. During this time he led negotiations between the LTA and Loughborough University to create the Loughborough Tennis Centre, which has become a successful national training centre as well as being available to local tennis enthusiasts – yet another legacy of Stan's.

Stan's determination to see Loughborough University excel in all its endeavours resulted in many aspects of University life of which he can be rightly proud, not least the creation of one of the most successful Engineering Departments as well as a world-class Research Group. He also leaves behind many friends and colleagues with many happy memories - he will be sadly missed.

Prof. Jim McGuirk D.Sc, FRAeS, FREng.