Accepted Manuscript

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PII:	S0376-0421(18)30114-3
DOI:	10.1016/j.paerosci.2018.07.002
Reference:	JPAS 508
To appear in:	*Progress in Aerospace Sciences*
Received Date:	16 July 2018
Accepted Date:	16 July 2018

Please cite this article as: K.J. Badcock, G.N. Barakos, R.M. Cummings, M. Platzer, N. Qin, C.H. Sieverding, J. Wendt, Bryan Richards: Contributions to Aerospace Engineering, *Progress in Aerospace Sciences* (2018), doi: 10.1016/j.paerosci.2018.07.002

Bryan Richards: Contributions to Aerospace Engineering

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1 Introduction

Bryan Richards was born on 30th June, 1938 in Hornchurch, London. With an imagination fired by the air warfare over London in his early years, and the varied aircraft designs of the 1950's, Bryan studied Aeronautical Engineering at Queen Mary, including a course in aircraft and their simulation given by Professor Alec Young. He then worked at the British Aircraft Company in Bristol during the Concorde development in the 1960's. His formal education was completed when he studied for a PhD under the supervision of Professor John Stollery on hypersonic film cooling. His career after completing his PhD in 1967 was spent at the von Karman Institute for Fluid Dynamics in Belgium (Figure 1), from 1980 at the University of Glasgow in Scotland, and from his retirement in 2003 until 2016 as co-commissioning editor for the Journal Progress in Aerospace Sciences.

Bryan died on 30th October, 2017 in Helensburgh, Scotland, where he had lived with his wife of 50 years, Margaret, since 1980. He is survived by Margaret, four children and ten grandchildren. His influence in terms of facilities, software and the large number of people he supervised and mentored over his career is felt today. This paper tells the story of Bryan's career and his legacy.

2 Education and Early Career

Bryan Richard's higher education began at Queen Mary University of London in the late 1950s (known at the time as Queen Mary College). Queen Mary is located in the East End of London, which was close to where Bryan had grown up in Essex. In fact, Bryan wrote a short summary about those early days of his educational life:

> "I grew up in Hornchurch, east of London, UK in the 1940s and 1950s. Maybe it was the dog-fights and V1 flying bombs overhead during the war, but certainly the varied aircraft designed, built, and flown in the fifties attracted me to take a degree course in aeronautical engineering at Queen Mary College (chaired by Professor Alec Young) at the end of that decade and into a career of research and development in aircraft and their simulation. In those days computations were generally done using slide rules and mathematical tables. When I joined the Bristol Aircraft Company in 1960, we were doing sums using Monroe and Facit calculating machines (we had no digital computers available then) to convince airlines, governments, and safety regulators to introduce supersonic transport aircraft (finally resulting in Concorde)." (Cummings et al, 2015)

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