Professor David Boyd
ASEG Gold Medal
Adelaide August 2016

CITATION (PREVIEW):

The ASEG Gold Medal is awarded from time to time for exceptional and highly distinguished contributions to the science and practice of geophysics by a member, resulting in wide recognition within the geoscientific community. Professor David Boyd has been awarded the ASEG Gold Medal in 2016 for his outstanding achievements in his long professional career and in the education of generations of geophysicists, and for his successes in promoting the effective integration of aeromagnetics in geological mapping and exploration.

David entered Glasgow University in 1943 after a mildly disrupted secondary education during World War II. Alongside Natural Philosophy (Physics) he took geology, having been too late to join the Chemistry stream. This stroke of luck resulted in a double Honours in Natural Philosophy and Geology – a first for Glasgow University and the beginning of a most fruitful career trend.

After graduation in 1946, David became a Lecturer in the new science of geophysics and spent nine years teaching and conducting exploration field work in the UK, Iceland, and the Rift Valley in Uganda. He then spent two years with mining engineers, John Taylor and Sons working on many mines in the UK and also in Cyprus during the EOKA paramilitary uprising. Falling metal prices prompted a successful application for a geophysicist position at Hunting Geology and Geophysics in 1956. Thus began twelve very busy, productive and happy years working predominantly on large airborne magnetic projects worldwide. This work included extensive petroleum surveys for major oil companies in many parts of the world, including Australia. The integration of aeromagnetics with geology for mineral exploration was developed in Ghana, where excellent mapping existed, and refined in Uganda where David could work directly with geologists who were mapping in synchronisation with the airborne survey. The Hunting's era culminated in David's landmark paper at the Canadian Centennial Mineral and Ground Water Conference in Niagara in 1967- *The contribution of airborne magnetic surveys to geological mapping*- still a compelling read!

Eventually David decided to return to the more settled academic life. Fortunately for us he accepted a post as the new Chair of Geophysics in Eric Rudd's Department of Economic Geology at Adelaide University in 1969. His main focus was nurturing honours graduates who would be sought after by the mining industry. This has resulted in a 'breed' of geophysicists who have become leaders and achievers in the exploration industry. While best known for his passion for aeromagnetics and the accompanying emphasis on 'hard-rock' geology, many of his graduates have made their mark in the oil and gas industry, in seismic research, well logging and as founders and operators of successful exploration companies.

In the mining industry, David's students include company founders, ore-body discoverers as well as high profile researchers and company geophysicists. During his term as Professor, David attracted many interstate and international students to pursue post graduate research at Adelaide University. In particular his female PhD graduates from India, China and Poland have each made major contributions to worldwide geophysics. Another great contribution to the mining industry was the Australian Mineral Foundation course, *Geophysics for Geologists*, which David helped initiate and actively supported for many years. Over 600 geologists in Australia and overseas attended this course in the 1970s, 80s and 90s. This did much to bring the two disciplines together and had a significant impact on the Australian exploration culture.

David's research was predominantly through his students' projects as shown in his publication list, but he has had a strong personal interest in the mafic dyke patterns in Australia. He was an advisor on many Government airborne survey programmes, including the South Australian Exploration Initiative which became a watershed in the application of aeromagnetic and radiometric surveys in Australia. He nurtured relationships with the airborne geophysical industries in Finland, India, China and Africa and was a frequent visitor to these countries, as guest lecturer and counsel.

Whilst Professor of Geophysics at Adelaide, he was appointed Dean of the Faculty of Science, then invited to chair the University's Education Committee. He also served as Acting Vice-Chancellor in 1982-83. He was elected President of the Geological Society of Australia (1986-87) during which time he agitated for a revival in geological mapping. Government mapping and aeromagnetic surveying flourished in Australia soon after this. Outside of geoscience, David was Chairman of the Animal Ethics Committee for the University of Adelaide Departments of Science, Medicine and Dentistry, and for the Waite Institute (1983-92), and was Chairman of the organising committees for ANZAAS congress in 1991 and 1997.

After retirement in 1992, David continued his involvement with geophysics students at Adelaide University and maintained his interest and enthusiasm for aeromagnetic applications. He continues today as advisor to Archimedes Consulting, a company created by one of his overseas PhD graduates, specialising in potential field applications for oil and gas exploration and deep crustal sensing.

David's hallmarks have been his enthusiasm and wisdom. His ability to inspire students to passionately pursue careers in geophysics and exploration has created a legacy that will be long-lived. He has not been the 'typical' geophysicist or geophysical professor but has forged a path that has brought geophysicists and geologists together in all manner of geoscientific endeavours. To his former students and professional associates, he remains a teacher, a mentor, a respected colleague and, most of all, a friend.

David was awarded Honorary Membership of the ASEG in 1997 for his outstanding contribution to the profession to that time, and it is only fitting that David's personal achievements, his positive influence on so many other members of the profession, and his distinguished career spanning 70 years, should now be recognised with the award of the ASEG Gold Medal.