



South African Radio League

Amateur Radio Hall of Fame

Fred Anderson, ZS6PW (SK)

Inducted in 2019



Fred was born in Montagu in 1924. He graduated as electrical engineer from the University of Cape Town in 1946 and received his PhD from them in 1965. Fred died in Pretoria in 2001.

In 1949, while developing electronic teaching aids at the School for the Deaf in Worcester, Fred was active in the Boland Branch of the SARL as ZS1LA. He designed and built radios and antennas for himself and others using war surplus components.

In 1957, Fred measured the Doppler shift on the signal from the first manmade satellite, the Russian Sputnik and calculated its orbital elements and decay rate from first principles.

Fred soon became interested in radio propagation. He built beacons operating at 30, 10, 6 and 2 m which were installed at interesting locations, including Carnarvon. He built a beacon for ZE1AZC in 1963. Besides beacons at his home in Worcester and later in Pretoria, he also installed an automated beacon, ZS1STB and later ZS1LA, at his holiday home in Still Bay. These beacons on 28 and 50 MHz continued to operate into the twenty-first century, supporting many propagation studies.

In 1964, Fred returned to the CSIR in Pretoria, where he became a member of the Northern Transvaal Branch of the SARL as ZS6PW.

Fred coordinated a network of collaborators. The likes of Jan van der Leij, ZS4SA and Dave Larsen, ZS6DN operated beacons. In Europe, a group faithfully recorded and analysed signals from these beacons over long periods, building up a comprehensive record of trans-equatorial propagation. One researcher was Fred's old friend, Ray Cracknell, formerly from Salisbury as ZE2JV and later as G2AHU in the UK. Others included Roland Whiting, 5B4WR/G3UYO as well as George Vernardakis, SV1AB and Costas Fimerelis, SV1DH in Athens, Greece. Their work on trans-equatorial propagation (TEP) during solar cycle 21 and before was published by Cracknell and Whiting in 1980 in a series of articles in *RadCom* and *QST*. Their efforts resulted in world-first TEP contacts on 144 MHz in February 1979. These contacts between Pretoria (ZS6DN and ZS6PW) and Athens (SV1DH and SV1AB), established an ionospheric world distance record.

Apart from his TEP experiments, he also started in the 1950s to characterise meteor scatter. This work was the basis for the later development of a world-leading meteor burst communication system by Dave Larsen, ZS6DN and his Salbu team.

Fred inspired many young radio amateurs. He wrote and presented on subjects such as backscatter, and even hosted contest operators in the Western Cape to facilitate meteor scatter contacts to ZS6.

Fred's SARL awards started with his Jack Twine Merit Award in the Sixties. In 1979, Fred won the Arthur Hemsley Two-Metre Trophy for his world-record TEP work. The Bert Buckley Six Metre Trophy followed in 1981 and 1991. In 1995, Fred was elected as an Honorary Life Member.

In 1981, Fred received the ARRL's Amateur Radio Technical Excellence Award.

In 1994, the Council of the RSGB awarded Fred with a Certificate in recognition of meritorious service to Amateur Radio.