

The E.A. Cornish Lecture

The EA Cornish lecture series has been named to commemorate Alf Cornish, a leading figure in the early years of the statistical profession in Adelaide.

Previous presenters of the Cornish Lecture:

2001: Professor Terry Speed on the topic "Gene Expression"

2003: Professor Adrian Baddeley on "Practical analysis of spatial points patterns"

2005: Professor Kerrie Mengersen on "Making Decisions Based on Data"

2007: Dennis Trewin "Statistical Critique of the International Panel on Climate Change's work on Climate Change"

2009: Dr Louise Ryan "Data, data everywhere!"

2011: Professor Peter Diggle on "A Tale of Two Parasites: Model-based Geostatistics and River Blindness in Equatorial Africa"

2013: Professor Noel Cressie on "Statistical Science: A Tale of Two Unknowns"

2015: Professor John Carlin on "Statistics and statisticians in real - world research: science or snake oil?"

Edmond Alfred Cornish (1909 - 1973)

E.A. Cornish graduated from Melbourne University in 1931 with first class honours in Agricultural Biochemistry, Agricultural Engineering and Surveying. While working as an agrostologist (specialist in grasses) at the Waite Research Institute, a centre for agricultural research and development in Adelaide, he became interested in statistical issues arising in agriculture. His interest in patterns of rainfall and their relationship to the yield of natural pastures continued throughout his life.

In 1937 he took a leave of absence at his own expense to study statistics with R.A. Fisher in London. On his return, he was appointed statistician to the Waite Institute. In 1940 he was appointed as Officer-in-Charge of the Biometric Section of the Council for Scientific and Industrial Research (CSIR, now CSIRO) in Melbourne. Under his leadership, the Biometric Section grew, attracting such high calibre scientists as Evan Williams, George McIntyre and Helen Newton Turner. In 1944 the headquarters of the Section was moved to Adelaide and renamed the Mathematical Statistics Section; in 1954 it became the Division of Mathematical Statistics (DMS), with Cornish as its first Chief. Under his leadership DMS grew to 50 staff at his death in 1973.

During the late 1950's, the University of Adelaide had become aware of the importance of mathematical statistics and appointed Cornish as Foundation Professor of Mathematical Statistics at the University of Adelaide from 1960 until 1965, when his former student Alan James returned from Yale to take over the role.

While his name is perhaps most often heard in connection with the Cornish-Fisher expansion of quantiles of the distribution of a mean in terms of cumulants, his contributions to statistics and the profession were broad and of considerable significance for the development of statistics in Australia.

In addition to his early work on rainfall, he published extensively on experimental designs and analysis of experimental data, particularly in the presence of missing values. His work with Fisher led him to a strong interest in fiducial theory. This led him to develop ground-breaking ideas in multivariate analysis, including the development of a multivariate t -distribution to obtain fiducial distributions of multivariate means.

He was enthusiastic about the use of electronic computers in statistical work, perhaps as a result of his work on climatology, which involved the calculation and modelling of 90585 correlation coefficients. He appreciated early the potential for simulation to answer intractable statistical problems, and promoted the establishment of CSIRO's Division of Computing Research, whose successor, the Division of Information Technology joined with DMS to form the current Division of Mathematical and Information Sciences.

He was a Fellow of the Australian Institute of Agricultural Science, an Honorary Fellow of the Royal Statistical Society and a Fellow of the Australian Academy of Science. He also served as President of the international Biometric Society and of the Australasian Region.

Alf Cornish laid the foundations for the strong tradition of experimental and theoretical statistics in Adelaide and it is fitting that his name should be associated with a series that will bring eminent statisticians to Adelaide to support the ongoing strength of the statistical profession here.