

Citation - Karin Meyer

Originally from Germany, Karin graduated from the University of Edinburgh with a PhD where her studies sparked a lifelong interest in characterising genetic variation. Following her PhD she enjoyed a number of research appointments in Australia, Canada and Scotland and in the late 1980s Karin settled into a full time research position at the Animal Genetics and Breeding Unit (AGBU) at the University of New England, Armidale, NSW.

For over 40 years Karin has been involved in characterising populations through the genetic analysis of very large unbalanced data sets, and developing methods and software to enable their application. Her work has involved examining alternative methods for the analysis of such data, which has generally required writing bespoke software to complete the analysis, as 'off the shelf' programs were unavailable. During her career she published almost 100 journal articles and over 120 conference papers (which have been cited over 13,000 times), has been an invited speaker many times, nationally and internationally, and has developed a number of fundamental software packages. As a consequence, she has had a major impact in the field of quantitative genetics.

While at AGBU her primary focus has been the analysis of beef cattle data. Her theoretical and practical contributions to characterising genetic variation in livestock have also been appreciated by many. She has been a significant contributor to AGBU's success in attracting research funds. While she was employed as an intellectual 'tower of strength' within AGBU, she has had major contributions to the international animal breeding, plant breeding and evolutionary biology communities.

Providing software was essentially a 'spinoff' from having solved her own problems but for colleagues, it was often their introduction to Karin and her methods. She has been in the lead in developing and providing software for the analysis of large data sets with complex models, releasing new editions to accommodate new theoretical developments (which she may have authored) or to improve computational efficiency with new methods, or by exploiting developments in hardware. Her software packages have been downloaded many tens of thousands of times and are used all the world over.

Through her research and by providing tools for the job, Karin has had an immeasurable impact on the animal breeding community and other related communities. A highlight of her stellar career was the award of a Doctor of Science for her contributions to the estimation of variance components by the University of Edinburgh in 2002. Her ability to focus on a task until it is completed with one or more publications is an example to all young scientists.

Her work has underpinned the global reputation of AGBU and UNE in the field of genetic improvement, particularly in livestock, and has been a major contribution to enabling the estimated \$15 billion extra profitability of the Australian beef and sheep industries generated by genetic improvement since 2000. The livestock industries in Australia and agricultural industries (plants and animals) world-wide are indebted to Karin's contribution of software and methods that have enabled them to tackle the most difficult data problems and create meaningful genetic change that has empowered rural communities.