

Athel Beckwith



Athelstan Laurence Johnson Beckwith was born in Perth, Western Australia on 20 February 1930 and died in a car accident in Canberra on 15 May 2010. He was educated at the Universities of Western Australia (BSc 1952) and Oxford (DPhil 1956), working as

a temporary lecturer at the University of Adelaide from 1953–54.

In 1957 he took up a position as research officer at CSIRO, moving to the University of Adelaide in 1958 as a lecturer in organic chemistry. He was promoted to senior lecturer in 1962 and reader in 1964. In 1965 he became professor and head of the Department of Chemistry and held this position until he moved to the Australian National University in 1981 as professor of organic chemistry, from where he retired in 1995 with the title of emeritus professor.

After retirement Athel continued his research as a visiting fellow in the Research School of Chemistry. His group was primarily concerned with the kinetics, mechanisms, synthetic utility, and biological significance of free radical reactions. This led them over a wide range of chemistry from the study of radical structure by computer modelling and electron spin resonance spectroscopy to the synthesis of natural products by biomimetic reactions.

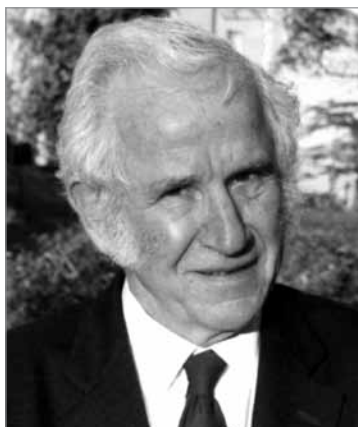
Athel received a number of honours and awards, including election to the Australian Academy of Science in 1974 and to the Royal Society in 1989. In 2004 he became an Officer of the Order of Australia (AO). He also received a Centenary Medal from the Royal Society of Chemistry in 1993 and the Australian Government in 2003.

However, the largest number of awards he received was from the Royal Australian Chemical Institute: the Rennie Medal (1960), H G Smith Memorial Medal (1981), the Organic Chemistry Medal (1992) and the Leighton Memorial Medal (1997). In 1996 he was made a Fellow of the Institute.

Service to the Academy included two terms on the Council, first from 1983 to 1986 (vice-president 1985–1986) and second from 1997 to 2001, when he was the Academy's treasurer.

Athel, an accomplished pianist and clarinettist, married Kaye Marshall in 1953. She survives him, together with their children Claire, Cathy and Paul and their families.

Wes Whitten



Wesley Kingston (Wes) Whitten was born in Macksville NSW on 1 August 1918 and died in Canberra on 24 May 2010. He was educated at the University of Sydney (BVSc (hons) 1939, BSc 1941 and DSc 1962).

From 1940–41 he was Fellow in Veterinary Science at the Walter and Eliza Hall Institute in Melbourne. He served in the Australian Army from 1941–45, first as Captain in the Veterinary Corps and subsequently as Officer-in-Charge of the Land Headquarters Food Laboratory.

In 1946 Wes joined CSIRO, where he studied the effects of nutrition on the reproductive fertility of sheep. In late 1949, he joined the then new Australian National

University (ANU) as Officer in Charge of Animal Breeding at the John Curtin School of Medical Research.

While at the ANU he discovered the synchronisation of the oestrus cycle of female mice exposed to the pheromones in male mouse urine - this is still known as the 'Whitten Effect'. He also developed the 'Whitten Medium' which facilitated culturing of mammalian eggs and developing embryos. The medium was a major breakthrough in understandings of oocyte maturation, fertilisation and embryo development and is still used worldwide.

In 1961 he took up a position as Assistant Director (Endocrine Products) at the National Biological Standards Laboratory in Canberra. In 1966 he moved to the US to the Jackson Laboratory, a leading institute for animal breeding, physiology and cancer research in mice, as a Senior Staff Scientist and later Associate Director. While there he developed techniques for freezing and transferring embryos and worked on chimaeric mice. His ground-breaking research in embryology, reproductive physiology and endocrinology and animal contraception was the forerunner of infertility treatment in humans.

Wes returned to Australia after retirement in 1980 and continued his research in a number of honorary positions.

He was an obvious choice for the Working Party established in 1988 to advise the Health Minister on cloning following the birth of 'Dolly' the sheep. He was also a stalwart advocate for Tall Girls Inc and sufferers of CJD and their families.

In 1982 Wes was elected as a Fellow of the Australian Academy of Science. Other awards included the prestigious Marshall Medal from the Society for the Study of Fertility (1993), the Pioneer Award of the International Society for Embryo Transfer (1996) and an honorary doctorate from Memorial University of Newfoundland for his work in reproductive physiology (2001). In 2009, in recognition of his contribution to ANU and to science, the ANU named their new purpose built world class animal breeding facility the 'Wes Whitten Building'.

Throughout his life Wes enjoyed the outdoors and the wonders of nature.

Wes married Enid Elsbeth Cay Meredith (Beth) in December 1941 and had four children (Gregory, Mark, Jane and Penelope). Beth died in 1999 and Wes married Mary Taylor, a longstanding friend and colleague, in March 2001, moving once more to the US. In 2008 he returned to Canberra to be nearer his family as his health faded.

He is survived by his four children, daughter-in-law, five grandchildren, two great grandchildren and four siblings. ■

Mining the wealth of genomic data

The 2010 symposium brought together scientists working on both genomics and mathematics, who looked at the data generated from genomic studies in a wide variety of fields including cancer research.

Professor Terry Speed FAA of the Walter and Eliza Hall Institute of Medical Research set the scene for a program that included three overseas speakers by explaining the fundamentals of the technology. The recent exponential increase in genomic data requires the co-evolution of computational, mathematical and statistical methods for its storage, analysis and interpretation. He emphasised the importance of mathematical sciences, digital processing and data storage capacities in areas such as cancer or malaria research, due to the nature and quantities of data now being collected.

Professor Susan Clark of the Garvan Institute of Medical Research continued by examining the layers of information generated from genetic and epigenetic studies. She detailed the recent findings on epigenetic gene deregulation in cancer. Professor Simon Tavaré of the Department of Oncology from the University of Cambridge, went further by outlining the experimental and mathematical underpinnings of tumour evolution, while Dr Jean Yang of the University of Sydney looked at statistical analysis in protein research.

The afternoon session began with Professor Lars Nielsen of the Australian Institute for Bioengineering and Nanotechnology who spoke on constraint-based models in the analysis of high throughput data produced by research into biological systems. Professor Sean Grimmond of the University of Queensland examined cancer genomes at single nucleotide resolution, while Professor Steven Evans of the University of California spoke on the effects of network topology on the reliability of transcriptional regulation. The symposium ended with Dr Iain Johnstone from Stanford University who compared the extremes of variation in high-dimensional data in genome-wide association studies.

Full transcripts, slides and audio files for speakers will be available from www.science.org.au/events/sats/sats2010/symposium.html ■



(L to R) Symposium conveners and speakers: Terry Speed, Simon Tavaré, Lars Nielsen, Peter Hall, Susan Clark, Iain Johnstone, Jean Yang, Steven Evans and Sean Grimmond

Photo: © Irene Dowdy



Photo: Queensland Centre for Medical Genomics, Institute for Molecular Bioscience

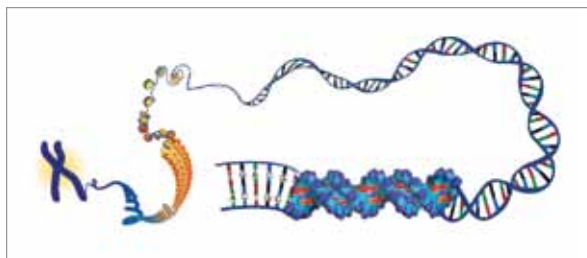


Image: Darryl Leja

Above: Automated sequencers generate an explosion of genomic data that requires analysis by mathematical methods

Left: Unpacking of chromosome showing DNA molecular topography