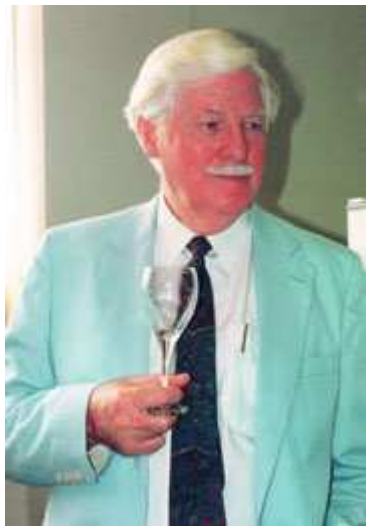
Vale Geoffrey W. Grigg - former Chief of the Divisions of Molecular Biology and Biotechnology



During a lifetime of scientific research, Geoffrey Grigg became an influential scientist in the fields of microbial genetics and molecular biology. He was one of the pioneers of Australia's biotechnology industry, and for his many contributions he was elected in 1995 as a fellow of the Australian Academy of Technological Sciences and Engineering, and was awarded a Centenary Medal in 2003.

He obtained his first degree at Melbourne University, and in his first post-graduate work there (with A.J. Hodge) exploited the new field of electron microscopy to reveal the structure of the tails of spermatozoa.

However, the importance and originality of this discovery was unrecognised for many years. He subsequently worked in microbial genetics at Cambridge University, where he obtained his Ph.D., under the supervision of D.G. Catcheside. He uncovered an important feature in the measurement of mutation rates, which became widely known as the 'Grigg effect.' After his return to Australia he became a research scientist with CSIRO initially in Adelaide and subsequently at North Ryde, Sydney.

His research for many years was in the fields of DNA damage, repair and mutagenesis in bacteria. This led to the investigation of anti-tumour agents, such as bleomycin, that act by breaking DNA molecules. He soon discovered that caffeine greatly enhanced their potency. All this work was published and the results presented at international conferences world wide. This established his international reputation in microbial and molecular genetics, and he was in continual contact with the leading scientists in these fields.

In 1975 he became Officer in Charge of the Unit of Molecular and Cellular Biology and then Chief of the Division of Molecular Biology. This later merged with CSIRO's Parkville laboratories to form the Division of Biotechnology which he led until his retirement from CSIRO in 1989. His leadership was characterised by a vision for the future of molecular biology, the employment of many young scientists and development of a vibrant and entrepreneurial research culture.

As a scientist, Geoff Grigg was well known for his creativity and the breadth of his interests. He had the ability to see the connections between different fields of biology, and encouraged members of his scientific staff to investigate novel

lines of research. He also had the ability to recognise the potential applications of basic science, and he was a co-author of innumerable patents in diverse fields. His interests in protein structure and synthesis lead to the foundation in 1986 of Peptide Technology Ltd, a company that has grown (now as Arana Therapeutics) to be one of Australia's most successful biotechnology companies. Geoff Grigg's contacts with Sir Gregory Winter's at the Laboratory for
Molecular Biology (LMB), Cambridge, and with support from Peptide Technology, led to the formation of another company known as Cambridge Antibody Technology that has had outstanding commercial success. He initiated a programme to investigate the properties of the dipeptide, carnosine, which is widely distributed in animal tissues, but its real functions were largely unknown. His research group discovered that it had beneficial effects on human skin cells growing in culture, and it also inhibited abnormal biochemical changes in proteins that are known to be important during the process of ageing. This led to the formation of another company in the cosmetic industry known as the Beta Peptide Foundation.

He had earlier developed close contacts with LMB in Cambridge, including collaboration with the dual Nobel Prize laureate Fred Sanger, where he was involved in the development of methods to sequence DNA. Sanger's sequencing method soon became the standard procedure for sequencing worldwide. Geoff Grigg recognised early the potential benefits to be derived from DNA sequencing and some of the earliest sequencing of DNA in Australia was done in the CSIRO Unit of Molecular and Cellular Biology at North Ryde, where Fred Sanger spent a sabbatical.

Geoff Grigg's interest in the structure of DNA was extended to an important chemical modification (known as DNA methylation), which has a significant role in the control of gene expression. A new experimental procedure for determining the distribution of this modification in DNA molecules was developed in the North Ryde laboratories, and is now used world wide. At the Sanger Centre, Cambridge, the 'methylome' project to determine the distribution of DNA methylation in the human genome is now well under way. Studies of DNA methylation led to the founding of Human Genetic Signatures, which is another company based at North Ryde. Studies of DNA methylation also lead to the emergence of the new biological field known as 'epigenetics'.

In a world of specialisation, any scientist with wide interests soon finds that his influence becomes partitioned. Some may know much about one of his interests, but none of the others. Geoff Grigg had the ability to communicate with many specialists in many fields. He was very well known for generating new ideas and new experimental approaches. Some of these were not taken up by others, but those that were developed further resulted in notable scientific advances.

Geoff Grigg created an environment for exciting science that was both demanding and enormously rewarding. He will be greatly missed by friends and colleagues who will carry his inspiration into the future. Geoff is survived by his wife Ailsa and children David, Fiona, Sian and Simon.