

Australasian Peptide Chemistry

Paul F. Alewood^A and John D. Wade^{B,C,D}

^AInstitute of Molecular Bioscience, The University of Queensland, St Lucia, Qld 4072, Australia.

^BFlorey Institute of Neuroscience and Mental Health, University of Melbourne, Melbourne, Vic. 3010, Australia.

^CSchool of Chemistry, University of Melbourne, Melbourne, Vic. 3010, Australia.

^DCorresponding author. Email: john.wade@florey.edu.au

We are delighted to welcome you to this special issue of the *Australian Journal of Chemistry* which is devoted to highlighting the international excellence of peptide chemistry research in Australasia by a selected cohort of current elite peptide researchers. The issue is also commemorating the 70th anniversary of the establishment of Australia's first dedicated peptide research laboratory at CSIRO when E. O. P. Thompson returned from the UK where he undertook Ph.D. studies with Frederick Sanger at Cambridge University on the sequencing and primary structure determination of ovine insulin. Sanger was awarded the Nobel Prize for Chemistry in 1958 for this work. Thompson was soon joined by the Australian chemist, John Swan, who had been awarded a Fulbright Fellowship to undertake a post-doctoral year with Vincent du Vigneaud at Cornell University, USA, where he was part of the team that synthesised the nonapeptide, oxytocin. This was the first chemical synthesis of

a biologically active peptide and led to the award to du Vigneaud of the 1955 Nobel Prize for Chemistry. Swan later became the Foundation Chair of Organic Chemistry at Monash University.

From these origins at CSIRO in 1956, peptide chemistry soon also expanded into academia and has both grown and matured greatly until today, where it is at the forefront of a wide diversity of outstanding research fields led by many Australasian world-leading practitioners with expertise ranging from peptide discovery, medicinal chemistry, chemical synthesis, chemical biology, structure determination, and drug development. Each of the contributions in this issue has been written by well established, highly respected peptide chemists with international reputations in their respective areas of study. We thank them for their enthusiastic participation in this special issue and we hope that it provides you with an appreciation of the sustained excellence of Australasian peptide research.



Professor Paul Alewood is Group Leader in the Institute for Molecular Bioscience (IMB) at the University of Queensland and co-chair of the Australian Peptide Society. He is the author of over 300 publications (H = 60), mostly in the field of bioactive peptides. He is an inventor on 14 licensed patents. Professor Alewood's research is in peptide, protein, and medicinal chemistry. His research projects include the development of structure–function relationships of cysteine-rich bioactive peptides, the design and synthesis of new peptide drugs, peptidomimetics, and proteomics. Current research targets involve the discovery and development of novel bioactive peptides for the treatment of chronic pain and ion channel therapeutics.



John D. Wade obtained his Ph.D. on the structural basis of the diabetogenic action of human growth hormone from Monash University, Australia, in 1979. He received a Nuffield Foundation Fellowship to Cambridge University, UK, where he undertook post-doctoral studies in the laboratory of Dr R. C. Sheppard at the MRC Laboratory of Molecular Biology on the development and use of the Fmoc-solid phase peptide synthesis methodology. In 1983, he returned to Melbourne at the invitation of the now Florey Institute of Neuroscience and Mental Health, University of Melbourne, where he is currently Head of Peptide and Protein Chemistry. His principal research skills are in solid phase peptide synthesis for the construction of large, complex, functionalized and often multi-chain peptides. Professor Wade is Senior Principal Research Fellow, an NHMRC of Australia Principal Research Fellow, and a Fellow of both the Royal Australian Chemical Institute and the Royal Society of Chemistry (UK). He is also the co-Editor-in-Chief of the Australian Journal of Chemistry.