

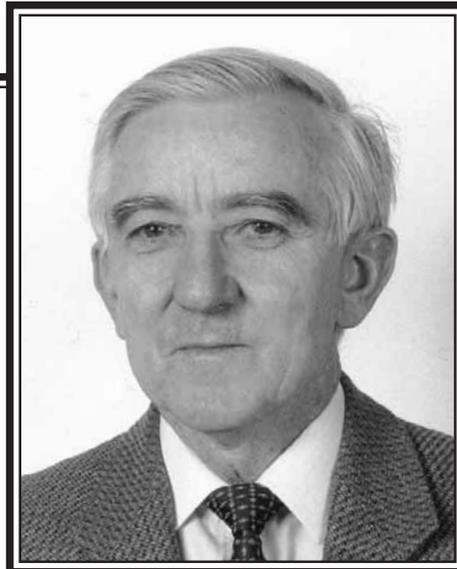


The Australian Pain Society

2009  
*Distinguished  
Member  
Awards*

Awarded for services to the promotion,  
treatment and science of pain management  
and lifelong contribution to the  
Australian Pain Society.

Professor Arthur Duggan's career was largely determined by his intercalated BSc year in Victor Macfarlane's Department of Physiology in Brisbane. Research became his prime interest. After World War II the Australian Government had the foresight to set up first class research facilities in Canberra at the Australian National University which included the John Curtin School of Medical Research. Eccles was Head of Physiology and Professor David Curtis in this Department, was a world



## Arthur W Duggan

BSc (Hon 1); MBBS (Hon 1); MD (Qld);  
PhD (ANU); FRSE; FFPMANZCA (Hon)

leader in research on synaptic transmission. Arthur Duggan became the latter's student for 3 years and subsequently a colleague for a further 15. This somewhat accidentally led to an interest in pain control since in 1969 Duggan showed that morphine (a convulsant in high doses) blocked the action of glycine which was then being investigated as a putative inhibitory transmitter in the brain and spinal cord.

After 3 years as a CJ Martin Fellow of the Australian NHMRC, two years of which were spent at the Department of Physiology, Bristol University, Arthur Duggan joined the tenured staff in the Department of Pharmacology at the John Curtin School which meant full time research without the need to write grant applications. The system has much to recommend it!

He continued his interest in opiates and in 1976 showed that activation of the opiate receptors in the substantia gelatinosa of the spinal cord of the cat, selectively blocked the onward transmission of impulses in cutaneous nociceptors. In the same year

Yaksh and Rudy showed that regional analgesia resulted from applying opiates topically to the spinal cord and the clinical application of this work soon followed. Endorphins had just been discovered and Professor Duggan showed that they too acted at these spinal receptors although the physiology of these compounds has proved to be more elusive.

At this time there was considerable interest in analgesia produced by electrical stimulation of the

periaqueductal grey matter. Work in Prof Duggan's laboratory showed that such stimulation produced powerful selective inhibition of spinal transmission of nociceptive information but that in the cat endorphins were not involved. Such inhibition was always linked to circulatory events appropriate to a flight or fight response, suggesting that more than pain suppression was involved.

Professor Duggan's first contact with the International Association for the Study of Pain was through giving a short lecture at the 2nd World Congress held in Montreal in 1978. The Australians got going in 1978 with the La Trobe Meeting of Connie Peck and Meredith Wallace. Then the Australian Chapter of the IASP held its first meeting at Surfer's Paradise in 1979 - organised by Michael Cousins. Arthur Duggan spoke at these and subsequent meetings and eventually hosted a meeting of the Australian Pain Society at Canberra in 1986. The registration fee for the latter was \$30 and students were free! He was President of the Australian Pain Society, 1985 -1987.

In 1987 Professor Duggan accepted the Chair of Veterinary Pharmacology at Edinburgh University and stayed there for 10 years. Within that time he was elected a Fellow of the Royal Society of Edinburgh. His research in Edinburgh centered on a new method for measuring neuropeptide release in the brain and spinal cord which he had first developed in Canberra with Ian Hendry. The results were widely accepted and showed that it was wrong to consider neuropeptides such as substance P and the endorphins as neurotransmitters comparable to L-glutamate or GABA since they diffused relatively widely from sites of release and could persist long after release.

During his Edinburgh period Arthur was a Royal Society of Medicine Foundation Visiting Professor to the American Pain Society, the Ritter Lecturer to the University of San Francisco and a Burroughs Wellcome Visiting Professor of the Federation of American Societies for Experimental Biology. In 1997 he was made an Emeritus Professor of the University of Edinburgh.

In 1997 he returned to Australia and accepted a part time appointment in Prof Michael Cousin's Department of Anaesthesia and Pain Management at the Royal North Shore Hospital working with Dr Philip Siddall. He became a Visiting Professor to Sydney University. The research in Sydney centred on pain following spinal cord injury and has suggested that disordered GABA inhibition both in the spinal cord and thalamus contributes to the syndrome.

Arthur is an Honorary Fellow of the International Association for the Study of Pain and of the Faculty of Pain Medicine of the Australian and New Zealand College of Anaesthetists.

