IN MEMORIAM

Leslie L. Iversen, Ph.D., (1937–2020)

Trevor W. Robbins ¹*Neuropsychopharmacology* (2020) 45:2132; <https://doi.org/10.1038/s41386-020-00810-9>

Leslie Iversen led an outstanding generation of UK neuropharmacologists. He excelled in every domain; leading intra-mural research of the Medical Research Council; heading a UK drug discovery unit for Merck; providing academic scholarship (at Oxford University) and consulting for Biotech and government, chairing the UK Advisory Council on the Misuse of Drugs Committee with characteristic calm and intellectual distinction.

He was an undergraduate at Trinity College, University of Cambridge, where he was taught amongst others by Nobel Prize winner Andrew Huxley, co-discoverer of the action potential. His early PhD research at Cambridge focused on catecholamine mechanisms, in particular reuptake processes for noradrenaline. He made a career-defining visit in the early 1960s to Julius Axelrod's laboratory at NIH, to develop his original discoveries significantly further, working in a group that included Jacques Glowinski, Solomon Snyder and Richard Wurtman. This was

followed by a period at Harvard Medical School with E. Kravitz and S. Kuffler, where he collaborated in seminal work establishing GABA as the major inhibitory neurotransmitter by studies on its release and reuptake in lobster neurons. On return to Cambridge, following a Locke Research Fellowship, he became in 1970 an unprecedentedly young Director of an MRC Unit, Neurochemical Pharmacology (NCPU), which spawned many leading neuroscientists over the next decade.

At NCPU, Leslie initiated work in a number of ground-breaking areas: the functions of neuropeptides such as substance P in sensory processes including pain; the mechanism of action of anti-psychotic drugs and the neural basis of schizophrenia and the neurochemical basis of neurodegenerative diseases including Alzheimer's disease and Huntington's disease. He bravely took on a new challenge in an industrial direction in 1983 when Merck, Sharp and Dohme established a new Research Centre in the UK under his leadership. Achievements of this Centre included the discovery of a class of NMDA receptor antagonists exemplified by MK-801, originally developed for the treatment of stroke. Other major projects included substance P receptor antagonists for the treatment of cancer induced nausea (and less successfully, for depression), and the first cholecystokinin (CCK-2) receptor antagonists.

Leslie became an academic again in 1995, taking a Visiting Professorship at the Department of Pharmacology at Oxford in 1995, where he continued to exert his scholarly influence in many areas, including advising the Government on its cannabis policy and chairing the UK Government's Advisory Council on the Misuse of Drugs (2010–2016). He also produced several monographs for Oxford University Press including *"The Science of Marijuana"* (2001) and *"Speed, Ecstasy, Ritalin: The Science of Amphetamines"* (2006). He also co-authored a text with his distinguished partner Professor Susan Iversen and his friend and scientific colleague Floyd Bloom; *"Introduction to Neuropsychopharmacology"* (2009).

Leslie became a Fellow of the Royal Society at the early age of 43. He also became a Foreign Member of the U.S. National Academy of Science and was an Emeritus Fellow of the ACNP.

Leslie Iversen's influence on British Neuroscience has been profound, but he was a truly international figure whose scientific reputation and opinions were highly respected and his social grace and modest demeanour well appreciated. He will be sorely missed.

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