

George Fink – Biography

George Fink is a neuroendocrinologist and neuropharmacologist. He is Professorial Research Fellow at the Florey Institute for Neuroscience and Mental Health, Melbourne University at which he is also an Honorary Professor. He is renowned for his research in reproductive neuroendocrinology, the neuroendocrine control of stress, positive and negative hormonal feedback control in neuroendocrine loops, and the effect of sex hormones on central neurotransmission.

In particular, Fink elucidated the mechanism by which estrogen, acting on the brain and anterior pituitary gland triggers the ovulatory surge of luteinizing hormone in spontaneously ovulating mammals including the human. This mechanism involves a massive (20-50-fold) increase in the responsiveness of the anterior pituitary gland to the (hypothalamic) decapeptide gonadotropin releasing hormone (GnRH) as well as a unique GnRH self-priming effect. GnRH self-priming enables even low amplitude pulses of GnRH to trigger gonadotropin release from the self-primed pituitary gland and also plays a key role in the onset of puberty.

In stress research, Fink and colleagues were the first (1971) to demonstrate by direct measurement that a corticotropin releasing factor (CRF) was released from the hypothalamus into hypophysial portal blood and thereby transmitted to the pituitary gland where it triggers the release of adrenocorticotropin (ACTH) which in turn releases adrenal glucocorticoids [the hypothalamic-pituitary-adrenal (HPA) system]. Further work using the technique of direct measurement of neurohormone release into hypophysial portal blood showed the important synergistic action of arginine vasopressin (AVP) with CRF in triggering ACTH release and demonstrated that glucocorticoid negative feedback in the HPA system works mainly by blocking AVP release and blunting pituitary responsiveness to CRF. As Director of the MRC Brain Metabolism Unit, Edinburgh, Fink directed psychopharmacological research in drug-free patients with special reference to the role of stress in psychotic disorders and the use of the HPA system to investigate the central mechanisms of psychotic disorders.

Professor Fink has published more than 360 papers. His seminal research has attracted several distinctions that include Fellow of the Royal Society of Edinburgh, Fellow of the Royal Society of Biology, Fellow of the Royal College of Physicians of Edinburgh, Honorary Professor in the University of Edinburgh, the inaugural Geoffrey Harris Prize Lecture of the British Physiological Society, the Wolfson Lecture, Royal Society - Israel Academy Exchange Fellow, and Lifetime Achievement Award of the International Society of Psychoneuroendocrinology. Professor Fink is an Honorary Member of the British Society for Neuroendocrinology and served as President of the European Neuroendocrine Association (ENEA: 1991-1995), presiding over ENEA international congresses in Lisbon (1993) and Jerusalem (1995).

Professor Fink has edited several scientific books with Elsevier, including *Stress Science: Neuroendocrinology* (2009), *Stress Consequences: Mental, Neuropsychological and Socioeconomic* (2009), *Stress of War, Conflict and Disaster* (2010), the *Handbook of Neuroendocrinology* (2012), and most notably a 4-volume *Encyclopedia of Stress* (2007) on which this new **Handbook of Stress** series is based. Professor Fink was founding Editor-in-Chief of the first edition of the *Encyclopedia of Stress* (2000) which was awarded the 2001 British Medical Association commendation for its contribution to Mental Health.

Professor Fink is a graduate of the University of Melbourne Medical School [MB BS (hons and Prosector in Anatomy) 1960 and MD 1978 for his neuroendocrine publications] and of Oxford University [DPhil (1967) obtained under the tenure of a Nuffield Dominions Fellowship (supervisor Geoffrey Harris FRS)]. He has held the posts of Junior and Senior House officer at teaching Hospitals, Melbourne, Lecturer and Senior Lecturer, Anatomy, Monash University (1963-1964: 1968-1971), University Lecturer and tutor in Human Anatomy, Physiology and Medicine Oxford University and Brasenose College (1971-1980), Director of the MRC Brain Metabolism Unit, Edinburgh (1980-1999), Vice President research Pharms Corporation (1999-2003), Director of the Mental Health Research Institute of Victoria (2004-2007). He has also held prestigious visiting Professorships, notably at the Rockefeller University, Mount Sinai Hospital, and the Mayo Clinic.