

IVER H. CAIRNS

Prof. Cairns received his PhD from the University of Sydney in 1987. He worked at the University of Iowa (1986-1998) before taking up a national 5-year Senior Research Fellowship at the University of Sydney, one of only 20 awarded over all research fields. In 2004 he was awarded an Australian Professorial Fellowship and in 2009 was appointed Professor in Space Physics. Prof. Cairns has over 200 refereed papers published in books and journals, and a Hirsch index of 27. His expertise is in the theory and observation of waves and radiation in space. Prof. Cairns's most important contributions are: (1) Burstiness of waves: he has developed large parts of stochastic growth theory (SGT) and demonstrated its applicability in over 10 systems, investigated nonlinear self-focusing instabilities, and co-discovered localized Langmuir eigenstates in space. (2) Radio emissions: he has developed the first integrated micro- to macro-scale theories for the solar system's most powerful radio emissions, type II and III solar radio bursts and 2-3 kHz radiation from the outer heliosphere.