

Henry Michael Snow (1935-2020)

Professor John Hall and Professor Edward Johns, University College Cork, Ireland and Irene Snow

Henry Michael Snow died suddenly on 26 June 2020, aged 85. He was born in Bradford and educated at Fulneck School, Pudsey in Yorkshire. He spent 2 years at the Merchant Navy training school, HMS Conway followed by a short term at sea, working for the Cunard Shipping Line as a cadet and as Second Mate.

He subsequently worked as a technician at Leeds General Infirmary in the Thoracic Surgery Laboratories where, he helped to develop a cardiac catheter and operated the newly developed Melrose Oxygenator. At the time, the Leeds group was one of only two carrying out open heart surgery in the UK and it was over this period that Snow developed surgical skills in cardiac and vascular function that he later applied to his research involving large mammals.

Snow's academic career began as a mature student in physiology at the University of Leeds. After the award of a Beit Memorial Fellowship, he completed a PhD in 1969 under the supervision of Ron Linden. Snow generated his most seminal works during the 1970s. Together with Linden and CT Kappagoda, he investigated the role of atrial and ventricular receptors in the neurohumoral regulation of the heart and cardiovascular system.

Important publications came from demonstrating how in the dog, right atrial distension, activating afferent mechanoreceptors, led to reflex regulation of efferent sympathetic outflow to the heart. Other notable findings from this group included an evaluation of the inotropic and chronotropic contributions of the left and right sympathetic nerves, reporting that dp/dt was the most reliable index of cardiac contractility and the use of CO_2 -titration curves to better regulate acid-base balance in vivo.

One intriguing observation was that atrial distension mediated a diuresis. This was eventually shown to be a non-ADH type factor acting directly on the kidney independent of the renal innervation. The exact nature of this diuretic agent was never fully explored by this group but may have been one of the earliest observations of the action of atrial natriuretic peptide (ANP) being released as a consequence of the atrial distension.

This was a productive period for Snow. As a result of presentations at The Physiological Society he formed a research collaboration with Mark Noble, which lasted over the following decades. In 1974 Mike Snow was recruited by ICI Pharmaceuticals Division at Alderley Park, Cheshire. Snow was able to apply his knowledge of large mammal physiology to demonstrate the potential of these developed compounds.

Indeed, one of the first beta-1 selective antagonists developed by ICI was atenolol, which became a first line antihypertensive drug worldwide. He worked on arterial thrombus, formation and the endothelium and in collaboration with Noble used the Folts model of coronary thrombosis to demonstrate that serotonin 5HT_{2A} receptor antagonism abolished coronary thrombosis even when exacerbated by adrenaline.

He contacted John Hall, the Head of the Department of Physiology at University College Cork and was offered a part-time post to include undergraduate lectures and practical classes

teaching. Snow was able to expand his own research activity and to train a number of postgraduate students. Many of them went on to international post-doctoral fellowships. He regularly showed final year undergraduate physiology students how to manage the techniques of in vivo research. Over this period, he made significant contributions to the understanding of the role of non-adrenergic non-cholinergic (NANC) vagal transmitters on the heart as well as the importance of blood flow dynamics and its impact on the vascular release of NO in vivo.

These contributions led to Snow being invited to give The Conway Review Lecture in 2001 to the Royal Academy of Medicine in Ireland (RAMI). His lecture was titled "Atheroma and the mechanics of blood flow in arteries" for which he was awarded The Conway Medal by The Academy. He was extremely proud of this medal. Appreciating that it honoured the Biochemist Edward Joseph Conway Snow also appreciated the very name "Conway", having spent 2 years from when he was 15 living on the Ship HMS Conway 1950-1952.

Michael. Snow was greatly admired and respected by all with whom he came in contact. As noted by John Hall, he contributed generously of his time, expertise, and patience in supervising student projects and doctoral theses. He became a father-figure for junior staff in the Department of Physiology at UCC. He was a gifted researcher and inspirational teacher and always remained accessible for advice and guidance for researchers in large mammal physiology. A colleague, Dr. Gebruers, noted that although a good scientist he was not always conventional!

Another colleague, Dr. Ruane-O'Hara, remembers that even after having a stroke he still made occasional visits to UCC, including to give a seminar on some of his work to a lucky audience, which included final year BSc Physiology students. His extensive knowledge, wit and enthusiasm were still on display, despite the toll of his declining health. He will be greatly missed. Indeed many of us have lost a valued and much respected mentor and friend.