ANZSRS Fellowship and Society Research Medal

Dr Sandra D. Anderson
BSc, PhD, DSc, FANZSRS

Nominated by:
ANZSRS Board, 2000

Summary of Major Scientific Contributions (at the time of nomination)

Dr Sandra Anderson was the first member of the Society to receive this award.

At the time of nomination Dr Sandra Anderson was the Principal Hospital Scientist in the Department of Respiratory Medicine at the Royal Prince Alfred Hospital, Sydney. She had been an active member of the ANZSRS since its inception and up to and during this time had developed an outstanding national and international reputation for her seminal work in bronchial hyperresponsiveness with a focus on exercise-induced bronchoconstriction in asthma. She was an important mentor to many members of the Society, several becoming Fellows themselves.

Sandy obtained her PhD in Medicine in 1972 (University of London), after obtaining a BSc in Science at the University of Sydney in 1962. In 1990 she was awarded a prestigious DSc by the University of London based on her publications. At the time of nomination Sandy had successfully supervised 7 PhD students.

Sandra is a renowned world authority on EIB. She formulated the 'osmotic hypothesis' which challenged the alternative proposal by McFadden and colleagues that EIB was due to 'airway cooling and a reactive hyperaemia'. This work led to the development of osmotic challenge tests as an alternative method for assessing bronchial hyperresponsiveness, a key feature of asthma. This work, initially used aerosols of nebulised hypertonic saline. In 1988 she received a USA Patent for the use of dry powders of osmotic agents such as mannitol and sodium chloride for assessing bronchial hyperresponsiveness and for clearance of mucus. Given by inhaler, from capsules containing different doses of dry powder mannitol, this methodology permitted a standardised and practical way for administering bronchial provocation tests and for aiding the clearance of mucus.

At the time of nomination Sandy's publication record was extraordinary at over 130 peer-reviewed articles, most as senior author. At this time, Sandy had won many research grants and was a continuous recipient of NHMRC project funding from 1980-2001. Sandra's outstanding contributions to respiratory medicine and research were subsequently recognised when she was awarded in 2012 a Member of the Order of Australia (AM) and an Honorary MD from the University of Uppsala Sweden.

RPA lab staff – Darwin 2009