

Friday 29<sup>th</sup> March, 4pm  
Wallace Wurth, LG02

Prof Alan M. Brichta

*(Co-Director of the Centre for Brain and Mental Health Research, the University of Newcastle)*

## A Question of Balance - Best laid plans of mice and men...



**Biography:** Prof Alan Brichta is Head of Anatomy and Co-Director of the Brain and Mental Health Priority Research Centre at the University of Newcastle. His research interests in the structure and function of the peripheral and central vestibular system. His recent studies have focused on vestibular hair cells of the inner ear and their complex relationship with closely associated nerve fibres. He has published over 60 papers in neuroscience and physiology journals, and he has been consistently funded including grants from NHMRC, ARC, Hunter Medical Research Institute, and

was awarded a five-year Garnett Passe and Rodney Williams Memorial Foundation Senior/Principal Research Fellowship. He has collaborations in the USA, with colleagues at the University of Utah, and University of Rochester. He has also served on NHMRC Grant Review Panels and was a member of the Assigners Academy for the last four years. He has been a reviewer for international funding agencies such as National Science Foundation (USA) and Health Research Council of New Zealand. He has been an invited speaker at national and international meetings and institutions including: University College London, Ear Institute (London), Barany Society Meeting, Reykjavik, (Iceland), Massachusetts Eye and Ear Infirmary (Harvard - Boston), The Royal Society of Medicine, (London). He is currently Associate Editor for the Journal of Association for Research in Otolaryngology and was the recent Chair of the Association's International Committee.

**On the talk itself:** In the past, information regarding the peripheral balance (vestibular) organs has been obtained mostly from isolated hair cells that have been enzymatically and/or mechanically removed from the vestibular neuroepithelium prior to recording. While this approach has proved informative, a major drawback with isolated cells is the unavoidable destruction of the intimate relationships between individual components of the vestibular neuroepithelium. Consequently, it has been difficult to determine the function of two very important but little understood components of the vestibular periphery: 1) the unique calyx afferent terminals; and 2) the efferent vestibular system (EVS) that provides feedback to the balance organs from the central nervous system. We have developed a semi-intact preparation that preserves the cellular micro-architecture that allows us to record from the three major neuroepithelial structures: type I and type II hair cells, and calyx afferent terminals. Moreover, this preparation also provides us with a means of investigating efferent action on these peripheral structures. This seminar will provide a brief summary of what we have learned in recent years about the cellular and synaptic mechanisms at play in the complex and often mysterious neuroepithelial structure within the organs of balance.

All welcome. Drinks and nibbles from 3:30pm, seminar starts at 4pm.

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