



Prof David Adelson

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David Adelson is Professor and Chair of Bioinformatics and Computational Genetics and Zhendong Chair of Molecular Traditional Chinese Medicine in the School of Biological Sciences at the University of Adelaide. Prof. Adelson's current research focuses on the non-coding portions of animal genomes, such as regions used to transcribe ncRNAs (piRNAs and lncRNAs) and the computational analysis of transposable elements in order to understand large scale evolutionary/structural changes in animal genomes. Prof. Adelson has led the analysis of repetitive DNA for the cow, horse, elephant and tuatara genome sequencing consortia. In addition to characterising repeat content in genomes, his lab has also developed tools to identify and annotate transposable elements and segmental duplications "from scratch" and to identify somatic structural variation from PacBio long reads. Prof. Adelson's lab has pioneered our understanding of the impact of horizontal transfer of retrotransposons on genome structure in higher organisms.

With funding from the Australian National Data Service in 2011/12, Prof. Adelson's lab also created computational/software resources that played a major part in the development of infrastructure translated to the diagnostic lab at SA Pathology, resulting in the first NATA accredited lab in Australia for diagnostic whole exome sequencing in 2015.

As Director of the Zhendong Centre of Molecular Traditional Chinese Medicine, Prof Adelson uses transcriptome analysis to identify entire pathways or co-expression sub-networks in cancer cells that are altered as a result of Compound Kushen Injection, an important TCM drug in China.

Prior to moving to Adelaide in 2007, Prof Adelson was at Texas A&M University from 2001, and prior worked for CSIRO from 1988. Prof Adelson obtained his PhD in Biomedical Sciences (Biochemistry), from the John A Burns School of Medicine at the University of Hawaii at Manoa in 1985 and was a postdoc at Duke University.