

KEYNOTE SPEAKER



Professor Charles Watson

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"The power of the pretty paradigm - the impact of misleading paradigms on neuroscience research."

Over the past century, brain research has continually been distracted and confused by concepts that were good stories, but were not supported by data. Scientists are attracted to a paradigm that seems to explain a complex problem, and then fail to look hard at the real data. In human brain studies, we have been afflicted by the nonsense of Freudian psychiatry and the popularity of unjustified psychosurgery. In understanding brain structure, we have been misled by simplistic and attractive concepts of cerebellar function, the so-called limbic system, the role of the amygdala, and the organisation of the motor system. Even our basic understanding of the brain stem has been hampered by our inability to recognise the basic pattern of organisation.

Of course it is easy to recognise failed paradigms in hindsight; we hardly ever question those that currently have hold of us!

Professor Charles Watson has been Executive Dean of Health Sciences at Curtin University of Technology in Perth since late 1997. He has held a number of senior public health posts in the Health Department of Western Australia, including Chief Health Officer and was Associate Professor of Anatomy at the University of New South Wales. Professor Watson has chaired many national committees in the health area, including the National Expert Advisory Committee on Alcohol. He is the author of over 50 journal articles and a number of books including a brain atlas, which is the 10th most cited publication of all time.



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“Using the most powerful tools of our time to combat the HIV pandemic and other infectious diseases”

A unique convergence of immunogenetics, HIV clinical care, IT innovation and biostatistics has underpinned the research of the Centre for Clinical Immunology and Biomedical Statistics, (CCIBS) a joint centre of Royal Perth Hospital and Murdoch University.

HIV disease remains a global humanitarian tragedy with over 42 million adults and children currently infected, major socioeconomic repercussions and no overall decline in new infections per year. Our work on the adaptive interactions between HIV and the human immune system has revealed the biological forces driving the profound genetic diversity of HIV and led to new paradigms for drug treatment and vaccines that can combat this diversity.

The investment in HIV infection as a model *par excellence* for all adaptable pathogens has attracted support from the international scientific community, funding bodies and industry groups who recognise the potential benefits for other diseases with significant global health impact and where the challenges associated with pathogen/host diversity remain unmet.

Dr Mina John is a consultant clinical immunologist and immunopathologist. Her research has focused on contemporary clinical issues associated with HIV infection and other diseases of the immune system. She has worked in the MRC Institute of Molecular Medicine, University of Oxford on their vaccine development program for East Africa and visited trial sites in Kenya during this time. Currently she coordinates a global vaccine design project involving diverse populations in Africa, Asia, Europe, South America and the US funded by the Bill and Melinda Gates Foundation.