

Indigenous Health



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This issue of *Microbiology Australia* is devoted to Microbes that cause disease particularly in our Indigenous populations. We have for example the worldwide highest rates of Rheumatic Fever and Heart Disease in Aboriginal and Torres Strait Islander people. These follow streptococcal infections mostly as a result of skin damage through primary infections with pathogens such as parasitic scabies mites. The introductory article by Mick Gooda, Chief Executive Officer of the CRC for Aboriginal Health, promotes the CRCAH's holistic approach to research on Indigenous health issues which seeks to actively integrate the input from the biomedical research communities with the requirements recommended by the communities they are seeking to help. Given the complexity of Indigenous health issues this is an ongoing challenge. The research articles collated in this special edition highlight the diversity of disease caused by microorganisms that affect the Indigenous population of Australia. We have covered bacteria such as *Streptococcus* (two articles by Jonathan Carapetis covering the epidemiology and Michael Batzloff, David McMillan and Manisha Pandey addressing recent vaccine developments), *Staphylococcus* (Deborah Holt, Philip Giffard and Steven Tong), *Mycobacterium* (Vicki Krause), *Streptococcus pneumoniae*, *Haemophilus influenzae* and *Moraxella catarrhalis* (Heidi Smith-Vaughan, Robyn Marsh and Amanda Leach), *Chlamydia* (Joseph Debattista, Susan Hutton and Peter Timms), and *Burkholderia pseudomallei* (Bart Currie) and sexually transmitted bacteria such *Neisseria gonorrhoeae* and *Treponema pallidum* (Paul Torzillo). Amongst the most common viral infections we address *Rotavirus* (Ruth Bishop and Carl Kirkwood) and *Papillomavirus* (Suzanne Garland). Also of importance are fungal disease (Nathan Saul, Karen Koh and David Ellis) and parasitic pathogens such as helminthes (James Mc Carthy) and *Sarcoptes scabiei* (Katja Fischer and Dave Kemp).

Clearly, this special edition of *Microbiology Australia* not only provides a snapshot of the range of biomedical research projects in Australian Indigenous Health but also emphasizes

the importance of extending such efforts. Infectious diseases affecting Indigenous Australians remain amongst the neglected topics of medical research and more effort, particularly in basic research, would in the long term make a real difference to the health of those affected.

Professor Michael Good is the Director of the Queensland Institute of Medical Research (QIMR), Chair of the National Health and Medical Research Council of Australia, Director of the Griffith Medical Research College, Professor in the School of Population Health, University of Queensland and Head of the Molecular Immunology Laboratory at QIMR. He is the Past President of the Lancefield International Symposium on Streptococci and Streptococcal Diseases, a past President of the Association of Australian Medical Research Institutes and a past Director of the Cooperative Research Centre for Vaccine Technology. He was made an Honorary Member of the American Society for Tropical Medicine and Hygiene in 2006. In 2008 he was a Steering Committee member and Co-Chair of the "long-term national health strategy" of the 2020 Summit. Also in 2008 he was awarded an Officer of the Order of Australia (AO) for service to medical research, particularly in the fields of infectious disease immunology and vaccine technology, through leadership roles at the Queensland Institute of Medical Research and contributions to education. In 2009 he won the Australian Museum CSIRO Eureka Prize for Leadership in Science.

Professor Good graduated MD PhD DSc from the University of Queensland and the Walter and Eliza Hall Institute of Medical Research in Melbourne. He undertook postdoctoral training as a Visiting Scientist at the National Institutes of Health in Bethesda, Maryland. His interests are in the field of immunity and immunopathogenesis to malaria and group A streptococcus or rheumatic fever, with particular relevance to the development of vaccines. He is an editor on several scientific journals and is an author on over 260 peer-reviewed publications.

Dr Katja Fischer is the Senior Research Officer in the Scabies laboratory at the Queensland Institute of Medical Research. She completed her undergraduate training at the University of Freiburg, Germany, then undertook a PhD at the University of Würzburg, Germany, followed by post doc positions at QIMR with Prof Allan Saul and subsequently with Prof David J. Kemp.

Her primary research focus has always been molecular medical parasitology. Prior to 2003 her work on variant antigens within subtelomeric regions of malaria parasites as well as the construction of YAC contigs of complete malaria chromosomes was pilot work greatly impacting on subsequent genome sequencing projects. Recently she has been involved in a Gene Discovery Project on *Sarcoptes scabiei* where the construction and normalisation of cDNA libraries enabled the sequencing of 45,000 cDNA clones. This work opened entirely new opportunities for research on a neglected infectious disease previously inaccessible to molecular studies. The scabies laboratory's current focus is on families of scabies mite molecules that interfere with host defence, in particular with complement.