

Professor Jus St. John was awarded his PhD from the University of Birmingham in 1999. Whilst in the UK, he was funded by the Medical Research Council and was appointed Professor of Reproductive Biology at the University of Warwick (2007). Since 2009, he has been the Director of the Centre for Genetic Diseases at the Hudson Institute of Medical Research. His research focuses on understanding how mitochondrial DNA is transmitted and replicated. Using a variety of assisted reproductive technologies and embryonic stem cell models, he has described mitochondrial DNA replication events in oocytes, embryos and undifferentiated and differentiating embryonic stem cells and why they are important to developmental outcome. He has also demonstrated why donor cell mitochondrial DNA is transmitted to embryos and offspring following nuclear transfer. Additionally, he has also shown how mitochondrial DNA copy number is regulated in a cell-specific manner by DNA methylation of the nuclear-encoded mitochondrial DNA-specific polymerase; and how mtDNA haplotypes influence chromosomal gene expression patterns. He is using these outcomes to develop mini-pig models of autologous mitochondrial DNA supplementation to enhance to developmental outcomes; and reproductive strategies to prevent the transmission of mutant mitochondrial DNA from one generation to the next. He has published in *The Lancet*, *Nature Chemical Biology*, *Nature Cell Biology*, *Nucleic Acids Research*, *Stem Cells*, *Cell Death and Differentiation*, *Journal of Cell Science*, and *Genetics*. In 2013, he received the Society for Reproductive Biology's Award for Excellence in Reproductive Biology Research.

Professor Jus St. John

Centre for Genetic Diseases, Hudson Institute of Medical Research, 27-31 Wright Street, Clayton, Victoria, Australia.