

## The Women and Infants Research Foundation School of Women's and Infants' Health (WIRF-SWIH) Lotterywest Perinatal Research Laboratories

The WIRF-SWIH Lotterywest Perinatal Research Laboratories at the University of Western Australia's Large Animal Facility (LAF) were initially commissioned to support sheep-based research undertaken by SWIH and the Foundation. This remains a primary focus. However, following a substantial upgrade, this newly-enhanced facility now has the capacity to comprehensively support basic and translational studies in addition to the core sheep-based research.

Three complementary facilities comprise the laboratories: a PC2 Laboratory (supporting microbiology and general laboratory analyses), a Pre-PCR Laboratory (supporting protein analysis, cell culture and nucleic acid handling) and a Core Laboratory (supporting nucleic acid amplification, electrophoresis and ultra-low temperature storage). This facility is unique in allowing us to directly transfer research samples from operating theatres and animal holding rooms into custom-designed research laboratories for immediate downstream analysis. In addition, the laboratories support the Anatomy of Complications Workshop, which is held five times each year and provides advanced surgical training to medical professionals from Australasia and the Asia-Pacific region.

These laboratories continue to play a crucial role in allowing us to advance the Foundation's perinatal research objectives. The past 12 months have been an especially busy and highly productive period for the team at the LAF. Five research staff (post-doctoral researchers, graduate students and technicians) work year-round in these laboratories. Each July and August, the laboratories play a key role in supporting the largest sheep-based perinatal research program of its kind. This year, 15 investigators from the United Kingdom, Japan, Europe and the United States used the WIRF-SWIH Lotterywest Perinatal Laboratories to perform real-time measurements of fetal infection, inflammation, injury and physiology.



Research team WIRF-SWIH,  
Lotterywest Perinatal Research  
Laboratories

“...prevent PTB  
&  
improve  
outcomes  
for  
preterm  
infants.”

Over the past 12 months, the WIRF-SWIH Lotterywest Perinatal Laboratories have undertaken work funded by agencies including the National Institutes of Health, the National Health and Medical Research Council, the Royal Society, Glaxosmithkline, Chiesi SpA, the Financial Markets Foundation for Children, Sparks (UK), the Department of Health, and the Women and Infants Research Foundation. Research undertaken in the WIRF-SWIH Lotterywest Perinatal Laboratories has been published in leading peer-reviewed journals including the American Journal of Obstetrics and Gynecology, Laboratory Investigation, Antimicrobial Agents and Chemotherapy, Pediatric Research and Reproductive Sciences.

2015-2016 promises to be an equally busy year for the laboratories, with a number of exciting protocols under development. As in previous years, our research focus remains very much centred about preventing preterm birth and improving outcomes for preterm infants. I would like to extend my gratitude to the Foundation for its invaluable support of our research efforts. I would also like to acknowledge the hard work and commitment of the laboratory team at the LAF over the past 12 months.

### Dr Matt Kemp

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