

Spotlight on... Jeff Keelan



WIRF's Professor Jeff Keelan is a leading expert in placental disorders in pregnancy.

For more than 30 years his research has focused on the formation and function of the placenta and its role in normal and complicated pregnancies.

He has made important research contributions in the areas of inflammation, preterm labour and birth, and placental drug transport and metabolism.

As an integral part of the ground-breaking Western Australia Preterm Birth Prevention Initiative, he continues to lead research into the microbiome in pregnancy and the treatment/prevention of preterm birth.

As Director of the Women and Infants Research Laboratories, he

has overseen the installation and inauguration of new cell and tissue culture facilities, the expansion of the laboratory's image analysis facilities, and the recruitment and training of Honours and PhD students to the laboratories. He directs the WA Pregnancy Biobank and recently established the Microbiome Consortium of WA (MiCWA).

Prof Keelan has published over 175 peer-reviewed articles, received more than \$7 million in competitive grant funding in Australia, supervised more than 50 Higher Degree Research (HDR) students, and has also examined more than 40 HDR theses and dissertations.

Outside of the lab, he is also an accomplished and passionate Jazz guitarist and teacher, and lover of Sci-fi books and movies.

Unravelling the science behind inflammation in pregnancy

Inflammation is a normal part of the labour process. Without inflammation, the cervix would not ripen, the membranes would not rupture and contractions would not start.

However, excessive inflammation in pregnancy is also the cause of many preterm births and pregnancy complications, although the causes of the inflammation are unknown in many cases.

Research led by WIRF's Prof Jeff Keelan seeks new ways of blocking the inflammation, allowing women to deliver at term and sparing the fetus from the harmful effects of exposure to inflammation in the womb.

Prof Keelan and his team at WIRF are exploring the potential benefits of new anti-inflammatory drugs and dietary supplements in pregnancy, using human placental tissues to test their effectiveness. One of their goals is to see whether or not new ways of formulating dietary supplements allows them to inhibit inflammation in the placenta at normal (safe)

recommended daily doses.

Researchers have known for a long time that too much inflammation is harmful in pregnancy – now it's time to work out how to safely block it. The team hopes that these new approaches

will be successful and we can soon offer treatments to women to reduce the impact of inflammation-related problems on pregnant women and their babies.

Placenta

Antibiotics & Anti-inflammatories

Bacteria (e.g genital mycoplasmas)

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