

SRF ACADEMIC SCHOLARSHIP RECIPIENT 2016

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PROJECT SUMMARY

The Contribution of Placental Angiogenesis to Porcine Foetal Growth

Infants that are light at birth face challenges in adapting to life outside the womb and are at greater risk of reduced health and well-being later in life. As many of the problems associated with low birth weight cannot be fully remedied after birth, our research aims to understand how and why some fetuses grow more slowly, resulting in small infants. We study factors associated with low birth weight in the domestic pig, because the piglet is recognised as a good model for the human infant and because small piglets present problems for the pig industry. The causes of inter uterine growth restriction are poorly understood, but the ability of the placenta to meet the demands of the growing foetus are believed to be involved.

We will determine whether the formation of new blood vessels in the placenta differs between placentas supplying normally-sized and small fetuses in the same uterus using new laboratory-based techniques. We will then use specialised software to count the numbers of new blood vessels and vessel networks.

We hope to identify when placentas supplying small fetuses become less able to supply their nutrient needs, so that the timing of any remedial therapies can be identified.