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Media Release

Fellowship backs pioneering research into potential alternative to antibiotics

Tuesday, 10 December 2019

One of Western Australia's most promising early career scientists has secured a fellowship which will see her continue her pioneering work in the field of perinatal microbiology.

Postdoctoral Research Associate at the Women & Infants Research Foundation, Dr Lucy Furfaro, was named the Raine/Robson Fellow as part of the Raine Medical Research Foundation's recent announcement of their 2020 Grants, Fellowships, Awards and Prizes.

Dr Furfaro will continue her project, *Bacteriophage exposure in utero: Implications for health and disease*, which is examining if one of the most abundant microbes on the planet can play a role in protecting mothers and babies from bacterial infections.

"These phages are able to infect and kill specific bacteria and act to maintain balance in microbial environments," she said.

"Because of this phage therapy has the potential to be an alternative to antibiotics and could play a central role in our future ability to fight bacteria that are working hard to develop resistance to our full range of current drugs.

"I particularly want to focus within the perinatal context. I want to know why some babies are protected from infection and others are not," she said.

We are constantly exposed to phages as part of our day-to-day life, but it is still unknown if exposure occurs in the womb.

Using sequence technology, Dr Furfaro hopes to determine if any phage DNA is present in amniotic fluid collected during Caesarean delivery and amnio-reduction.

"This will help us to determine if phages are present in the womb and if they may have a role in protecting mothers and babies from bacterial infections," she said.

"This study will have implications for understanding whether phage therapy is a viable option to explore during pregnancy to fight antimicrobial resistant infections."

WIRF Chief Scientific Director and the Raine Study's Founding Investigator, Professor John Newnham AM, said the Raine Grants were an important opportunity for early-career scientists who are progressing towards an independent research career.

"Ranking of applications is based on scientific excellence. Lucy was ranked the highest in the 2020 cohort of applications, and as such, was named the Raine/Robson Fellow," Prof Newnham said.

"We wait with great anticipation of the results from Lucy's study and her other very promising work into Group B Streptococcus colonisation and antibiotic resistance, and wish her all the best as she takes the microscopic world to produce macroscopic outcomes."

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Background: The Women & Infants Research Foundation is one of Australia's leading medical research institutes dedicated to improving the health of women and infants. We focus our research and programs across three principal areas: the prevention of preterm birth, gynaecological cancers, and women's mental health. This research and programs have directly contributed to a number of improved clinical practices and health outcomes.