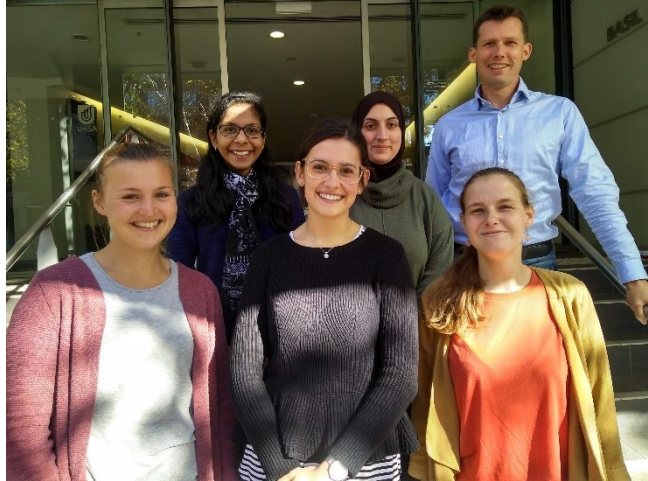


Nicky Thomas: Mid-Career Fellowship - A Trojan Horse strategy for antimicrobial biologicals.

Congratulations to **Dr Nicky Thomas** has been awarded a 3 year Mid-Career Fellowship from The Hospital Research Foundation for his project 'A Trojan Horse strategy for antimicrobial biologicals'.

Worldwide 10 million people are expected to die every year due to the increase in antimicrobial resistant bacteria, calling for an urgent need for novel, effective therapeutic approaches.

As a trained pharmacist with a PhD in pharmaceutical sciences Nicky has extensive experience in the area of nano-medicine (i.e. medicine as small as 1/1000 the width of a human hair).



His research has shown that the use of nano-antibiotics is more successful against life threatening bacteria (also known as “superbugs”) than currently available antibiotics.

A key barrier to commonly available antibiotics are biofilms - communities of bacteria embedded in a protective slime that prevents effective treatment. This ultimately leads to chronic infections, repeated and costly long-term antibiotic treatment, further adding to the development of global antibiotic resistance.

In this project Nicky’s group will use biological compounds (such as enzymes) that remove the protective slime surrounding the bacteria. This clears the way for (previously ineffective) antibiotics that can now eradicate the infection when given together with enzymes.

In order to protect and hide the enzymes from premature inactivation in the body, Nicky employs a “Trojan Horse” strategy for the smart delivery of antimicrobial compounds. Concealing and protecting enzymes from premature degradation, the Trojan Horse carriers “sense” the presence of an infection and respond by releasing their payload (enzyme and antibiotics) for most effective and direct antimicrobial effect at the site of infection.

In collaboration with UniSA’s Nanomedicine group (Prof Clive Prestidge) and clinicians at TQEH and RAH this project will develop and evaluate an array of smart, bio-responsive Trojan Horse carriers for use in 3 major areas of human chronic infections, specifically wound, implant and upper respiratory infections.

Further information regarding the awards can be found [here](#).