



Media release

UNSW Sydney joins team tackling harmful bacterial biofilms as part of manufacturing research partnership

Healthcare, food production and manufacturing industry to benefit

Novel solutions for biofilm infections are the focus of a collaborative research agreement between the University of Sydney, Whiteley Corporation and the Innovative Manufacturing Cooperative Research Centre (IMCRC) which started in 2018. UNSW Sydney joined the project in 2020, significantly increasing the academic manpower available to the project.

Over four years, more than \$5 million will be co-invested in the research and development of new therapeutic treatments for biofilm mediated infection by [IMCRC](#), [University of Sydney](#), [UNSW](#) and medical and industry manufacturer [Whiteley Corporation](#).

Announcing the participation of UNSW in the project, Dr Greg Whiteley said the extra resource and skill set will significantly increase the project's ability to develop and commercialise a series of combination therapies.

“Building on the early findings by Associate Professor Jim Manos and his team at the University of Sydney's School of Medical Sciences and Charles Perkins Centre, and with UNSW's expertise in the development of novel antimicrobials used in disinfectants, we are accelerating our development efforts to bring new biofilm removal solutions faster to market.”

The UNSW team, led by Professor Mark Willcox, will be developing and manufacturing anti-biofilm peptide compounds to be included in formulations created by the University of Sydney, that can be used as treatments for wounds and cystic fibrosis. The peptide compounds are either targeted at biofilm disruption or biofilm inhibition and can aid in the development of new treatments to reduce microbial load for wounds to improve healing. The new patented compounds are added into formulations by Whiteley Corporation and then go back to both UNSW and the University of Sydney for further testing.

Professor Mark Willcox, who is a Professor and Research Director, Chair, Equity, Diversity and Inclusion Committee at the School of Optometry and Vision Science, welcomes the opportunity.

“We are delighted to be part of this CRC and the research team. Translating our compounds into new treatments to reduce microbial biofilms of people with cystic fibrosis and wounds is a real motivator for us and helps us expand the use of our antimicrobials,” said Professor Willcox.

Professor Willcox, a medical microbiologist who has worked for many years in the area of infections on/related to medical devices, will be joined by Professor Naresh Kumar, who is an expert in the field of natural products chemistry and focuses on research into the discovery and development of novel bioactive molecules. Completing the team is post-doctoral research fellow Dr Renxun Chen. Dr Chen has been working in a cross-disciplinary field encompassing chemistry, material science and

microbiology, to develop new antimicrobial coatings to prevent infections on medical devices and implants using novel antimicrobials.

Biofilms formed by microorganisms on living tissue cause morbidity and mortality in humans and animals. They also form on inanimate medical-related surfaces such as catheters, implants, medical instruments and almost all dry surfaces, where they pose a significant infection risk for patients. Biofilms can also be found on non-medical surfaces such as in pipes and on boat hulls, are expensive to remove and cause damage to surfaces.

IMCRC CEO and Managing Director, David Chuter, applauded Whiteley's continued commitment to research collaboration.

"We have seen the project going from strength to strength and are delighted to see Whiteley Corporation expanding the research team by bringing on board UNSW. The project will benefit from the addition of their global expertise in medical research and evidenced-based approach to further practical solutions crucial to successfully manufacturing and commercialising the new formulated products."

Contacts

UNSW Sydney: Belinda Henwood, 0412 270 034, b.henwood@unsw.edu.au

University of Sydney: Rachel Fergus, 02 9351 2261, 0478 316 809, rachel.fergus@sydney.edu.au

Whiteley Corporation: Jean Delany, 02 4961 9333, 0417 423 440, jean@whiteley.com.au

IMCRC: Jana Kuthe, 0416 735 666, Jana.kuthe@imcrc.org