



**UNSW**  
SYDNEY



## Curing Infectious Disease Through Bacterial Biofilm Control

**Recognising the futility of developing next generation antibiotics without developing strategies to undermine the resilience of bacterial biofilms. The end goal of the research is to develop a means of destabilising bacterial biofilms and enable improved efficacy of traditional antibiotics.**

### Competitive advantage

- Expertise in microbial ecology, organic and surface chemistry, antimicrobial resistance, optometry and contact lens development
- State-of-the-art laboratories for biofilm-based assays
- World-class facilities for genomics, transcriptomics and proteomics
- Leadership in fundamental research on biofilms for over two decades

### Impact

Antibiotics, highly effective at killing bacterial cells, have proven to be ineffective against cells entrained in a biofilm matrix—many infectious disease states involve multiple microorganisms (rather than a single culprit) bunkered in high cell density communities encased in a complex polymeric matrix. Developing a means of destabilising these biofilms will undermine the resistance to antibiotics and prevent unnecessary deaths from diseases that are currently curable.

### Successful outcomes

- Inspiring next generation pharmaceutical companies to target biofilm control

### Capabilities and facilities

- Synthetic chemistry and biofilm testing facilities
- Ramaciotti Centre for Genomics (genomics, transcriptomics)
- Biomedical imaging facilities for biofilm characterisation
- Biomedical mass spectrometry facility for proteomics

### Our partners

- University of Copenhagen (Denmark)
- Nanyang Technological University (Singapore)
- Californian Institute of Technology (USA)

### More Information

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