



Infectious  
Diseases Labs

ID LABS



## Dr Franklin Nobrega

The Microbial Interactions Lab  
University of Southampton, England, United Kingdom



**Tuesday, 18 April 2023**

4:00pm to 5:00pm (SGT)

**Join Zoom Meeting** [here](#)

Meeting ID: 915 8650 0113

Passcode: 161544

### Studying microbial immunity to understand disease

My research group studies the mechanisms used by bacteria to prevent viral propagation, with a focus on understanding the signals that activate bacterial host immunity. We seek to bridge the gap between bacterial and human antiviral immunity elements by exploring the conservation of these mechanisms. Specifically, our group aims to demonstrate how the synergies between bacterial defenses, like Kiwa and RecBCD, can overcome phages. To achieve this, we have investigated the defense systems that co-occur in genomes of important pathogens such as Escherichia coli and Salmonella, and act in molecular synergy. Surprisingly, our research revealed also that Salmonella exhibits functional specialization in regions of genomic plasticity, for defense, stress resistance, and antibiotic resistance purposes. In these areas, we have identified new anti-phage systems and putative virulence factors that play a critical role in bacterial immunity.

**Dr Franklin** Nobrega is a highly regarded molecular microbiologist and bacteriophage expert. He received his PhD in Microbiology from Wageningen University in 2017 and went on to receive a prestigious Veni fellowship from the Netherlands Organisation for Scientific Research to start his independent career at Delft University of Technology. In 2020, he became a Lecturer in Microbiology at the University of Southampton, where he leads research on the intricate interactions between phages, bacteria, and hosts. He has established a successful research line on prokaryotic antiviral defence systems and the viral counter-responses, and published numerous important findings in leading journals. His research has made a significant impact in the development of phage-based therapies, including the co-founding of the Fagenbank, a Dutch phage bank, and the establishment of a Phage Therapy Experimental Medicine programme in the UK. As a sought-after scientific advisor to organisations such as SNIPRBiome and the BGI Group, Dr Nobrega continues to collaborate with companies including Nestle and Othram. In recognition of his strong industry relationships, he was recently appointed as the Industrial Business Lead of the Knowledge and Exchange Enterprise at the University of Southampton

Webinar is open to all. No registration required

Questions? Contact us at [seminars@idlabs.a-star.edu.sg](mailto:seminars@idlabs.a-star.edu.sg)

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