SPRINT-TB Drug Discovery: 
New Approaches, New Targets

Assoc Prof Thomas Dick
Head, Antibacterial Drug Discovery Laboratory 
Director, BSL3 core facility 
Department of Microbiology, 
Yong Loo Lin School of Medicine, 
National University of Singapore

Abstract
Antibacterial drug discovery suffers from a whole series of issues. Target-based approaches do not deliver. Whole cell approaches are not effective. We do not know how to kill persister bacteria effectively and how to slow down resistance development. Here, I will discuss various novel approaches and new therapeutic intervention levels we are using in the Singapore SPRINT-TB program to tackle those issues. These include target based whole cell screens, targeting the membrane, and fragment based phenotypic screens. SPRINT-TB (www.sprinttb.org) is a Singapore based fully enabled academic bench to bed site antibacterial discovery and development platform.

About our Speaker
Dr Dick is heading the Antibacterial Drug Discovery Laboratory in the Department of Microbiology, School of Medicine, National University of Singapore. His research focuses on Tuberculosis and newly emerging mycobacterial pathogens. The goal of his group is to identify new target-lead couples for the development of new chemotherapies. Dr Dick is teaching microbiology, antibiotics and drug discovery to undergraduate and graduate students, and is responsible for the School’s high containment facility.

Prior to his current position as Associate Professor, he worked for eight years in the pharmaceutical industry leading the Tuberculosis drug development unit at the Novartis Institute for Tropical Diseases, where he established and managed the discovery portfolio from target identification to preclinical development. To facilitate clinical and translational research he created a joint clinical Tuberculosis research operation between Novartis, the Eijkman Institute and Hasanuddin University in Indonesia.

Dr. Dick completed his post-doctoral fellowship at the Institute of Molecular and Cell Biology in Singapore, where he became principal investigator heading the Mycobacterium Biology Laboratory. He studied biochemistry, genetics and microbiology at the University of Heidelberg where he obtained his PhD in molecular bacteriology.