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# IAS@NTU STEM Graduate Colloquium

## 31 May 2024 (Fri) 1.30pm to 3.30pm | SBS Classroom 1



## Antimicrobial Resistance and Antibacterial Drug Discovery


**Prof Thomas Dick**

**Center for Discovery and Innovation, Hackensack Meridian Health**


Introduction of antibiotics revolutionised medicine a century ago, but rising resistance threatens a 'post-antibiotic era'. As the pharmaceutical industry largely withdraws from antibacterial drug discovery, academia must step in. Despite its complexity, drug discovery in academic settings is both necessary and feasible. This presentation will discuss key concepts of drug discovery and showcase a case study from our lab.

## Early-stage Drug Development: A Case Study using an Antibacterial Drug Targeting F-ATP Synthase Nano-motor




**Dr Vladimir Mashansky**
**President and CEO (founder)**
**Neuro-Horizon Pharma Inc**





**Dr Mhairi Skinner**
**Director and CSO**
**Neuro-Horizon Pharma Inc**


The colloquium will explore the crucial role of academic research in drug discovery and successful "bench to bedside" translation. It will cover early-stage drug development and collaborations between academia and pharmaceutical companies, using NHP Inc.'s work on targeting the F-ATP synthase nano-motor as an example. Moreover, it will introduce intellectual property and its importance in protecting drug development.

**Prof Thomas Dick** has dedicated over 20 years to researching mycobacteriology and anti-mycobacterial drug discovery. At Center for Discovery and Innovation, USA, he has established a robust drug discovery platform, which includes strain collections, potency assays, and pharmacology models. Prof Dick has authored over 200 papers in the field of antibiotic discovery, resistance, and mechanisms of action, with an h-index of 59.

**Dr Vladimir Mashansky** and **Dr Mhairi Skinner** collaborate at Neuro-Horizon Pharma Inc (NHP), a US-based drug development company with a platform founded on extensive expertise in the area of molecular and cell biology of ATP-driven rotary nano-motors and small GTPases and their use as therapeutic targets for innovative drug design and development. The company has partnered with NTU and EDDC Singapore to develop drugs to combat multidrug-resistant tuberculosis.