Organised by

National Centre for Infectious Diseases

NUS National University of Singapore | Infectious Diseases Translational Research Programme
Yong Loo Lin School of Medicine

NCID MONTHLY RESEARCH MEETING:

BRINGING PEOPLE TOGETHER,

BRIDGING SCIENCE AND MEDICINE

19 Aug 2022 | Friday | 11.00am – 12.00pm

About the Meeting

Our research meetings are held every 3rd Friday of the month, with the aim to:

1) Inspire research ideas and participation
2) Provide guidance on research studies
3) Foster research collaborations

Who should attend

All who are interested in research are welcome to attend.

To register

This will be a Zoom meeting. Register here or scan the QR code below.

CME/CPE points will be awarded

Programme

11:00 AM **Role of Environment in Pathogen transmission: A Look at MDRO and Monkeypox**
Adj Asst Prof Kalisvar Marimuthu
Senior Consultant
National Centre for Infectious Diseases and Tan Tock Seng Hospital
Yong Loo Lin School of Medicine, NUS

11:30 AM **Modulation of Matrix Metalloproteinases in Tuberculosis to Improve Patient Outcomes**
Asst Prof Catherine Ong
Assistant Professor
Infectious Diseases Translational Research Programme,
Yong Loo Lin School of Medicine, NUS

5 to 10 mins Q&A will follow after each talk

Role of Environment in Pathogen Transmission: A Look at MDRO and Monkeypox

by **Adj Asst Prof Kalisvar Marimuthu**
Senior Consultant
National Centre for Infectious Diseases and Tan Tock Seng Hospital
Yong Loo Lin School of Medicine, NUS

In this talk, Dr Marimuthu will discuss his work on the transmission dynamics of multidrug-resistant organisms (MDRO) and Monkeypox. He will discuss his recent research findings and explore the importance of environment-mediated transmission of these pathogens.

Learning Points

1. Hospital environment plays a key role in MDRO transmission.
2. Role of environmental sampling in understanding and controlling emerging pathogens.

Modulation of Matrix Metalloproteinases in Tuberculosis to Improve Patient Outcomes

by **Asst Prof Catherine Ong**
Assistant Professor
Infectious Diseases Translational Research Programme
Yong Loo Lin School of Medicine, NUS

Tuberculosis (TB) tissue destruction are hallmarks of established disease, where the activity of destructive host proteases matrix metalloproteinases (MMPs) are unopposed by their specific tissue inhibitors. Evidence of pathogenic MMPs in human pulmonary and CNS-TB will be presented. Data from a Phase 2 clinical trial using MMP inhibition hastened inflammation resolution and reduced lung cavity formation. MMP inhibition in CNS-TB mice showed improved survival. Strategies targeting MMPs can improve TB-associated morbidity and mortality.

Learning Points

1. Matrix metalloproteinases (MMPs) drive immunopathology in TB.
2. Inhibiting MMPs in human pulmonary TB accelerates resolution of inflammation and decreases lung cavities.
3. Inhibiting MMPs in murine CNS-TB improves survival.