Organised by

National Centre for Infectious Diseases

NCID MONTHLY RESEARCH MEETING

BRINGING PEOPLE TOGETHER,

BRIDGING SCIENCE AND MEDICINE

21 Oct 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. Please register using the link or QR code below.
http://tiny.cc/oct22researchmeeting

*CME/CPE points will be awarded

Programme

The NCID Catalyst Grant, funded by MOH, encourages inter-institutional collaborative research in infectious diseases and public health. It is awarded to new Principal Investigators and researchers from academic institutions and hospitals.

Four FY21 Catalyst Grant awardees are invited to share their project findings in a 10mins presentation, inclusive of Q&A.

11:00 AM **Dr Ennaliza Salazar**
Singapore General Hospital

11:10 AM **Asst Prof Lim Tze Peng**
Singapore General Hospital

11:20 AM **Dr Kelvin Goh Kau Kiat**
Singapore General Hospital

11:30 AM **Dr Lim Xi Rong**
Tan Tock Seng Hospital

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

Serology Response Following COVID 19 Vaccination Amongst Inflammatory Bowel Disease Patients on Immunomodulator and/or Biologic

by **Dr Ennaliza Salazar**
Consultant
Department of Gastroenterology and Hepatology, Singapore General Hospital

Patient undergoing immune-modifying therapies demonstrate a reduced humoral response after covid-19 vaccination but lack a proper evaluation of effect of such therapies on vaccine-induced t-cell response. We longitudinally characterised humoral and spike-specific T cell responses in patients with IBD for up to 6 months after completing 2 doses of COVID-19 mRNA vaccination. Our study showed that despite the humoral response defects, patients under immune-modifying therapies demonstrated a favorable profile of vaccine-induced t-cell responses that might still provide a layer of COVID-19 protection.

Evaluation of Spiral Microfluidic (SM) for Early Identification of Bloodstream Infection (BSI) Pathogens with MALDI-TOF Mass Spectrometry (MS)

by **Asst Prof Lim Tze Peng**
Senior Principal Pharmacist Researcher
Department of Pharmacy, Singapore General Hospital

Bloodstream infections are life-threatening diseases, associated with high morbidity and mortality [1, 2]. Rapid and accurate identification of causative bacteria is critical for early administration of appropriate antimicrobial therapy as treatment within the first 6 hours of sepsis significantly improves sepsis incidence and mortality. The primary aim is to evaluate the feasibility of Spiral Microfluidics tandem MALDI-TOF MS to identify bacterial pathogen directly from positive blood cultures.

Polymyxin B Therapeutic Drug Monitoring in Singapore

by **Dr Kelvin Goh Kau Kiat**
Research Fellow
Department of Pharmacy, Singapore General Hospital

The clinical use of Polymyxins has resurged recently as salvage therapy for otherwise untreatable infections caused by multi-drug and extensively drug-resistant Pseudomonas aeruginosa, Acinetobacter baumannii, and Enterobacterales. However, it remains challenging to optimally dose polymyxin B. Given that polymyxins are highly nephrotoxic agents and acute kidney injury (AKI) can occur with conventional doses, therapeutic drug monitoring (TDM) may be beneficial. We aim to evaluate the proportion of above- and sub-optimal polymyxin B trough levels and the need for dosing adjustment. Additionally, this study will describe the incidence of AKI in this cohort and evaluate the feasibility of Polymyxin B TDM..

Dissecting Immune Mechanisms Involved in COVID-19 Hypersensitivity Reactions

by **Dr Lim Xin Rong**
Consultant
Department of Rheumatology, Allergy & Immunology, Tan Tock Seng Hospital

With the recent rollout of mRNA vaccines against SARS-CoV2 globally and in Singapore, reports of rare but anaphylaxis events started to appear. These vaccine contains several excipients and lipids; and polyethylene glycol(PEG)-2000 is one of the excipients with recognised allergenic potential. The clinical and research community have postulated that such reactions could be due to IgE mediated mechanisms via anti-PEG IgE or related to pre-existing PEG allergy via anti-PEG IgM or anti-PEG IgG antibodies. In this project, we look at the immune mechanisms promoting immediate hypersensitivity reactions to the Pfizer BNT162b2 vaccine and the response of antibodies to PEGylated lipid nanoparticle after vaccination.