

Organised by



National Centre for
Infectious Diseases



Singapore
General Hospital
SingHealth



Infectious Diseases Translational
Research Programme
Yong Loo Lin School of Medicine

NCID MONTHLY RESEARCH MEETING:

*BRINGING PEOPLE TOGETHER,
BRIDGING SCIENCE AND MEDICINE*

19 Feb 2021 | Friday | 11.00 am – 12.30 pm

This meeting is co-hosted with SingHealth and NUS Yong Loo Lin School of Medicine

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/Febncidresearchmeeting>



PROGRAMME

- 11:00 AM “Novel Strategies for the Development of a Zika Virus Vaccine”
by **Dr Chin Weixin**
Research Fellow, ID TRP; NUS Yong Loo Lin School of Medicine
- 11:30 AM “Antimicrobial Resistance and Genomic Epidemiology of Recent Surveillance *Neisseria gonorrhoeae* Isolates in Singapore”
by **Dr Karrie Ko**
Consultant, Department of Microbiology & Department of Molecular Pathology, SGH
- 12:00 PM “Ticks and Tick-borne Diseases in Singapore: A Neglected threat to Public Health”
by **Dr Mackenzie Kwak**
Parasitologist,
Department of Biological Sciences, NUS

***CME/CPE points will be awarded**



Novel Strategies for the development of a Zika virus vaccine

by Dr Chin Weixin

Zika virus is an emerging mosquito borne virus that has caused large outbreaks. Live attenuated vaccines are the gold standard for preventing virus infection, but their development can be a risky process. Therefore, we adopted novel approaches to develop a safe and effective Zika virus vaccine.

3 Learning Points

1. Our new Zika virus vaccine demonstrates key markers of attenuation.
2. Our Zika virus vaccine is able to induce a protective immune response in our mouse model, which includes neutralising antibodies and an anti-viral Th1 biased response.
3. Our vaccine platform has the flexibility to be deployed as a live virus vaccine or as a hybrid live/DNA vaccine that combines the convenience of DNA vaccines with the efficacy of live vaccines.



Antimicrobial Resistance and Genomic Epidemiology of Recent Surveillance *Neisseria gonorrhoeae* Isolates in Singapore

by Dr Karrie Ko

Multidrug-resistant *Neisseria gonorrhoeae* is a significant public health threat. An understanding of current *N. gonorrhoeae* antimicrobial resistance and local epidemiology allows us to better assess the public health threat posed by *N. gonorrhoeae*.

We examined the expanded susceptibility profiles and genomic epidemiology of recent surveillance *Neisseria gonorrhoeae* isolates in Singapore.

3 Learning Points

1. Antimicrobial resistance of *Neisseria gonorrhoeae* isolates in Singapore
2. Genomic epidemiology of *Neisseria gonorrhoeae* isolates in Singapore
3. Emergence of multidrug-resistant *Neisseria gonorrhoeae* in Singapore



Ticks and Tick-borne Diseases in Singapore: A Neglected Threat to Public Health

by Dr Mackenzie Kwak

Despite its small geographical size, a diverse tick community inhabits Singapore. However, despite increased recognition of their public health importance, Singapore still lags behind much of the world in its capacity to address the public health threat posed by ticks and ticks-borne diseases.

Our lab has been addressing this key knowledge gap by developing diagnostic capacity, elucidating fundamental elements of the disease ecology of Singapore's tick species, and creating tools to predict spillover.

3 Learning Points

1. Singapore hosts more than a dozen tick species, many of which are zoonotic
2. Effective public health policy and practice rest upon accurate diagnosis
3. Elucidating the disease ecology of ticks in a key first step in averting disease spillover