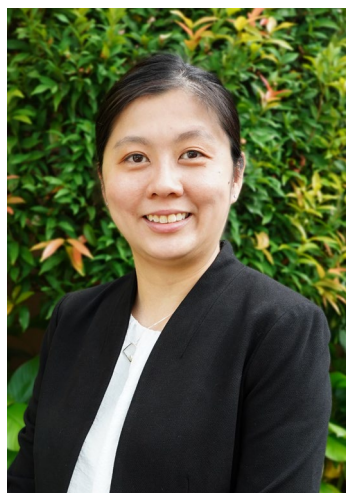




Infectious
Diseases Labs

A*STAR IDL



Dr Jessica Ho

Assistant Professor,
Duke-NUS Medical School



Tuesday 7th January 2025

11:00 AM to 12:00 PM (SGT)

Venue: Codon A & B, Matrix Level 5

Epigenetic regulation of viral infection and its downstream therapeutic applications

The inflammatory response to viral infection is a double-edged sword. While a robust response is protective and required for pathogen clearance, excessive inflammation can be detrimental and lethal for the host organism. Deep understanding the molecular mechanisms that govern the host inflammatory response can therefore be very informative for identifying novel therapeutics and strategies for countering infectious diseases.

Here, I use orthogonal next generation sequencing approaches to evaluate the role of topoisomerase 1 (TOP1) in the control of excessive inflammation during SARS-CoV-2 infection. Inhibition of TOP1 with the FDA- approved drug topotecan, is sufficient to reduce deleterious inflammation in SARS-CoV-2 infected animals and improve disease outcomes. I will also further discuss how we can leverage our epigenome and related processes to be used as viable therapeutic options in infection.

Dr Jessica Ho is an Assistant Professor in the Emerging Infectious Diseases (EID) program at the Duke-NUS Medical School. She received her doctorate at the Rockefeller University (Tarakhovsky Lab). She subsequently did her postdoctoral trainings at the Institute of Molecular and Cell Biology in A*STAR, Singapore and in the Department of Microbiology at the Icahn School of Medicine at Mount Sinai in New York City.

Dr Ho has had a long-standing interest in understanding how viruses change the host cell transcription and epigenetic machinery during infection. These changes directly impact viral biology. They also impact how the host cell and host organism respond to other infections and/or environmental stressors in the short and long term. By understanding the molecular mechanisms underlying viral induced changes in the host transcriptome and epigenome, she hopes to be able to identify suitable therapeutic strategies against viruses and viral induced diseases.

Hosted by: Dr Amit Singhal

Seminar is open to all. No registration required.

Questions? Contact us at seminars@idlabs.a-star.edu.sg

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