

Seminar

A*STAR ID Labs x Open Research Europe presents:

SARS-CoV-2 Biology and Countermeasure Development

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10am SGT | 3am BST



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Open Research Europe



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Meeting ID: 958 2694 9080
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Seminar is open to all. No registration required

SARS-CoV-2 Biology and Countermeasure Development

I will present (i) reverse genetic systems of SARS-CoV-2 and their use for countermeasure development, (ii) viral fitness and transmission of different variants, and (iii) the effect of variant spikes on vaccine-elicited neutralization.

Prof Shi Pei-Yong have been working on RNA viruses, antiviral discovery, and vaccine research for 30 years. My unique experience in public health laboratory (Wadsworth Center, New York State Department of Health; 8 years), pharmaceutical companies (Novartis and Bristol-Myers Squibb; total 10 years), and academia (University of Texas Medical Branch and Yale; total 12 years) allows our work to focus on the interface between basic and translational research. Our basic research illuminates the mechanisms of viral replication and pathogenesis that could be utilized for the development of novel diagnosis, antiviral, and vaccine. In return, our translational research provides unique tools and systems to discover the molecular mechanism of viral replication. I have published over 390 peer-reviewed papers in the leading journals, including *Nature*, *Science*, *Cell*, and *New England Journal of Medicine*. Our work has generated bodies of knowledge that has significantly advanced our understanding of RNA virus, diagnostics, drug discovery, and vaccine development. Besides academic excellence, I also have a strong track record of senior leadership role at leading pharmaceutical company (e.g., Executive Director at Novartis Institute for Tropical Diseases) where I set up antiviral strategies and executed drug discovery and development. I contributed to the development of Fostemsavir (an FDA-approved HIV drug), a dengue NS4B inhibitor (currently at phase 1 clinical trials), and a novel COVID-19 IgM antibody IGM-6268 (currently at phase 1 clinical trials). I aspire to integrate my expertise in academia, industry, and public health to advance basic and translational research. This is exemplified by our recent work on Zika virus and SARS-CoV-2: We established the first reverse genetic systems for both viruses, developed a single-shot live-attenuated Zika vaccine candidate, and identified genetic changes that may contribute to Zika epidemics and SARS-CoV-2 transmission. Many of our technologies have been licensed to pharmaceutical companies for countermeasure development. One recent example is our reporter neutralization assay that has enabled the rapid development of Pfizer's COVID-19 vaccine, the first clinically approved vaccine for human use.

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

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