Singaporean Society for Immunology

Sponsored by: BiomedDiagnostics

SgSI Seminar Series: Infectious Diseases

Date & Time: 22 May 2014 (Thursday), 4.30 - 5.45pm

*Venue: CeLS Auditorium @ NUS

Hosts: Dr Katja Fink, SIgN & Dr Dr. Silvie Alonso, NUS

Registration is based on first-come first-served.
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Dr. Chen Qing Feng

Group Leader
IMCB, A*STAR / SMART, ID IRG

Developing humanized mouse models for disease study

Many pathogens that infect humans are highly species specific and are unable to infect other animals. Moreover, over 600 million year evolution, the interaction between the human immune system and pathogens frequently differs from other animal models. Hence, novel in vivo models are required to characterize these human specific pathogens, study human anti-infection responses and evaluate novel drugs and vaccines. We have found that adoptive transfer of human stem cells into immune-deficient mice leads to development of human blood, liver and other cell systems in mice (humanized mouse). These humanized mouse models developed in our lab have allowed the generation of models that enable in vivo studies with pathogens such as HBV, HCV and so on. Our work of the last few years on humanized mouse models has set the scene for the deeper exploration of human immunology and stem cell research and an increasingly prominent place in pre-clinical trials for humanized mice.

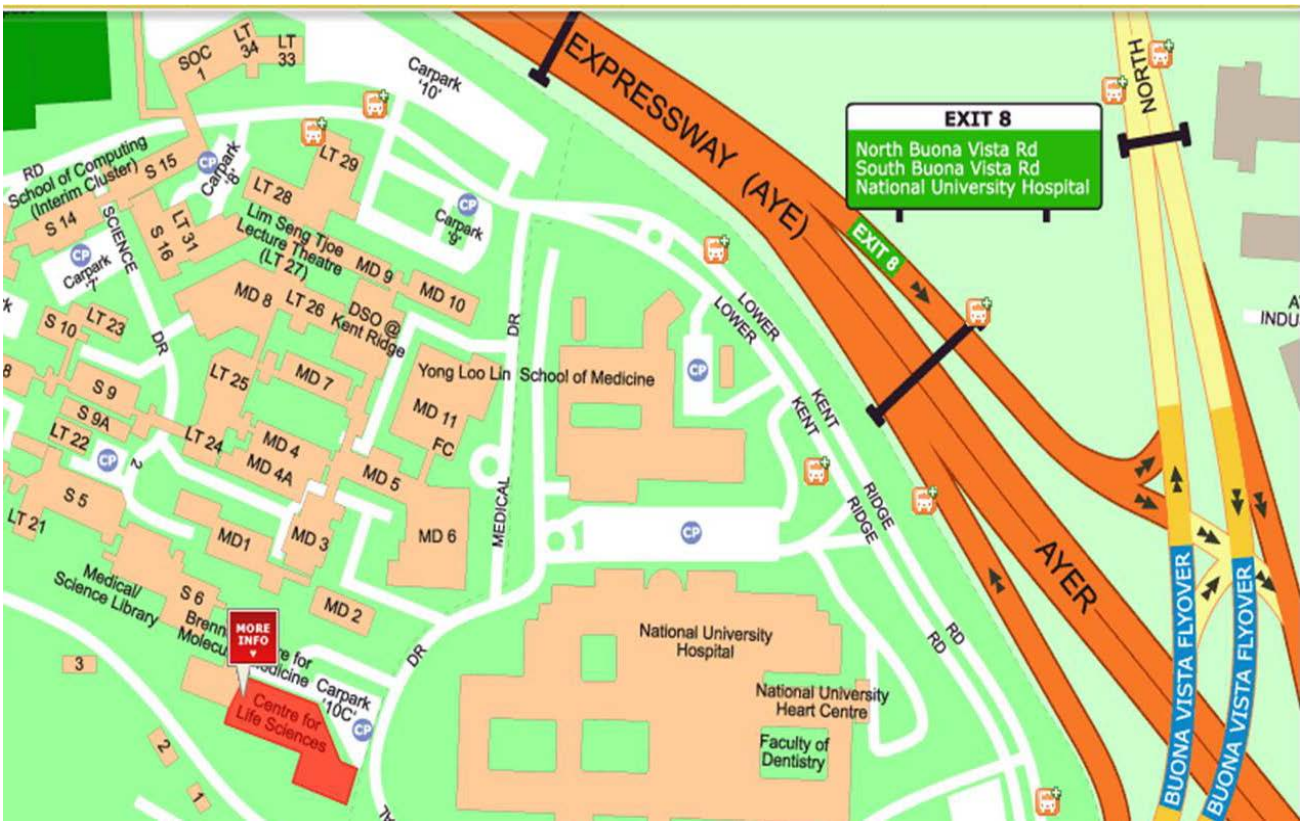
Dr. Lisa Ng

Principal Investigator
SIgN, A*STAR

Cellular and molecular mechanisms of Chikungunya virus pathogenesis: implications for disease interventions

Chikungunya fever has re-emerged as an important human arboviral infection. Sporadic infections are still being reported in many parts of the world, causing severe morbidity with extensive incapacitation in naïve populations. Questions remain about the role of possible microevolution on viral virulence and severity of the associated disease. Importantly, the exact nature of the protective immune defense and the pathogenic mechanisms of debilitating arthralgia and arthritis upon Chikungunya virus (CHIKV) infection are still poorly known. With the increasing spread of the virus around the world, integrated approaches would be essential in order to gather fundamental knowledge on the immune responses mounted against CHIKV. Studies have demonstrated how understanding innate and adaptive immunity against CHIKV could be exploited to develop new immune-based preventive and treatment strategies. These findings will be relevant for the rational design of effective therapies against arthralgia-inducing CHIKV and other re-emerging arthrogenic alphaviruses.

*Address: 28 Medical Drive, Centre for Life Sciences, Level 1, Singapore 117456



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