Access to an intracellular life style: the Apicomplexa way

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Time: 4pm
Venue: LT 20
Host: Dr Cynthia He

The phylum of Apicomplexa represents of a large group of obligate intracellular parasites responsible for severe disease in humans and animals including malaria and toxoplasmosis.

Gliding motility is an essential and fascinating apicomplexan-typical adaptation to their intracellular lifestyle. Members of this phylum rely on gliding motility for their migration across biological barriers and for host cell invasion and egress. This unusual substrate-dependent mode of locomotion involves the concerted action of secretory adhesins, a myosin motor, factors regulating actin dynamics and proteases. During invasion, complexes of soluble and transmembrane proteins are discharged to the apical pole of the parasite, some of them act as adhesins binding to host cell receptors whereas others are involved in the moving junction formation. These complexes redistribute towards the posterior pole of the parasite via a physical connection to the parasite actomyosin system and are eventually released from the parasite surface by the action of parasite proteases. The access to host cell culminates by the sealing of a non-fusiongenic parasitophorous vacuole inside which the parasite replicate safely.

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Seminar Announcement

Artwork by Yong Ann Nee, DBS, NUS