Abstract
In 2015, around 214 million cases of malaria occurred worldwide and around 438,000 people died, predominantly in the African region. Malaria in humans are primarily caused by Plasmodium falciparum and Plasmodium vivax. The latter is of particular interest due to its ability to remain dormant and relapsing weeks, months or years following a primary infection. Such relapse is due to the activation of dormant parasites known as the hypnozoites in the liver. Primary hepatocytes quickly lose their viability and functionality when grown in vitro. This poses as a problem when screening for hypnozoite-active drugs as the drug screening assay requires the parasite infected hepatocytes to remain healthy for an extended period of time so as to capture the whole liver stage life cycle of the parasite.

In this study, hepatic 3D spheroid was explored as a potential platform for screening hypnozoite-active drugs for Plasmodium cynomolgi (established surrogate model for Plasmodium vivax) where the infected hepatic spheroids were able to capture the parasite’s entire liver stage life cycle.

Biography
After getting her M.Sc from NUS in 2005, Adeline spent almost 10 years working in the pharmaceutical industry where she gained diverse research experience in drug screening and development in the areas of cancer and infectious diseases. She is currently furthering her graduate studies with Dr Bruce Russell (University of Otago) and A/Prof Kevin Tan using Plasmodium cynomolgi as a surrogate model to better understand the pathogenesis of Plasmodium vivax.

The role of MKP7 in mediating chemoresistance in Nasopharyngeal Carcinoma (NPC)

Low Heng Boon

Abstract
Nasopharyngeal carcinoma (NPC) is a malignancy arising from epithelial cells that line the nasopharynx. It is characterized by its distinct histopathology, racial and geographical distribution, clinical characteristics and treatment. In addition, the incidence of metastasis in NPC is higher than that of other head and neck cancers.

A major obstacle in the treatment of human tumors, such as NPC, is the resistance to cancer therapies. We found that expression of MKP7, one of the MAPK phosphatases resulted in reduced cisplatin-mediated apoptosis in NPC in vitro and in vivo. Reduced activation of p38 and JNK and enhanced activation of ERK was observed upon MKP7 overexpression in NPC cells, which was associated with reduced caspase-3 cleavage and cell apoptosis. The inverse trend was also observed after knockout of MKP7 in NPC cell lines. Thus, MKP7 may represent a novel therapeutic target in overcoming chemoresistance in NPC therapy.

Biography
Heng Boon has just completed his post-graduate studies in 2016 at Assistant Professor Zhang Yongliang’s lab and is currently working as a research fellow. Previously, he had worked at Prof Chan Soh Ha’s lab involving HLA typing. He practices Capoeira as a hobby.