CANCER SCIENCE INSTITUTE OF SINGAPORE

# SEMINAR ANNOUNCEMENT


## Liu Haiyan

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## Inflammatory cytokines modulating tumor microenvironment in hepatocellular carcinoma

**Date:** Thursday, 4 February 2016
**Time:** 3pm – 4pm
**Venue:** LT 35, Centre for Translational Medicine (MD6)
(14 Medical Drive, Singapore 117599)
**Host:** Prof. Fu Xin Yuan


## Abstract:

Tumor-promoting inflammation has long been noticed by the progression of chronic inflammation to cancer and has become one of the emerging hallmarks of cancer. Many questions arise as to which inflammatory cytokines or which subsets of immune cells directly or indirectly promote malignancy, which of these can be targeted or reprogrammed to instead combat cancer. Many inflammatory cytokines play important roles during cancer development. IL-17A has been found in the tumor microenvironment of both murine and human hepatocellular carcinoma (HCC). We recently demonstrated the immune-suppressive role of IL-17A and revealed a novel mechanism involving crosstalk between γδ T cells, MDSCs and tumor cells through IL-17A production in the tumor microenvironment. IL-23 can promote the production of IL-17A by many cell types. We discovered that IL-23 could indeed enhance the development of HCC through IL-17A production. IL-1α is another important inflammatory cytokine which has been found to be up-regulated in HCC. IL-1α presents as multiple forms in vivo, including precursor, propiece, membrane and secreted forms, and their functions are thought to be different. We found that different forms of IL-1α expression could construct different tumor microenvironment. Targeting the transition from membrane to secreted form of IL-1α may prevent the development of tumor-promoting inflammation.


## Biography:

Dr. Haiyan Liu obtained her Ph.D. from University of Tennessee Health Science Center in 2000 and did her postdoctoral training in the lab of Dr. Peter Doherty at St. Jude Children's Research Hospital. She was a research associate at University of Nevada, Reno and then the Principle Investigator at Soochow University from 2007 to 2015. She is now the associate professor at the Department of Microbiology and Immunology, National University of Singapore. Her laboratory is interested in the immune regulation in the tumor microenvironment and novel therapeutic strategies to improve tumor immunotherapy and hematopoietic stem cell transplantation.