Research Project Title  
**The Role of Statin in Diabetes Mellitus**

Principal Investigator  
Assistant Professor Wang Xiaomeng, LKCMedicine

Collaborator(s)  
Adjunct Associate Professor Subramaniam Tavintharan, LKCMedicine

Project Description  
Diabetes mellitus (DM) is a chronic metabolic condition characterized by glucose intolerance due to lack of or resistance to insulin. The rapid increase of obesity worldwide, an aging population, and sedentary lifestyle drive the global diabetes epidemic. DM is strongly associated with vascular complications, including nephropathy, neuropathy, and retinopathy (micro-vascular) and ischemic heart disease, peripheral arterial disease, and cerebrovascular disease (macro-vascular). However, the underlying molecular and cellular mechanism is still not clear. Statins, a group of HMG-CoA reductase inhibitors, are widely used cholesterol-lowering medications to prevent ischemic vascular events, such as heart attack and stroke. There is evidence that statins function to prevent plaque disruption in mouse model of atherosclerosis and modulate vascular cell function. On the other hand, recent study linked statin to increased new-Onset DM.

To understand the paradoxical role of statin in DM-related vascular complications, we propose a comprehensive study to:

1. Elucidate the impact of statin on pancreatic islet vasculature and function
2. The influence of diabetes on statin mediated vascular cell signaling and behavior.

The mechanistic information we will extract from this work will make a major contribution to our understanding of the pathophysiology of DM, and aid the on-going drug target discovery and validation.

Contact Us  
If you have questions regarding this project, please email the Principal Investigator.

Assistant Professor Wang Xiaomeng  
WangXiaomeng@ntu.edu.sg