NANYANG TECHNOLOGICAL UNIVERSITY

School of Biological Sciences

Reg. No. 200604393R

Research Theme: **Molecular and Cell Biology, Plant Biology**

Research Project Title: **Defence mechanisms of plant for pathogen infection**

Principal Investigator/Supervisor: **Yansong Miao**

Co-supervisor/ Collaborator(s) (if any): **NA**

Project Description

a) Background

Eukaryotic species has striking similar mechanisms for defense in response to bacteria pathogen infection. Innate immune response of plant is a complicated system involving several key intracellular events, including sensing and transport of pathogenic signals via the endocytosis process mediated by actin filament assembly in a spatiotemporal manner. Plants are constantly exposed to different types of pathogenic microbes. In response to pathogen infection, plant has an innate immune system for defense by recognizing pathogen associated molecular patterns from pathogen surface. Several major signaling transduction pathway will be activated and trigger ROS generation and cellular structure changes.

b) Proposed work

This PhD project will use multidisciplinary approaches to study plant defence mechanisms. Comprehensive genetic, molecular biology and biochemistry and advanced cell biology imaging, such as super resolution microscope and TIRF will be used. The proposed study will shed lights on the fundamentals of plant innate immunity, and important for the development of agricultural applications.

Supervisor contact:

If you have questions regarding this project, please email the Principal Investigator:
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SBS contact and how to apply:

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