Research Theme: Cell Biology

MSc Research Project Title:

Imaging the dynamics of the Golgi apparatus

Principal Investigator/Supervisor: Lu Lei (Assoc Prof)

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

Project Description

a) Background:

The Golgi apparatus (Golgi) is a subcellular organelle that functions as a membrane trafficking hub. It comprises serially stacked membrane sacs called cisternae, roughly divided into four zones — the *cis*, *medial*, *trans*-Golgi, and *trans*-Golgi network. It is still unclear how the Golgi maintains its unique and fascinating organization and how cargos shuffle across the Golgi cisternae. The most challenging issue in this field is resolving Golgi cisternae under light microscopy. We have recently developed systematic and quantitative super-resolution methods to solve this issue (Tie et al., 2016; Tie et al., 2018; Tie et al., 2022). These new tools give our lab a unique advantage in studying the trafficking mechanism within the Golgi (intra-Golgi).

b) Proposed work:

We will image the intra-Golgi trafficking of secretory and endocytic reporters using the cutting-edge super-resolution microscopic tools developed in this lab.

c) Preferred skills: Cell culture

Supervisor contact:

If you have questions regardi
ng this project, please email the Principal Investigator:

SBS contact and how to apply:

Associate Chair-Biological Sciences (Graduate Studies) : AC-SBS-GS@ntu.edu.sg

Please apply at the following:

Application portal:

https://venus.wis.ntu.edu.sg/GOAL/OnlineApplicationModule/frmOnlineApplication.ASPX