SATU Presidents' Forum
of Southeast and South Asia and Taiwan Universities
台灣與東南亞暨南亞大學校長論壇

National Cheng Kung University
No. 1, University Road,
701 Tainan City, Taiwan
: +886-6-2099250
: +886-6-2373551
: satu@email.ncku.edu.tw
: http://conf.ncku.edu.tw/satu

2016 SATU Joint Research Scheme Program

NCKU Application Form

Date: _2016_ / _04_ / _13_ (year /month/day)

1. Hosting Center/College

Center of Infectious Disease and Signaling Research/ NCKU

2. Project Title

Uncovering the dynamic mechanisms in pathogenesis of dengue virus infection

3. Principal Investigator

姓名 Passport Name	Guey-Chuen Perng		
Nationality	Taiwan	Gender	■M □F
Telephone	(Office) 06-2353535# 5626 (Home / Mobile) 0935929309		
Fax Number	(06)2369233	E-mail	gperng@mail.ncku.edu.tw

4. Co- Principal Investigator from the same unit– If any

姓名 Passport Name			
Nationality		Gender	□M □F
Telephone	(Office) (Home / Mobile)		
Fax Number		E-mail	

5. Project Details

Project Description	**Dengue is the most important mosquito-borne human viral disease. Globally, 400 million individuals are at risk of dengue virus (DENV) infection annually. In 2015, unprecedented Dengue outbreak occurred in Taiwan resulting in several hundred cases of dengue hemorrhagic fever (DHF)/dengue shock syndrome (DSS) and more than 200 deaths. As of today, no approved vaccines or antiviral drugs to prevent and treat the disease. Despite many decades of intensive investigation, the mechanisms leading to DHF/DSS warrant further investigations.**

National Cheng Kung University
No. 1, University Road,
701 Tainan City, Taiwan
: +886-6-2099250
: +886-6-2373551
: satu@email.ncku.edu.tw
: http://conf.ncku.edu.tw/satu

	Clinically, thrombocytopenia and abnormal immune responses in affected hosts during DENV infection have been implicated in correlation with progression of severe disease development. Scientifically, despite many host immune-related factors, such as the autoimmunity, T cell cytotoxicity, innate immunity, and cytokine storms, have been reported to associate with DHF/DSS, the factors contributing to hematology disorders and what the role of antibody secreting B cells are playing remain an enigma. As such, uncovering underappreciated parameters resulting from the interactions between DENV and the host immunity may shed a new light on the pathogenic cause of DHF/DSS. **Viral morphology plays a critical role in host immune response. The viral particles of DENV have been shown to be very unique in acute patient plasma, a vesicle-like morphology encapsulating with megakaryocytic cell membrane, that are dramatically different from virions derived from DENV infected Vero cells, a tissue culture system. Furthermore, the in vivo DENV is far more difficult to be neutralized by convalescent dengue sera compared to that of in vitro virus, suggesting the antibody secreting B cells may be modified in dengue patients.** **The objective of this year is to evaluate the interactions between megakaryocyte derived viral particles and B cell immunity during DENV infection. We would like to invite Co-PIs from the members of SATU to share their recent researches on the subject and exchange ideas as well as to establish a research platform on dengue pathogenesis by building SATU network through enriching the academic exchange, nurturing young talent prospects interesting in the tropical medicine, and fortifying the international research cooperation.**

Please email satu@email.ncku.edu.tw before 2015.4.27(Wed.) for application.