



# Replicons and Infectious Copies In the Study of Animal Pathogens



**1. Title of Project :** Replicons and Infectious Copies In the Study of Animal Pathogens

## 2. NPUST Research Team Members

Department	Name	Position
Graduate Institute of Animal Vaccine Technology	Chun-Yen Chu	Professor
	Hsing-Chieh Wu	Postdoctoral Researcher

## 3. International Partners

Title of International School	Department	Name	Position
University of St. Andrews	Biomedical Sciences Research Complex, School of Biology	Martin Ryan	Professor
		Fiona Tulloch	Postdoctoral Researcher
		Garry Luke	Postdoctoral Researcher

## 4. Cooperative Topics and Research Content

This purpose of the application is to link laboratories in the Taiwan with UK apply replicons and infectious copies technology. Develop a virus replicon system by replacing sequences encoding the viral proteins of the infectious cDNA copy with reporter proteins. Characterization in tissue-cultures cells, latterly animals, will allow us to create a sequence such that the right level of attenuation can be achieved. This procedure potentially provides the means to produce a new generation of safer live attenuated vaccines.

## 5. Description of Industrial Needs and Research Result Applications

This program of work progresses from basic academic research via further basic research into the immune responses of animal model systems - but directly leads to the application of our science for the development of

animal vaccines. The national capacity for the development and production of vaccines will be enhanced by this project.

## 6. Research and Development Performance

We have applied for the international partnering project from Ministry of Science and Technology to extend our collaboration. Moreover, the publications (conference presentations / papers / reports) are under process.



Figure 1. Prof. Ryan and Prof. Chu discussed the progress of collaboration.



Figure 2. Photo with Prof. Ryan in front of the BSRC project results display.



Figure 3. Lab meeting with all the collaboration participants (Prof. Ryan and Prof. Randall's research groups).