

No.	K25-3120	
Project Title	Preparing for the next pandemic through international collaboration from Asia	
Principal Investigator	Gavin J Smith (Duke-NUS Medical School • Professor)	
Project Member(s)	IMSUT Host Researcher	Kei Sato (The Institute of Medical Science, The University of Tokyo • Professor)
	Project Member (s)	Gavin J Smith (Duke-NUS Medical School • Director (Professor))
	Project Member (s)	Linfa Wang (Duke-NUS Medical School • Professor (ex-Director))
	Project Member (s)	Yaw Shin Ooi (Duke-NUS Medical Shool • Assistant Professor)
	Project Member (s)	Mart Lamers (Duke-NUS Medical School • Assistnat Professor)

IMSUT International Joint Usage/Research Center Project <International>

Joint Research Report (Annual/Project Completion)

Annual Report

Report

This is the research plan in 2025 in our proposal:

<Yearly research plan>

Project 1. Virome analysis by metagenomic analysis

2025: identify at least 1 novel coronavirus from Prof. Smith' samples.

Project 2. Comparison of antiviral innate immune responses in wild lives

2025: Polishing informatic pipeline.

Project 3. Experimental understanding of the interplay between viruses and bats

2025: Start sharing biological samples and knowledge.

For Projects 1 and 2, Sato's team established a new bioinformatic pipeline, called ISG profiler. This method can be applicable for metagenomic dataset to identify virus infection and host immune responses.

For Project 3, Dr. Dolyce Hong Wen Low, a postdoctoral fellow in my lab, visited the Sato lab for 2 weeks in January 2026 and proceeded a collaborative study focusing on a coronavirus detected in Cambodia.

In November 2025, Dr. Mart Lamers visited IMSUT and had a talk.

Moreover, in 2025, Kei Sato, the IMSUT Host Researcher, become a visiting Professor in Duke-NUS Medical School. Dr. Sato visited Singapore 4 times and routinely had the discussion for this collaborative projects.