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| **Research Theme: Structural biology; Drug discovery** |
| **PhD Research Project Title: Developing pan-flavivirus fusion inhibitors** |
| **Principal Investigator/Supervisor: Xiao Tianshu Ph.D.** |
| **Co-supervisor/ Collaborator(s) (if any):** |
| **Project Description**  **a) Background:** The Xiao lab focuses on understanding membrane fusion mechanisms of flavivirus for therapeutics development. Flaviviruses, including dengue and zika, are transmitted by mosquito bite and highly prevalent in southeast Asia. E protein is responsible for flavivirus membrane fusion and viral entry. Understanding structure, dynamics and function of E protein is very critical for antiviral inhibitor development.  **b) Proposed work:** Using a combination of antibody-guided drug discovery platform, cell based in vitro fusion assay, and preclinical animal modelling, candidate will optimize and develop a high throughput drug screening assay for pan-flavivirus E protein targeting small molecule inhibitor. Further studies will validate candidate drug in preclinical animal models to establish preclinical rationale.  **c) Preferred skills:** Protein science and related biochemistry experiences would be preferred, but not a requirement. |
| **Supervisor contact:**  **If you have questions regarding 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](mailto:AC-SBS-GS@ntu.edu.sg)  Please apply at the following:  **Application portal:** <https://venus.wis.ntu.edu.sg/GOAL/OnlineApplicationModule/frmOnlineApplication.ASPX> |