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| **Research Theme: Structural biology, Drug discovery** |
| **PhD Research Project Title: Visualizing flavivirus entry and infection dynamics** |
| **Principal Investigator/Supervisor: Xiao Tianshu Ph.D** |
| **Co-supervisor/ Collaborator(s) (if any): Yan Chuan Ph.D. (IMCB A\*STAR)** |
| **Project Description**  **a) Background:** The host-viral membrane fusion step is critical for initiating entry and infection, therefore an attractive target for therapeutic discovery. This project focuses on understanding flavivirus E protein-mediated fusion dynamics at different biological levels, providing critical information for antiviral inhibitor development.  **b) Proposed work:** Using a combination of structure-based NMR spectrometry, muti-plexed *in vitro* cell based fusion assay and *in vivo* intravital imaging using preclinical zebrafish model, candidate will understand the dynamics of flavivirus E-protein mediated host-viral membrane fusion. Further studies will probe downstream molecular mechanisms mediating this fusion process.  **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> |