

<b>Research Theme: Virology</b>
<b>Research Project Title: Host pathogen interactions with the influenza virus polymerase complex</b>
<b>Principal Investigator/Supervisor: A/Prof Richard Sugrue</b>
<b>Co-supervisor/ Collaborator(s) (if any): Dr BH Tan, DSO</b>
<b>Project Description</b>
<p><b>a) Background</b></p> <p>In general these viruses need to be adapted to their new host, and during the process of species adaptation inherent biological properties of these viruses can be lost or modified. This adaptation is mediated by a variety of different pathogen-host interactions between several cellular factors and virus proteins. The influenza virus polymerase complex consists of the NP, PA, PB1 and PB2 proteins. Different biological activities reside in these different proteins and there is also the involvement of interactions with different cellular factors. Cell culture systems that are permissive for influenza virus infection can provide a useful experimental approach to analyze the fundamental biological properties of influenza virus isolates. In this project we will use a variety of different immunological and biochemical reagents that we have developed in our lab to examine interactions between the different influenza virus polymerase proteins and the host cell.</p> <ol style="list-style-type: none"> <li>1. Sutejo R, Yeo DS, Myaing MZ, Hui C, Xia J, Ko D, Cheung PC, Tan BH, <b>Sugrue RJ</b>.(2012) Activation of type I and III interferon signalling pathways occurs in lung epithelial cells infected with low pathogenic avian influenza viruses. PLoS One. 7(3):e33732.</li> <li>2. Yeo DS, Ng SH, Liaw CW, Ng LM, Wee EJ, Lim EA, Seah SL, Wong WK, Lim CW, Sugrue RJ, Tan BH. (2009) Molecular characterization of low pathogenic avian influenza viruses, isolated from food products imported into Singapore. Vet Microbiol. 138, 304-17</li> </ol> <p><b>b) Proposed work</b></p> <p>Cell biology, biochemistry and basic virology methods will be employed.</p>
<b>Supervisor contact:</b>
<p><b>If you have questions regarding this project, please email the Principal Investigator:</b>  <a href="mailto:RJSugrue@ntu.edu.sg">RJSugrue@ntu.edu.sg</a></p>
<b>SBS contact and how to apply:</b>
<p>Associate Chair-Biological Sciences (Graduate Studies): <a href="mailto:AC-SBS-GS@ntu.edu.sg">AC-SBS-GS@ntu.edu.sg</a>  Please apply at the following: <a href="http://admissions.ntu.edu.sg/graduate/R-Programs/R-WhenYouApply/Pages/R-ApplyOnline.aspx">http://admissions.ntu.edu.sg/graduate/R-Programs/R-WhenYouApply/Pages/R-ApplyOnline.aspx</a></p>