

Research Theme: Cell Biology; Cellular Biochemistry
Research Project Title: Pathogenic mechanisms in ALS (or Lou Gehrig's disease)
Principal Investigator/Supervisor: Asst/ Prof. Choe Young-Jun
Co-supervisor/ Collaborator(s) (if any):
<p style="text-align: center;">Project Description</p> <p>a) Background:</p> <p>ALS (Amyotrophic Lateral Sclerosis, also known as Lou Gehrig's disease) is the motor neuron disease that is caused by aggregation of the TDP-43 protein. TDP-43 is a nuclear protein, involved in many steps of messenger RNA biogenesis/processing. However, TDP-43 forms toxic cytoplasmic aggregates in ALS patients. It is currently unclear why TDP-43 aggregates are localized in the cytoplasm and how TDP-43 aggregation is triggered.</p> <p>b) Proposed work:</p> <p>Cellular localization of TDP-43 and its aggregation will be monitored under various stress conditions by using state-of-the-art confocal microscopy. Mechanisms underlying interaction of TDP-43 with subcellular structures (e.g. stress granules) will be elucidated. We are particularly interested in whether/how TDP-43 liquid condensate turns into solid protein aggregates.</p>
<p style="text-align: center;">Supervisor contact:</p> <p style="text-align: center;">If you have questions regarding this project, please email the Principal Investigator: yjchoe@ntu.edu.sg</p>
<p style="text-align: center;">SBS contact and how to apply:</p> <p style="text-align: center;">Associate Chair-Biological Sciences (Graduate Studies) : AC-SBS-GS@ntu.edu.sg</p> <p style="text-align: center;">Please apply at the following:</p> <p style="text-align: center;">Application portal:</p> <p style="text-align: center;">https://venus.wis.ntu.edu.sg/GOAL/OnlineApplicationModule/frmOnlineApplication.ASPX</p>