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2020 SRF Participant, Major in Biochemistry

Summer Research Fellowship (SRF) Sharing
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My SRF Research Project

- Investigating the impact of depression on neuroinflammation in Alzheimer’s disease
- Supervised by Dr Chang, Raymond Chuen Chung
My SRF Research Project

- RNA extraction from animal tissue
- Reverse transcription
- qPCR to examine expression of different inflammatory markers

Analysis of behavioural tests to evaluate the behavioural changes of animal
Things to consider before application

**Research Interest**
Or just search through school websites and have a look on their research topics!

**Expectation on SRF**
Research experience?
Preparation for FYP?

**Time commitment**
Any other internship/part-time jobs arranged in Summer?
Approaching Supervisor

1. Understand their research objectives
   Read through their publications

2. Brainstorm any questions towards their research
   Helpful for coming up with potential research topics

3. Email them and express your interest
   May also include unofficial transcript for their reference

4. Meet them f2f to further discuss on potential research opportunities
   May give you an idea of your research direction
Writing Research Proposal

- Read through literature reviews and give a brief background of your research topic
- Highlight the significance of your research topic
- Ask for your supervisor advice on the project topic/ research direction
- Request for supervisor’s advice before submission

Investigating the impact of depression on tau pathology in Alzheimer’s disease

Abstract

This research project aims to explore the mechanism on how depression could be the risk factor for Alzheimer’s disease, by focusing on the impact of increased corticosterone on tau pathology in corticosterone-induced rats.

Introduction

Alzheimer’s disease (AD) is a common devastating neurodegenerative disorders among elderly. It affects 53 million people around the globe in 2018. The pathological hallmarks for AD are β-amyloid plaque deposition and neurofibrillary tangles of hyperphosphorylated tau. However, the understanding on the mechanisms of initiation of AD is still limited.

Depression is believed to be a risk factor for AD and depression may be an early symptom of AD as it is highly co-morbid with AD. The research conducted by Dr. Raymond Chang focused on the impact of depression on tau pathology.

Tau protein exerts pathological effects on cognitive functions by reducing tau affinity
Concerns on application requirements

**Research topics**
Just choose what you are **interested in**!

For most of the time, **no prior knowledge or lab skills** are required!

You learn them during SRF!

**Academic merits**
To be honest, my cGPA is below 3.0 when I applied for SRF so... just try it first! XD

Having a low GPA does not mean that you are not suitable to be a researcher!
SRF: A valuable research experience

- Weekly **lab meetings and journal clubs**
  - learn more about other research topics in the lab and in this field of research (neuroscience)
- Get to know **friendly lab members** all over the world
  - provide detailed explanation on different experiments and laboratory skills
  - Learn about their life as researchers
- **Self-improvement**
  - Conduct experiments **independently**
  - Enhanced **organizational** skills
  - Gain courage to **reach out and ask for help**
Thank you & Good luck!