



**THE CHINESE UNIVERSITY OF HONG KONG
FACULTY OF MEDICINE
SCHOOL OF BIOMEDICAL SCIENCES**

Program in Neural, Vascular, and Metabolic Biology

will present a seminar entitled

“Decoding Tuberal Nucleus Feeding Regulation Circuits”

by

Prof. Yu FU
Senior Principal Investigator
Institute of Molecular and Cell Biology (IMCB)
Agency for Science Technology and Research (A*STAR)
Singapore

Abstract: Despite noticeable genetic factors, obesity mainly results from over-consumption of food, which involves the interplay between physiological, cognitive and environmental factors. In obese patients, eating is more determined by external cues than internal physiological needs, and an environment promoting excessive food intake is considered a major risk factor of current obesity epidemic. However, how environmental context drives non-homeostatic feeding is still elusive. Here we identify a population of somatostatin (TNSST) neurons in mouse hypothalamic tuberal nucleus that are preferentially activated by palatable food. Activation of TNSST neurons enabled a context to drive non-homeostatic feeding in sated mice, which required inputs from the subiculum (Sub). Pairing a context with palatable food greatly potentiated synaptic transmission between Sub and TNSST neurons, and drove non-homeostatic feeding that could be selectively suppressed by inhibiting TNSST or Sub but not the other major orexigenic neurons. These data reveal how palatable food, through specific hypothalamic circuit, empowers environmental context to drive non-homeostatic feeding, which provides a new mechanistic understanding of over-eating and obesity. Combining brain-wide neural circuits mapping, we developed a better understanding of TNSST circuits.

7 March 2024, Thursday, 2:00 – 3:00 pm

Room G02, Lo Kwee-Seong Integrated Biomedical Sciences Building,
Area 39, The Chinese University of Hong Kong

***** ALL INTERESTED ARE WELCOME *****