The Singapore Bioimaging Consortium (SBIC)
presents a seminar

on

"Anti-obesity Neurocircuitry in the brain"

Speaker: **Dr Liu Tiemin**
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Host : **Dr Han Weiping**
Date : **Wednesday, 6 April 2016**
Time : **11.00am – 12noon**
Venue : **SBIC Seminar Room**
11 Biopolis Way
Level 2, Helios Building, Singapore 138667
(Please enter via Level 1)

Abstract

The brain plays an important role in regulating energy balance and glucose hemeostasis. There are two key anti-obesity neurocircuitry pathways in the brain. The first pathway is the serotonin 2C receptor (5-HT_{2C}R) pathway which regulates food intake and body weight. The therapeutic potential of this pathway was first highlighted by the demonstration that the appetite-suppressant d-Fenfluramine (used in combination as Fen/Phen) was effective to decrease food intake and lower body weight, in part due to its effects on 5-HT_{2C}Rs. Very recently, lorcaserin, a specific 5-HT_{2C}R agonist became the first FDA-approved weight-loss drug in the last 15 years. The second pathway is the α-melanocyte stimulating hormone (α-MSH)/ MC4R pathway which is one of the most potent anti-obesity pathways. Deficiency of POMC or MC4R in both rodents and humans results in hyperphagia and obesity. Therefore, understanding the mechanism for these two pathways will lead superior pharmacological targets to achieve body weight lowering effects.

About the Speaker

Dr Liu Tiemin is interested in understanding the anti-obesity neurocircuitry in the brain including the functional role of NMDARs/dendritic spine-driven plasticity in feeding circuitry and brain regulation of body weight homeostasis, food intake, glucose homeostasis and control of the autonomic nervous system. Dr Liu uses conditional, neuron-specific genetic engineering techniques (Cre/loxP recombination) to regulate gene expression in the mouse brain and investigates the central mechanisms underlying the actions of leptin, melanocortin and serotonin. Dr Liu completed a three-year postdoctoral fellowship with Dr Bradford Lowell at Beth Israel Deaconess Medical Center, Harvard Medical School prior to his joining Dr Joel Elmquist as a postdoctoral fellow at UT Southwestern Medical Center in 2012. Dr Liu

was promoted to Faculty-level Instructor at UT Southwestern Medical Center in 2014. Dr Liu holds a B.Sc. from Jilin University and a PhD from the University of Toronto.

--- Admission is free and all are welcome ---