



**THE HONG KONG UNIVERSITY OF SCIENCE & TECHNOLOGY**  
**Division of Life Science**

## ***LIFS Seminar Series***

# **How long do animals live - and what does that have to do with the brain?**

by

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### *Abstract*

Longevity varies by 100-fold across warm-blooded vertebrate species, from 2 years in small shrews to 211 in the bowhead whale, with humans placed second, at 122 years. How does so much diversity come about? It was long considered that species' longevity depended on metabolic rate, with increasingly larger animals living longer because of decreased specific metabolic rates. However, the correlation is far from universal: for example, primates are longer-lived than other mammals of similar size or metabolic rate, and birds as a whole live even longer than similar-sized primates despite the higher metabolic rates of avians. This talk will explore a new possibility: that maximal longevity scales with the number of neurons in the pallium of the brain, regardless of body size, brain size or metabolic rate, possibly through a combination of three factors: delay of sexual maturity, lengthening of viable physiological integration, and improved cognitive capabilities that respectively prolong life through delaying the onset of aging, maintaining homeostasis and allostasis for an extended period, and fostering beneficial decisions through life

**Date** : **26 July 2017 (Wednesday)**

**Time** : **4 pm**

**Venue** : **Lecture Theatre G (near Lifts 25/26)**  
**HKUST**

***(Host faculty: Prof. Karl Herrup)***

All are Welcome!