

“Frontiers in Science” Seminar

Dr. Xi Jili

IREC, Osaka Metropolitan University



Title : A putative neuronal pathway transmitting photoperiodic information and regulating physiology in the insect brain

Date & Time : April 27, 14:00~14:45

Venue : Science Hall, Sci. Bldg. G, 1st Floor (Sugimoto C.)

Abstract: Day length is a crucial environmental cue that allows insects to anticipate unfavorable seasonal conditions and adjust their physiology accordingly. The bean bug *Riptortus pedestris* exhibits clear photoperiodic regulation of both physiological and morphological traits depending on day length, making it a useful model for investigating the photoperiodic clock, a core system that enables organisms to predict seasonal change and regulate physiological states. One of major questions in this field is how photoperiodic information is processed in the brain and transmitted to downstream tissues that control reproductive and developmental responses. This seminar will present a research framework addressing this question from both neural and molecular perspectives. Studies in *R. pedestris* have identified neural pathways involved in photoperiodic signal transmission and have suggested functional links between clock-related brain regions and neuroendocrine output systems. Recent findings further indicate that the neuropeptide corazonin plays an important role in the regulation of photoperiodic reproduction and morphology. Together, these results support a model in which seasonal light cues are translated into physiological output through specific neural and neuroendocrine pathways in the insect brain, and highlight *R. pedestris* as a valuable non-model system for studying the neurobiology of seasonal time measurement.



School of Science /
Graduate School of Science

Contact : Shin Goto

Department of Biology
E-mail: shingoto[at]omu.ac.jp