
The 69th iCeMS SEMINAR

Wed 9 March 2011

11:00 - 12:00

A new function of the centrosome in migrating cortical interneurons

Lecturer: **Dr. Christine Métin**
Institut du Fer à Moulin, Inserm

Venue: Seminar Room (#A207),
2nd Floor Main Building iCeMS Complex 1

The first steps of the cortical development are characterized by long distance cellular movements associated to spectacular morphological changes of the futur cortical neurons. Inhibitory cortical interneurons are born outside the cortex in the basal telencephalon and reach the developing cortical plate after a long, so-called tangential migration. We have developed co-culture models to analyse the cycle of migration of the future cortical interneurons using time-lapse videomicroscopy. These neurons present a two-step nucleokinesis correlated to the production of branches at the leading edge. Nuclear translocations are preceded by a long, forward movement of the endoplasmic reticulum and Golgi apparatus. Forces developed at the rear by the acto-myosin system participate in pushing the nucleus forward. Time-lapse recordings show that the centrosome most often positions at nuclear front although it can maintain at nuclear rear during the migration. Our functional data suggest that the centrosome controls cell shape and motility through an original mechanism.

Contact: iCeMS Assoc. Prof. Mineko Kengaku at kengaku-g@icems.kyoto-u.ac.jp
Hosted by: iCeMS (Institute for Integrated Cell-Material Sciences), Kyoto University

