
The 34th iCeMS SEMINAR

Commemorating the establishment of the Center for Meso-Bio Single-Molecule Imaging (CeMI) 9

Fri 23 Oct 2009
15:00 - 17:00

Venue: The 1st Meeting Room 1F of the West Building
Institute for Frontier Medical Sciences

1st Lecturer: **Jacco van Rheenen, Ph.D.**

Assistant Professor
Hubrecht Institute
Developmental Biology and Stem Cell Research
Utrecht, The Netherlands

Cofilin-mediated actin remodeling is important for migration and metastasis of mammary carcinoma cells

Cofilin is an actin severing protein, involved in cell migration and metastasis. Using intravital and high resolution imaging, Drs. Jacco van Rheenen, John Condeelis, and their colleagues showed that cofilin gets locally released from the membrane and activated upon phospholipase C-mediated PIP2 hydrolysis. Based on these and other observations, they conclude that these processes that occur at the cell cortex is a critical step for initiating EGF-induced migration and metastasis.

2nd Lecturer: **Dinah Loerke, Ph.D.**

Assistant Professor
Department of Physics & Astronomy
University of Denver, U. S. A.

Correlative Intensity Timecourse Analysis in Endocytosis

Using total internal reflection fluorescence microscopy (TIR-FM) and automated detection-tracking, Drs. Dinah Loerke, Gaudenz Danuser, and their colleagues have measured the maturation dynamics of large populations of clathrin-coated pits (CCPs). While fluorescence intensity timecourses of clathrin and other coat proteins contain valuable information, intensity analysis is far from trivial due to the high noise. They have developed an intensity analysis assay that retains heterogeneity between different lifetime CCP cohorts, and preserves fast dynamics within the cohort, clarifying the association of endocytic factors with cortical actin dynamics across the entire CCP lifetime.

Hosted by: iCeMS (Institute for Integrated Cell-Material Sciences), Kyoto University
The Institute for Frontier Medical Sciences, Kyoto University
Membrane Mechanisms Project, ICOPR-JST

Contact: Aki Kusumi at <akusumi@frontier.kyoto-u.ac.jp> / Fax: 751-4113

