30th RAP Seminar

The 30th Seminar on RIKEN Center for Advanced Photonics

Language: Japanese

Date: **Feb.19 (Fri) 16:00 - 17:00, 2016**

Location: **Cooperation Center, 3F, W319, Wako Campus, RIKEN**

(理研 和光キャンパス 研究交流棟3階会議室 W319)

Title: **Adhesion vs. De-Adhesion Underlying Regulation of Dynamic Cell Mass**

接着と脱着のせめぎ合い：動的細胞集団制御の背景

Speaker: **Dr. Masatoshi TAKEICHI**

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Animal cells organize into tissues and organs; and for this process, the stable adhesion between cells is essential. However, in many morphogenetic or pathological processes, cell-cell adhesion appears not static. For example, neural precursor cells migrate on top of radial glia cells for their relocation, and invasive cancer cells detach from the original tumor to metastasize. To make such dynamic cell behavior possible, cells must regulate their adhesion to others. A class of transmembrane protein named ‘classical cadherins’, which link cells together via their homophilic interactions, is responsible for stable cell-cell adhesion. It is, however, known that the cadherin-mediated adhesion can be controlled by various cytoplasmic mechanisms. Moreover, a certain group of cadherin-related proteins that belong to the cadherin superfamily acts as anti-adhesion factors rather than adhesion stabilizers. This unexpected function of superfamily members is partly explained by the observation that they promote the motility of the cell membranes engaging in contacts, via their binding to actin polymerization regulators. In this seminar, I will overview such complex functions of cadherin superfamily members, and discuss how animal cell-cell contacts can be kept stable or dynamic.

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