

Young Scientist Seminar



Dr. Satoshi Toda

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Department of Cellular and Molecular Pharmacology*

Mar 7th (Wed) 2018, 16:00~17:00

@ Kyoto University KUIAS/iCeMS Main Building
2F Seminar Room

Synthetic morphogenesis: Programming multi-cellular self-organization

Abstract

A common theme in multi-cellular self-organization of tissues is the use of cell-cell communication networks to control morphological properties of cells. Here we harness the modular cell-cell signaling platform called synNotch to engineer artificial genetic programs in which specific cell-cell contacts induce changes in cell morphology. Despite their simplicity, we find that these minimal intercellular programs are sufficient to drive the generation of synthetic structures with many hallmarks of natural developmental systems. I will talk about our recent results on synthetic self-organizing structures and their potentials.

Brief Introduction

Dr. Toda graduated from Kyoto University, Graduate School of Medicine in 2014 (Dr. Shigekazu Nagata lab) and now is working at the Dr. Wendell Lim lab in UCSF. His research field is called “Synthetic Biology” where researchers try to reconstitute the biological system of their own interests with minimal genetic components.

Spoken language: English

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