



University of Stuttgart

Stuttgart Research Center Systems Biology (SRC SB)

Systems Biology Seminar Talk

**„Programming multicellular
pattern formation with
synthetic cell-cell
signaling“**

**Prof. Satoshi Toda
Nano Life Science Institute
Kanazawa University Japan**

**Wednesday
July 20, 2022
10 a.m. – 11 a.m.**

Online over Webex:

<https://unistuttgart.webex.com/unistuttgart/j.php?MTID=m4c1f78d0a89e24c8a099c3c8b5da4a11>

Abstract:

In developing embryos, cells communicate with each other using various molecules to control the behaviors of neighboring cells and assemble complex tissue structures. However, it is difficult to exactly know how signaling molecules are distributed and how cells are interacting in vivo, so it is still unclear how communicating cells form complex tissue structures precisely. Therefore, we have been engineering artificial cell-cell communication rules on cultured cells and test multicellular behaviors to understand a logic of how cells organize multicellular structures and patterns. In this talk, I will introduce the synthetic receptor technology that enables the design of cell-cell communications and our recent works on programming multicellular patterning processes to discuss the principles of multicellular pattern formation.

CV:

2019-present Assistant professor, Nano Life Science Institute, Kanazawa University, Japan

2015-2019: Postdoctoral fellow, University of California San Francisco, USA (Wendell Lim lab)

2009-2014: Graduate School of Medicine, Kyoto University, Japan (PhD in medical science)