

Joint/Usage Research Seminar

Co-organized by Life-style diseases Program Project

# Mechanics and Robustness in Developmental Morphogenesis

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Tissue shape changes rely directly on mechanical forces and tissue material properties. The correct regulation of these properties underlies the robustness of morphogenesis. In particular, feedback mechanisms that allow tissue shapes to be measured in real time and re-input into the mechanical regulations may be essential in self-organizing systems such as the developing embryo. Here I will discuss examples and hypotheses of such feedback mechanisms and highlight the importance of mechanical tools in testing these ideas. Mechanical feedbacks allow tissue scale properties to be linked to molecular genetic control. Quantitative models built on these links have the potential to enable fine tuning of developmental outcomes thereby providing a powerful tool for tissue engineering and regenerative medicine.

## 参考文献

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Xiong先生は分子生物学と物理学を融合した研究を展開する卓越した若手研究者で、上記の素晴らしい研究成果を認められ、昨年ガードン研究所でPIとして独立し活躍されています。是非奮ってご参加ください。

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