

# Seminar

Topics in Advanced Biological Science

アドバンス生命理学特論

## **Impact of 3D chromatin dynamics on gene expression in plants**

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The three-dimensional organization of the eukaryotic nucleus and its chromosomal conformation have emerged as important features in the complex network of mechanisms behind gene activity and genome connectivity dynamics, which can be evidenced in the non-random chromosomal spatial distribution and the clustering of diverse genomic regions with similar expression dynamics. The development of 3C-based techniques has permitted to elucidate commonalities between the eukaryotic phyla, as well as important differences among them. The growing number of studies in the field performed in plants has shed light on the structural and regulatory features of these organisms. For instance, it has been shown that plant chromatin can arrange into two main conformations, Rabl and Rosette-like, depending on the genome size, and that two types of chromatin interactions, short and long-range. I will present the results we got in my lab about chromosome architecture characteristics in plants, as well as the molecular events and elements (including long non-coding RNAs, histone and DNA modifications and chromatin remodeling complexes ) shaping genome three-dimensional conformation during plant development and in response to stress.

**Date: April 22, 2019, 16:00-17:00**

**Venue: E131, Build. E, Grad. Sch. Sci.**

**Language: English**

**日時：平成 31 年 4 月 22 日（月） 16:00~17:00**

**場所：理学部 E 館 1 階 E131**

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