

第95回 生体制御学セミナー

Dr. Bernard de Massy

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March 27nd Friday, 2026, 16:30~17:30

**Lecture Room 9, 2nd floor
Faculty of Science - Building 2**

Meiotic recombination: Breaking the genome to save it! Molecular mechanism and implications

Meiosis is a specialized form of cell division that generates haploid cells from diploid precursors, a central process in sexual reproduction.

This lecture will explore how homologous recombination constitutes an intrinsic and evolutionarily conserved mechanism essential for accurate chromosome segregation during meiosis.

We will first review the genetic and molecular principles that govern meiotic recombination. At the DNA level, this process involves the deliberate formation of double-strand breaks (DSBs) by meiosis-specific proteins, followed by their repair through the homologous recombination pathway. Particular attention will be given to the role of SPO11, the enzyme catalysing DSB formation, and PRDM9, a key factor determining the localization of DSBs (in some species).

Disruptions in these molecular events can compromise chromosome segregation, promote genome instability and chromosomal rearrangements, and ultimately lead to sterility. Understanding the mechanisms that control meiotic recombination is therefore critical for insights into human reproductive health.

Bernard de Massy博士による英語セミナー

2026年3月27日（金）16:30-17:30

理学部2号館 2階 9番教室にて

発表の理解を助けるため、冒頭で日本語による研究背景の解説を行います。

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