



中国科学院生物物理研究所

贝时璋讲座

Pairing and patterning between homologous chromosomes during meiosis

报告人：Abby F. Dernburg, PhD

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主持人：张宏研究员

报告人简介

Dr. Dernburg is a professor of cell and developmental biology at the University of California, Berkeley, a faculty senior scientist at Lawrence Berkeley National Laboratory, and an affiliate of the California Institute for Quantitative Biosciences (QB3). Abby Dernburg's research focuses on chromosome organization and dynamics during meiosis, the unique cell division process that gives rise to reproductive cells such as sperm, eggs, pollen, and spores.



Dernburg and her team study how chromosomes find and recognize their partners, and how recombination between chromosomes is regulated. They use genetic analysis, high-resolution live imaging, biochemistry, and structural biology, primarily in the nematode *Caenorhabditis elegans*. The team also studies the evolution and plasticity of meiosis by comparing the mechanisms underlying these events in *C. elegans* to those in other nematode species.

代表论文简介

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2. Köhler, S., ..., **Dernburg, A.F.** (2017). Super-resolution microscopy reveals the three-dimensional organization of meiotic chromosome axes in intact *C. elegans* tissue. *Proc. Natl. Acad. Sci.* doi: 10.1073/pnas.1702312114
3. Kim, Y., Kostow, N., and **Dernburg, A.F.** (2015) The meiotic chromosome axis mediates feedback control of CHK-2 to ensure crossover formation in *C. elegans*. *Dev. Cell.* 35:247-61.
4. Sato, A., ..., and **Dernburg, A.F.** (2009). Cytoskeletal forces span the nuclear envelope to coordinate meiotic chromosome pairing and synapsis. *Cell*, 139:907-19. D
5. Phillips, C.M., ..., and **Dernburg, A.F.** (2009). Identification of chromosome sequence motifs that mediate meiotic pairing and synapsis in *C. elegans*. *Nature Cell Biol.* 11:934 – 942