



PhD position in plant cell imaging and chromosome biology

Connecting Chromosomes and the Nuclear Envelope: Mechanisms Shaping Meiotic Prophase Organization

FUNDING

3-year PhD position

EU-funded Marie Skłodowska-Curie Doctoral Network (MSCA DN "AGILE")

Gross salary: 4,735 €/month + 710 € mobility allowance

WHERE

IJPB-Institut Jean-Pierre Bourgin for plant sciences-INRAE Versailles, France

MeioMe team - Meiotic Mechanisms

<https://ijpb.versailles.inrae.fr/en/research-teams/meiosis-mechanisms/presentation>

The Institute Jean-Pierre Bourgin for Plant Sciences ([IJPB](#)) offers an outstanding research environment with state-of-the-art facilities, strong interdisciplinary expertise, and a vibrant scientific community. [Located](#) at the edge of the Versailles Palace gardens, within the Paris-Saclay research ecosystem and close to Paris, IJPB combines high scientific visibility with an excellent quality of life.

START DATE

Summer-Fall 2026

PROJECT

Our lab has recently established that during *A. thaliana* meiosis, telomeres become anchored to the nuclear envelope (NE), establishing dynamic connections between chromosomes in the nucleoplasm and the cytoplasmic microtubule network. When this attachment process is defective, it leads to abnormal chromosome dynamics, impaired homologous recombination, and errors in chromosome segregation, ultimately resulting in reduced fertility and aneuploidy in the progeny ([10.1038/s41467-024-50169-4](https://doi.org/10.1038/s41467-024-50169-4), [10.1038/s41477-025-02043-4](https://doi.org/10.1038/s41477-025-02043-4)).

The objective of this PhD project is to uncover the structural basis and regulation of chromosome attachment to the nuclear envelope during meiotic prophase. The PhD student will combine multiple super-resolution microscopy approaches to elucidate the organization and ultrastructure of chromosome–nuclear envelope interaction sites in wild-type plants, and will characterize these interactions in newly identified mutants exhibiting defects in chromosome dynamics during meiotic prophase.

TRAINING BENEFITS

- Advanced training in super-resolution and live-cell imaging of the nucleus.
- Advanced training in plant genetics and molecular biology.
- In-depth knowledge of plant reproduction and meiotic recombination.
- Training in scientific communication through publications, presentations, and teamwork.

CANDIDATE PROFILE

Applicants should have a strong background in molecular biology and/or plant sciences, be highly motivated, curious, and independent, with excellent experimental and analytical skills. Previous experience in cytology and/or imaging will be appreciated.

ELIGIBILITY REQUIREMENT (MSCA MOBILITY RULE)

Applicants must not have resided or carried out their main activity in France for more than 12 months during the 36 months immediately preceding the recruitment date.

HOW TO APPLY?

Interested candidates should submit a cover letter, CV, and contact information for two to three references to Mathilde Grelon mathilde.grelon@inrae.fr and Laurence Cromer laurence.cromer@inrae.fr



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