

The Ziolkowski lab

LABORATORY OF GENOME BIOLOGY, ADAM MICKIEWICZ UNIVERSITY

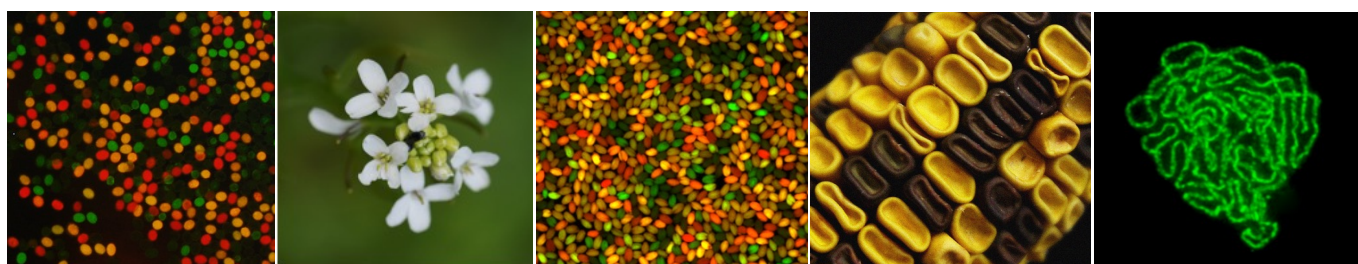
Postdoc position on crossover recombination in plants



A three-year Postdoctoral position funded by the NCN MAESTRO project is available in the Laboratory of Genome Biology, led by Prof. Piotr Ziolkowski at Adam Mickiewicz University in Poznań, Poland.

Meiosis is a specialized type of cell division that reduces the chromosome number to produce gametes and enable sexual reproduction. At its core lies crossover recombination, which reshuffles parental genetic information. Our lab investigates the factors and pathways that control meiotic crossover formation in plants.

This project will explore the functional relationships between different crossover pathways. Using Illumina sequencing and our *seed-typing* method, we will map crossover frequency, distribution, and hotspot activity in various mutants to gain insights into multiple aspects of crossover formation. We will also examine the effects of mutations on crossover interference and heterochiasmy through sex-specific crossover maps. Additional hypotheses will be tested using biochemical and cytogenetic approaches, and we expect to develop new methods to study non-crossovers in plants and to propose mechanistic models for the choice of recombination pathways. The project will focus primarily on *Arabidopsis*, but other plant species may also be included to broaden the scope of our findings. Finally, we will assess the evolutionary impact of increased crossover frequency by propagating mutant combinations for multiple generations and applying long-read sequencing (ONT) to evaluate genome stability, with a focus on structural rearrangements.



We are looking for talented, highly motivated, and creative researchers with a PhD in biology, genetics, or a related field and a strong publication record. Candidates should have a solid background and hands-on experience in molecular cloning and plant handling (*Arabidopsis*, maize, or other plant species). Expertise in plant genome analysis, ONT sequencing, TurboID and protein-protein interactions, meiotic cytology, or CRISPR/Cas9-mediated gene editing will be considered a strong advantage.

The position does not involve formal teaching duties; however, the researcher will be expected to assist in the training of undergraduate students.

We offer:

- Supportive and stimulating environment in friendly and well-equipped research group
- Access to newly developed methodology and cutting-edge technologies in plant genetics and molecular biology
- A chance to develop new skills in research, paper writing and grant application

Please submit the following documents with your application:

- CV which gives an overview of the academic/education history
- Letter of motivation
- Names and contact information of at least two academic referees

Application deadline: **01.11.2025**

For further details contact us by email:

Prof. Piotr A. Ziolkowski, pzio@amu.edu.pl



For more information about the group, please visit our website at <http://dgb.amu.edu.pl> or <https://ibmib.web.amu.edu.pl/groups/laboratory-of-genome-biology/>, and follow us on social media:



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Please include in your offer:

"I hereby give consent for my personal data included in my application to be processed for the purposes of the recruitment process under the Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation)."