

Department of Chromosome Biology, Lab Verena Jantsch & Joao Matos

Joint Master Thesis

About the labs

The Jantsch and Matos labs are interested in chromosome segregation during meiosis. Our labs are both part of the newly funded SFB "Meiosis" (<https://www.maxperutzlabs.ac.at/news/latest-news//new-funding-for-meiosis-research-100248>).

About the position/ the research project

During meiosis, the two chromosome sets of the father and the mother need to find each other and get tethered by a physical linkage, which ensures their subsequent accurate segregation into two daughter cells. At the same time, genetic material is exchanged between parental chromosomes. The events leading to this physical linkage include eg. DNA double strand break induction, their repair by homologous recombination, chromosome movement and alignment of homologous chromosomes. Defects in meiotic cell divisions are the leading cause of miscarriages and diseases linked to mental retardation.

With this project we suggest to study regulatory events during recombination. We use the genetic model system *Caenorhabditis elegans*, which allows us to combine cell biology with genetics and biochemistry. At the same time, the genes and factors involved in meiosis are also found in mammals, therefore allowing to transfer the knowledge gained in our study to higher organisms including humans. With this master thesis experiments in *C. elegans* will inform those in the mouse (and vice versa).

Candidates

Successful candidates should

- study genetics or molecular biology

Training requirement: Work with *C. elegans* requires fine motoric skills. A stipend will be offered.

Application

Please send a letter of motivation, contact details of your bachelor supervisor and your CV to verena.jantsch@univie.ac.at and joao.matos@univie.ac.at

Contact

Verena Jantsch-Plunger & Joao Matos

Department of Chromosome Biology

Max F. Perutz Laboratories

University of Vienna; Vienna Bio Center

Dr. Bohrgasse 9/5, A-1030 Vienna

<https://www.mfpl.ac.at/de/gruppen/mfpl-gruppen/group-info/jantsch-verena.html>

<https://www.maxperutzlabs.ac.at/research/research-groups/matos>

About the Max Perutz Labs

The Max Perutz Labs are a research institute established by the University of Vienna and the Medical University of Vienna to provide an environment for excellent, internationally recognized research and education in the field of Molecular Biology. Dedicated to a mechanistic understanding of fundamental biomedical processes, scientists at the Max Perutz Labs aim to link breakthroughs in basic research to advances in human health. The Max Perutz Labs are located at the [Vienna BioCenter](#), one of Europe's hotspots for Life Sciences, and host around 50 research groups, involving more than 450 scientists and staff from 40 nations.

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