MAX PERUTZ LABS VIENNA

Köhler lab

Master's Thesis in phase separation and chromatin regulation

Ever wondered what lava lamps and phase separation can teach us about chromatin regulation and gene expression?

About the Köhler lab

We are excited about exploring the molecular principles and function of phase separation in the context of our favorite lab topic – chromatin and transcription. Our recent work has uncovered a role of phase separation in creating liquid-like reaction chambers for histone ubiquitination. Specifically, we found that the E3 ubiquitin ligase Bre1 interacts with Lge1, an intrinsically disordered protein, which promotes the phase separation of the ubiquitination machinery into enzymatically hyperactive condensates (Gallego*, Schneider*, Mittal* et al.: *Nature*, 2020).

About the research project

In this project, we now aim to understand when, where and how these condensates form in cells, whether and how they move along chromatin and ultimately, how aberrant condensates may lead to disease when perturbing the flow of genetic information.

Candidates

We are looking for an energetic, highly motivated student interested in exploring fundamental mechanisms in chromatin biology. You will employ biochemistry and microscopy approaches to understand the role of phase separation during transcription at the single-molecule level. If accepted, you will also receive a stipend during your thesis.

Interested? Send **your CV, a letter of motivation** and **a contact for reference** to:

laura.gallego.valle@univie.ac.at

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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