



Open PhD Position

LMU

LUDWIG-
MAXIMILIANS-
UNIVERSITÄT
MÜNCHEN

Introduction

Dr. Catherine Regnard is seeking a PhD student with a strong interest in molecular biology, epigenetics, genomics and biochemical reconstitution. The lab is at the Biomedical Center (BMC) of the Ludwig-Maximilians-University of Munich. Its location on the Life Science Campus of the LMU in Planegg-Martinsried ensures networking with a broad scientific community.

Project “Stability of the coding genome and JIL-1 kinase signaling”

Genome instability is a hallmark of cancer or ageing and often implies perturbed responses to DNA damage. We are interested in the epigenetic processes contributing to stability of the coding genome in particular. In *Drosophila melanogaster*, the essential chromosomal kinase JIL-1 forms a stable epigenetic “reader-writer” module with JASPer, which targets the complex to transcribed genes, more specifically exons. JIL-1 is responsible for the majority of interphase histone H3Ser10 phosphorylation. The activity of the kinase is needed to open chromatin, but is not essential for transcription. Our current model is that distribution of the kinase complex genome-wide is important for genome stability at various levels: maintenance of telomers, balance between euchromatin and constitutive heterochromatin and stability of the coding genome in particular. The project aims to elucidate, which specific (stress) signals activate JIL-1 kinase and what are the substrates of JIL-1 besides histone H3. We will concentrate on endogenous sources of DNA damage linked to transcription (e.g. R-loop formation). The JIL-1-dependent phospho-proteome hits will be considered (1) for their potential role in genome stability, (2) for their (conditional) association to the complex interaction network of JIL-1 and/or JASPer, (3) their genome-wide distribution.

(https://www.molekularbiologie.abi.med.uni-muenchen.de/ueber_uns/regnard-group/index.html)

Your qualifications

- A recent degree (Master of Sciences or equivalent) in any of the life sciences with average grade better than 2.3 is a necessary prerequisite
- Strong interest in molecular biology, epigenetics and genomics and/or biochemical reconstitution.
- Experience in imaging, bioinformatics and/or fly genetics is a plus but not required.
- Ability to work independently and in a team.
- Communication- (in English) and interpersonal skills.

What the position offers you

- Solid scientific training in various non-exclusive scientific methods: generation and analysis of genomic (ChIP-seq, Cut and Run/tag, RNA-seq) and proteomic data (Mass spectrometry), biochemical *in vitro* reconstitution and coupled enzyme assays as well as imaging techniques, scientific writing.
- We are associated to the collaborative research network “SFB1064 - Chromatin dynamics” which offers extensive support to graduate students and opportunities for collaborations and exchange.
<https://www.sfb1064.med.uni-muenchen.de/irtg/index.html>
- Research environment is diverse, dynamic, international and inclusive.
- BMC facilities offer support and teaching in bioinformatics, proteomics and imaging.
- Payment will be according to 65% E13 and the project shall start asap.

Your application

Apply using the online application tool <https://www.portal.graduatecenter.uni-muenchen.de/ocgc/sfb1064> and make sure to describe (i) your past research experience, (ii) your scientific interests and (iii) how they are a good match for this project.

For further information directly contact Dr. Catherine Regnard (cregnard@bmc.med.lmu.de) - Deadline: 31.6.2021

