

**Master Thesis/ Internship available:** Kurat Lab, Division of Molecular Biology, Ludwig-Maximilians-University, Großhaderner Str. 9, 82152 Planegg-Martinsried, Germany

### **What are our research topics?**

Chromatin factors (histone chaperons and remodelers) are essential to access DNA during cellular processes such as transcription and replication by modulating structure of chromatin. Many studies have shown chromatin factor(s) playing an important role during the process of transcription however little is known about replication. In transcription, chromatin factors help the transcription machinery to access DNA at all times throughout cell cycle. In contrast, replication happens specifically in S-phase with help of the S-phase specific kinases S-CDK and DDK. The important question remains how and which chromatin factor(s) are involved in the process of chromatin replication. Also, how are these factors regulated by S-Phase specific kinases S-CDK and DDK. In this project, we will use *Saccharomyces cerevisiae* (yeast) to investigate how phosphorylation by S-phase specific kinases regulate chromatin factor during replication.

### **How can you help us?**

We are currently looking for one Master Thesis student (possibly Master thesis including an internship). The thesis topic will be related to generating mutations of phospho sites on different chromatin factor and testing their effect using various *in vivo* and *in vitro* assays.

### **What will you learn?**

we will make use of a broad range of techniques ranging from yeast genetics, protein purification to study *in vitro* regulation of chromatin factor by S-CDK and DDK. You will work in close association and in direct support of a PhD student working on similar aspects. Mass spectrometry will be used to find possible chromatin factors as targets of S-CDK/DDK during S-phase of the cell cycle. Yeast genetics will be beneficial to generate mutant strains to investigate role of phosphorylation in processes of chromatin replication. FACS and cell cycle experiments will also be core part of project.

### **What do we expect?**

You are immatriculated in a Master's program at LMU. You should have basic knowledge of different microbiology and molecular biology techniques. Experience with yeast genetics is a plus. You are excited about chromatin and cell cycle problems in yeast and willing to learn.

### **I am interested - what now?**

Please send an email to Priyanka Bansal, [Priyanka.Bansal@bmc.med.lmu.de](mailto:Priyanka.Bansal@bmc.med.lmu.de) . Please send your application as single PDF including a short statement of interest (including information on your availability and desired start date) and your CV.