University of Zurich[UZH]

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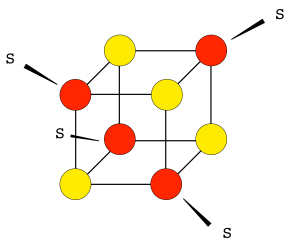
Master thesis position on iron-sulphur proteins and genome stability

Group: Prof. Dr Kerstin Gari

Institute of Molecular Cancer Research (IMCR)

http://www.imcr.uzh.ch/research/Gari.html



Starting date: autumn/ winter 2017.

Apply via e-mail: **gari@imcr.uzh.ch**.
Your application should include your CV and a short motivation letter stating your research interests.

Background. Over the last years, a considerable number of proteins involved in DNA replication and repair have been identified to bind to an iron-sulphur (FeS) cluster as a cofactor, amongst them several DNA helicases, and proteins essential for DNA replication, such as DNA primase and all three replicative DNA polymerases. Considering that – upon FeS cluster oxidation – free iron atoms can generate reactive oxygen species and damage DNA, the abundance of FeS proteins in DNA replication and repair has come as a surprise, and the function of FeS clusters in these processes has remained largely elusive to date.

Project. During your master thesis you will try and understand how FeS clusters influence the function of DNA helicases and nucleases, such as FANCJ and DNA2. You will learn a variety of techniques in biochemistry, molecular and cellular biology, such as protein purification using *Sf9* insect cells, *in vitro* assays with purified proteins and DNA substrates, and work with tissue culture cells (siRNA and/or CRISPR/Cas9).

You. We are looking for a highly motivated student with a genuine interest in genome stability mechanisms. While you will be directly supervised by a senior PhD student, you should be comfortable when working in the lab and strive to become rather independent. In addition, you should have good communication skills and be an excellent team player.