Open position in Chemical Biology of Gene Regulation

Our laboratory of Biophysical Chemistry of Macromolecules (LCBM) at the EPFL in Lausanne, Switzerland (www.epfl.ch/labs/lcbm/) offers PhD positions in the field of chemical biology of gene regulation.

Our main focus is to understand the structure and function of chromatin and its role in transcription regulation using a combination of chemical biology and single-molecule imaging in vitro and in cells.

Recently, our laboratory observed how pioneer transcription factors (pTFs) can access closed chromatin. Based on this study and the methods developed therein, we are now investigating molecular mechanisms of chromatin remodeling controlled by pTFs and chromatin remodelers, using genetics, chemical biology, and single-molecule biophysics. Within this project, we offer PhD positions.

Your profile:

- A master or equivalent degree in chemistry, biochemistry, biophysics or chemical biology
- Experience in working in a chemistry, biochemistry or biophysics (imaging) laboratory.
- Good knowledge in written and oral English.
- Highly motivated for discovering new molecular mechanisms in a challenging environment.
- Interest for interdisciplinary projects.
- A passion for biophysical chemistry and genetic regulation at the highest level.

Application-selection procedure:

1. Send a Letter of motivation, a CV, a summary of previously done research and the contact information of 3 referees to beat.fierz@epfl.ch.
2. Selected candidates will be invited for a virtual interview, and, in a second round a virtual visit (including a seminar and meetings with PhD students and postdocs).
3. If you need further information, visit https://lcbm.epfl.ch/fierz/, or contact beat.fierz@epfl.ch. For administrative issues concerning the doctoral program, please contact Ms Odegaard (anelene.odegaard@epfl.ch).

Key references:


Multiplexed Single-Molecule Experiments Reveal Nucleosome Invasion Dynamics of the Cas9 Genome Editor, Makasheva et al., JACS 2021, https://doi.org/10.1021/jacs.1c06195

The mechanistic basis for chromatin invasion and remodeling by the yeast pioneer transcription factor Rap1, Mivelaz, M., et al., 2020, Mol Cell., https://doi.org/10.1016/j.molcel.2019.10.025