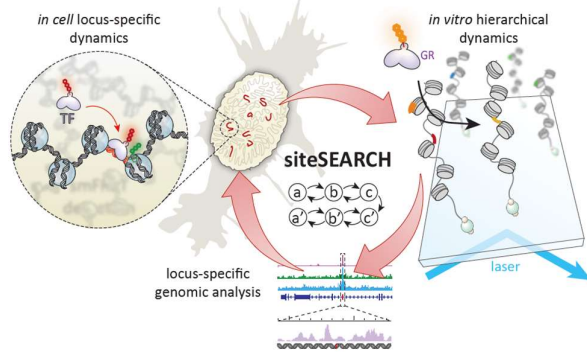


PhD position in Chemical Biology / Biophysics of Gene Regulation

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** within a context of a **SNSF Advanced Grant** (Swiss ERC) starting in 2024.

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, we are now investigating molecular mechanisms of chromatin remodeling controlled by pTFs and chromatin remodelers.

In particular, our lab is starting a SNSF Advanced Grant funded, large-scale project, called siteSEARCH, combining genetics, chemical biology, and single-molecule biophysics in

living cells to discover the fundamental mechanisms of gene regulation by pTFs. Within this project, we offer both several **PhD positions**.

Your profile:

- Master degree in chemistry, biochemistry or related disciplines
- Interest in chromatin biology, 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 (annelene.odegaard@epfl.ch).

Key references:

CENP-A and CENP-B collaborate to create an open centromeric chromatin state. Nagpal, H. & Fierz, B. **BioRxiv**, doi: <https://doi.org/10.1101/2022.07.08.499316> (2022).

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>