

Post-doctoral Position in Computational Biomolecular Modeling and Design in the Laboratory of Protein and Cell Engineering

The Laboratory of Protein and Cell Engineering at the Institute of Bioengineering of the Ecole Polytechnique Federale de Lausanne (<http://bioengineering.epfl.ch/welcome>) is looking for a talented and motivated post-doctoral fellow with a strong background in computational protein biophysics, chemistry and computer programming.

Our laboratory (<http://barth-lab.epfl.ch>):

We belong to the Institute of Bioengineering at EPFL and are also part of the Ludwig Institute for Cancer Research (LICR) in Lausanne. While EPFL provides a world class environment for basic science and engineering, the LICR fosters translational applications of basic discoveries to cancer medicine at the highest level. Our laboratory benefits from this dual exciting environment and interdisciplinary approaches are essential to our research. We work at the interface of biophysics, chemical, structural, computational and cell biology to uncover the molecular principles that regulate protein and cellular signaling. Using this understanding, we (1) design protein systems with novel biosensing and signaling functions for synthetic biology and engineered cell therapeutic applications; (2) predict the effects of genetic variations on protein structure/function for personalized cancer medicine applications.

Project:

This specific project involves the extension of the software Rosetta for the modeling and design of membrane proteins and their interactions with drug, lipid and peptide molecules that regulate their functions. Ultimately, we aim at developing a versatile tool for the academic and industry communities to leverage the design of novel potent and selective molecules that can modulate the function of important membrane receptors in normal physiology and disease. Protein modeling and engineering projects in collaboration with experimentalists in our lab are also possible. This position is open immediately.

Skills:

Candidates must have a strong background in computational biomolecular modeling, strong programming skills in C/C++ and python, and have a good knowledge of structural biology and bioinformatic tools. In addition, candidates should have a record of relevant publications in peer-reviewed international journals, the ability to speak and write effectively, strong team skills, be self-motivated, and creative.

EPFL provides state-of-the-art facilities and is one of the leading technical universities worldwide. A competitive salary is offered. Interested applicants should send a curriculum vitae, a statement of research interests, and names of three references in one pdf-file to patrick.barth@epfl.ch (subject: post-doc position).