

PostDoc Position in Bionanotechnology/Membrane Biophysics

Multifunctional high-resolution imaging of native membrane receptors

High-resolution microscopy ($\approx 1\text{nm}$) tools that allow the structural characterization of native membrane protein assemblies are rare. However, multifunctional high-resolution microscopic and spectroscopic approaches that allow to structurally observe the cell membrane and to simultaneously quantify their specific and unspecific interactions do not exist. In a new project we intend to develop and establish multifunctional high-resolution tools that enable to image single native receptors of cellular membranes at subnanometer resolution and to quantify the interactions that guide the membrane receptor assembly and function. We want to structurally map the interactions of membrane receptors with their environment and map the interactions inside membrane proteins that switch their functional state. Therefore we establish a new nanoscopic tool that images biological membranes at a resolution $\leq 1\text{nm}$ and simultaneously quantifies and maps the interactions of the hosted membrane proteins in three dimensions. This new multifunctional tool will provide structural and quantitative insights into basic biological processes of the cell membrane.

We search for a highly motivated postdoctoral fellow to work in an inspiring multidisciplinary field that combined engineering, biophysics, cell biology and molecular biology. The candidate having a strong background in physics, biophysics and molecular biology will be coached by a vibrant consortium of international experts in membrane proteins and structural biology.

Eligibility:

- (i) The candidate must be within the first 5 years of their career in research (5 years after Master).
- (ii) Holders of Swiss nationality had to legally resided and had main activity in non-EU-associated country (USA, Canada, Japan etc...) for at least 3 of the last 4 years immediately prior to the recruitment.
- (iii) Holders of non-Swiss nationality must not have resided or carried out main activity in Switzerland for more than 12 months in the 3 years immediately prior to the recruitment.

Please your application including CV, publication list and two letters of recommendation to Prof. Dr. Daniel Müller, ETH Zurich, Switzerland. Email: daniel.mueller@bsse.ethz.ch. Find more information at www.bsse.ethz.ch/biophysics and <http://www.sbmp-itn.eu>