



PhD position available

Keywords: *synthetic biology, bioenergetics, membrane protein, microfluidics, biophysics, microscopy*

Use of membrane proteins for synthetic biology applications

In all life forms, biological membranes separate the contents of different compartments. Transport of molecules and communication between these compartments and thus across membranes are vital. These tasks are performed by a large number of membrane proteins, which are the targets of more than 50% of modern drugs, making their molecular mechanism interesting for both basic and applied research.

Our group in the **Department of Chemistry and Biochemistry at the University of Berne (Switzerland)**, we have extended knowledge on how to reconstitute membrane protein in their active form in lipidic system such as small and giant liposomes. Next to the functional characterization of the proteins, such systems are relevant for bottom-up synthetic biology applications, where natural and artificial components are mixed.

For the current position, we seek a highly motivated PhD student that will

- a.) continue our current efforts to use giant unilamellar vesicles generated by microfluidics as model systems for membrane protein
- b.) investigate a novel and interesting synthetic biology project.

The successful candidate holds a master in biochemistry/biophysics with a strong interest in these disciplines. **The candidate should be interested in applying fluorescence microscopy and image data analysis techniques.**

We offer an exciting and timely scientific project with excellent technical facilities in the heart of the Swiss capital. National and international collaborations guarantee a fruitful exchange with other researchers. We provide a friendly and open working atmosphere with mutual respect, where own ideas can grow.

The desired starting date of the position is August-October 2023. The estimated PhD project time is 3 to 4 years and the salary is according to the regulation of the Swiss National Science foundation

(https://media.snf.ch/Wg9oQo2WuldqSIA/Annex_XII_Ausfuhrungsreglement_Betragsreglement_E.pdf)

Please send your application, including a **short motivation letter about your future work in our laboratory** and a complete CV (including two references) to

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Links and references:

http://www.dcbp.unibe.ch/ueber_uns/personen/prof_dr_von_ballmoos_christoph/index_ger.html

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