

HYBRID FUNCTIONAL COMPARTMENTS AT THE NANOSCALE: TOWARDS “ARTIFICIAL CELLULAR IMPLANTS”

Candidates are invited to apply for a PhD position in the Department of Chemistry of the University of Basel.

The PhD project has as aim the design and development of hybrid compartments based on a combination of synthetic compartments with active molecules such to serve as “artificial cellular implants” for medical applications. The wall of the compartments will be rendered permeable by insertion of synthetic pores, while their external surface will expose specific molecular groups for targeting in order to improve their up-take by cells. The compartments will be loaded with active molecules (enzymes, mimics), which will support the overall functionality of these cellular implants. The PhD is part of a joint project within the National Center of Competence in Research “Molecular Systems Engineering” and will combine nanoscience with physical chemistry and biochemistry methods to generate and characterize such synthetic compartments equipped with active molecules. Upon internalization inside cells, these hybrid compartments will be tested in terms of functionality as an essential step for the development of “synthetic cellular implants”. For more information on the topics of the group with which you will work, see: <http://www.chemie1.unibas.ch/~palivan/>

Your profile:

- you have an MS degree in chemistry, biochemistry or material science.
- knowledge of physical chemistry methods (e.g. IR and electronic spectroscopy, fluorescence spectroscopy, NMR, Fluorescence correlation spectroscopy, light /neutron scattering)
- experience with enzymatic kinetics and cells assays desirable
- citizenship of Switzerland or one EU country
- proficiency in English, and preferably German
- great social and communication skills for integration into an international research team

Application:

For further information please contact Prof. Dr. Cornelia Palivan, (Cornelia.Palivan@unibas.ch, phone: +41.61.2073839). Interested candidates will send, by 05.07.2019: i. letter of motivation, ii. curriculum vitae, and iii. names and contact details for two referees.

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