Postdoctoral Position in Development of Clusters of Compartments for Bio-applications

We invite candidates to submit applications for a **PostDoc position** in the Biointerfacing nanomaterials group of Professor C. Palivan, Department of Chemistry, at the **University of Basel, Switzerland**. The position is for one year.

Job description: The overall aim of this project is the development of interconnected compartments loaded with smaller assemblies and molecules (enzymes, growing factors, proteins, contrast agents) to serve as a platform for bio-applications (e.g. regenerative medicine, bio-sensing). A microfluidics technology will be used to generate synthetic compartments, load them with desired cargos and finally decorated them with single strands DNA. Compartments will self-assemble in clusters via DNA hybridization. A particularly important part of the project will intend to decrease the size of the compartments by modification of the microfluidic chips and increase their composition to support cascade reactions for an overall production of specific molecules (drugs, signals) and interaction with cell lines. In addition, structural characterization and functionality assays of the cargos encapsulated in the compartments represent a prerequisite for development of specific bio-applications.

This is an interdisciplinary project within the National Center of Competence in Research "Molecular Systems Engineering" from which you will gain valuable experience in the domain of nanoscience, physical chemistry, biochemistry and regenerative medicine. Your role will be to self-assembly the compartments, load them with biomolecules and assemblies and control them to form stable clusters that specifically interact with cells. More information on the topics of the group in which you will be working can be found at https://palivan.chemie.unibas.ch/en/

Your profile:

- you will ideally have a PhD in chemistry, biochemistry or biochemical engineering;
- experience with colloidal chemistry systems (liposomes, polymersomes) is a must;
- experience in working with DNA is an advantage;
- basic knowledge of molecular biology techniques (e.g. PCR, DNA purification);
- basic knowledge of protein biochemistry techniques (e.g. gel electrophoresis, protein purification);
- high records of publications in internationally refereed scientific journals
- proficiency in English; German is an advantage.

Application: For further information, please contact Prof. Dr. Cornelia Palivan, (Cornelia.Palivan@unibas.ch, phone: +41.61.2073839). Interested candidates will send, by 20.07.2024: i. letter of motivation, ii. curriculum vitae, iii. names and contact details for two referees.

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