PhD Program between the Freie Universität Berlin (FUB) and the China Scholarship Council (CSC)

Open PhD Position at Freie Universität Berlin, offered only to Chinese CSC scholarship candidates 2023

Department/Institute: **Institute of Chemistry and Biochemistry, Department of Biology, Chemistry and Pharmacy**

Subject area: **Cell biology, Epigenetics, Regenerative Medicine**

Name of Supervisor: **Prof. Sigmar Stricker**

Number of open PhD positions: **1**

Type of the PhD Study: **full time 4 years**

Project title: **transcriptional and epigenetic control of mesenchymal stem cell differentiation**

PhD Project description:

Our group aims to understand mechanisms controlling differentiation of fibrogenic, adipogenic, and myogenic progenitors in development, as well as the respective adult tissue-resident stem cells (see e.g https://doi.org/10.1038/s41467-017-01120-3 , https://doi.org/10.1242/dev.161208 , https://doi.org/10.1016/j.scr.2018.08.010, ,). We offer a PhD project targeted at unraveling the transcriptional, epigenetic and post-transcriptional mechanisms governing the differentiation of adipose tissue- and muscle-resident stem cells. The project will focus on post-transcriptional control, which we hypothesize is a master switch to rapidly activate muscle-resident stem cells.

Language requirements:

- IELTS: 6,5 oder TOEFL: 95 ibt

Academic requirements:

Masters degree in Biochemistry / Cell Biology / Molecular Biology / Developmental Biology / Biology, or related areas.

The project requires experience in cell culture, preferentially primary cells; experience with RNA-Sequencing and ideally ATAC-Sequencing data analysis.

Information of the professor or research group leader (website, awards etc.):

Prof. Sigmar Stricker

https://www.bcp.fu-berlin.de/en/chemie/biochemie/research-groups/stricker-group/index.html

Recent publications:

Vallecillo-García P, Orgeur M, Comai G, Poehle-Kronnawitter S, Fischer C, Gloger M, Dumas CE, Giesecke-Thiel C, Sauer S, Tajbakhsh S, Höpken UE and **Stricker S**. A local subset of mesenchymal cells expressing the transcription factor Osr1 orchestrates lymph node initiation. **Immunity** 2023, May 2:S1074-7613(23)00182-6. DOI: 10.1016/j.immuni.2023.04.014

Kotsaris G, Qazi TH, Bucher CH, Zahid H, Pöhle-Kronawitter S, Ugorets V, Jarassier W, Börno S, Timmermann B, Giesecke-Thiel C, Economides AN, Le Grand F, Vallecillo-García P, Knaus P, Geissler S and **Stricker S**. Odd skipped-related 1 controls the pro-regenerative response of Fibro-Adipogenic Progenitors. **NPJ Regenerative Medicine** 2023 8(19). DOI: 10.1038/s41536-023-00291-6

Wei X, Franke J, Ost M, Wardelmann K, Börno S, Timmermann B, Meierhofer D, Kleinridders A, Klaus S, **Stricker S.** Cell autonomous requirement of Neurofibromin (Nf1) for postnatal muscle hypertrophic growth and metabolic homeostasis. **Journal of Cachexia, Sarcopenia and Muscle**, 2020; 11, 1758-1778 DOI: 10.1002/jcsm.12632

Stumm J, Vallecilo-Garcia P, vom Hofe-Schneider S, Ollitrault D, Schrewe H, Economides AN, Marazzi G, Sassoon D, **Stricker S**. Odd skipped-related 1 (Osr1) identifies muscle-interstitial fibro-adipogenic progenitors (FAPs) activated by acute injury. **Stem Cell Res.** 2018 32, 8-16 DOI: 10.1016/j.scr.2018.08.010

Orgeur M, Martens M, Leonte G, Nassari S, Bonnin MA, Börno ST, Timmermann B, Hecht J, Duprez D, **Stricker S**. Genome-wide strategies identify downstream target genes of connective tissue-associated transcription factors. **Development** 2018 145, dev161208 DOI: 10.1242/dev.161208

Vallecillo García P, Orgeur M, Vom Hofe-Schneider S, Stumm J, Kappert V, Ibrahim DM, Börno ST, Hayashi S, Relaix F, Hildebrandt K, Sengle G, Koch M, Timmermann B, Marazzi G, Sassoon DA, Duprez D, **Stricker S**. Odd skipped-related 1 identifies a population of embryonic fibro-adipogenic progenitors regulating myogenesis during limb development. **Nat. Commun.** 2017 8:1218. DOI: 10.1038/s41467-017-01120-3

Please Note: In a first step, the complete application should be uploaded to the online portal (https://fuberlin.moveon4.de/form/60acfece5d328710e40bdbd5/eng) for evaluation by January 15th, 2024. Please do not contact the professor before. He/she will get in contact with you after having received the complete application via the International Office of Freie Universität Berlin in January.