Epigenetic Heterogeneity in Breast Epithelial Cell Differentiation and EMT

A PhD student position (TV-L E13/65%, from March 1st, 2019 for three years) is available at the Institute of Cell Biology and Immunology (IZI) at the University of Stuttgart in the group of Prof. Dr. Monilola Olayioye. The project will be conducted in the context of the Epigenetics Program of the BW Foundation on the "Analysis of the dynamic changes of the epigenome during epithelial-to-mesenchymal transition in live cells using BiAD sensors" and will be performed in close collaboration with the group of Prof. Dr. Albert Jeltsch at the Institute of Biochemistry and Technical Biochemistry, University of Stuttgart. Research in the Olayioye lab focuses on the molecular mechanisms contributing to cellular transformation with a specific focus on breast cancer. In this interdisciplinary project, we will employ novel Bimolecular Anchor/Detector (BiAD) sensors pioneered by the Jeltsch lab to microscopically detect changes at target genomic loci during differentiation and epithelial-to-mesenchymal transition (EMT) in living breast epithelial cells. State of the art fluorescence imaging methods, CRISPR/dCas9 and 2D as well as 3D culture models will be used during the course of the work. This project aims at achieving unprecedented insights into the relationship between phenotypic heterogeneity of cell populations and alterations of specific epigenetic marks at the single-cell level as well as a better understanding of the processes underlying tumor development and progression.

Qualification/requirements: We expect theoretical knowledge as well as practical experience in cell biology, biochemistry and molecular biology, a genuine interest in scientific questions, team spirit and the ability of working independently. Previous experience with cell culture and microscopy techniques is advantageous.

Application procedure: Candidates must send a full CV, a motivation letter including a description of previous research experiences and contact details of 2 referees to: monilola.olayioye@izi.uni-stuttgart.de. The University of Stuttgart wishes to increase the share of female academic staff and, for this reason, especially welcomes applications from women. Severely challenged persons will be given preference in the case of equal qualifications.

Closing date: Applications must be received by November 15th, 2018.

Prof. Dr. Monilola Olayioye
Head of Molecular Tumor Cell Biology
Institute of Cell Biology and Immunology
University of Stuttgart
Allmandring 31, 70569 Stuttgart, Germany
https://www.izi.uni-stuttgart.de/en/research/olayioye/