

PhD position studying mitochondrial ultrastructure and diabetes

within the DFG-funded graduate school 2576 - Vivid

We are looking for a highly motivated PhD student studying the link between mitochondrial membrane ultrastructure and type-2 diabetes using *in vitro* and *in vivo* mouse models. The work will be done at the Institute of Biochemistry and Molecular Biology I, Medical School, Heinrich Heine University Düsseldorf, Germany with Prof. Andreas Reichert in collaboration with researchers at the German Diabetes Center Leibniz Center for Diabetes Research at HHU (DDZ). We are an international team with a highly motivating working environment.

Description of the project:

Insulin resistance and type 2 diabetes (T2DM) are associated to decreased oxidative phosphorylation (OXPHOS), altered mitochondrial ultrastructure, increased reactive oxygen species (ROS) production as well as increased fat accumulation. Increasing mitochondrial functionality and biogenesis through PGC-1 α leads to improved insulin sensitivity and glucose homeostasis. Cristae structure and crista junctions are essential for normal mitochondrial function and they are regulated by the MICOS (mitochondrial contact site and cristae organizing system') complex. Alteration of cristae morphology and the MICOS complex is hypothesized to represent a critical step for developing insulin resistance and consequently T2DM.

We will use *in vitro* and mouse models to decipher the roles of the MICOS complex (**project 3b**) in the pathogenesis of IR. For further details see project 3b at <https://www.vivid.hhu.de/projects.html>.

The successful candidate must have:

- a master degree (or equivalent) in biochemistry, biophysics, biology, chemistry, or other closely related fields of natural sciences.
- experience in laboratory work using a broad spectrum of methods in biochemistry, molecular biology, and cell biology.
- experience in working with a mouse model.
- very good proficiency in writing and speaking English.
- strong interest to work in an international team
- passion for science and the motivation to work on an innovative project.

Job Position

A PhD position (E13, 65%) starting 1.9.2020 for the period of three years.

The Heinrich-Heine University is committed to equal opportunity in employment and gender equality in its working environment. Handicapped applicants with equal qualifications will be preferred.

Application procedure:

Please send your full application until 15.7.2020 which includes a brief cover letter, your CV, relevant transcripts, and an essay (½ to 1 page) explaining why studying mitochondrial cristae membranes is of interest to you. Only complete applications sent as a single pdf-file to "Reichert at hhu.de" will be considered.

References

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