2019 Helmholtz – OCPC – Program

for the involvement of postdocs in bilateral collaboration projects

PART A

Title of the project: Integration of OMICs data for the study of diabetic cardiomyopathy

Helmholtz Centre and institute: Helmholtz Centre Munich (HMGU), Institute of Epidemiology (EPI), Research Unit of Molecular Epidemiology (AME)

Project leader: Dr. Rui Wang-Sattler

Web-address: https://www.helmholtz-muenchen.de/ame

Description of the project:
We are looking for a postdoctoral fellow to join the research group of Metabolism at the AME, EPI, HMGU. The group is primarily identifying candidate biomarkers of metabolic diseases (e.g. type 2 diabetes and cardiovascular diseases). We use statistical, bioinformatical and machine learning approaches to integrate multi-levels of OMICs data to better understand the pathophysiological mechanisms, with the final goal to translate our discoveries into clinical practice.

A rapidly evolving epidemic in type 2 diabetes (T2D) is affecting all ages, sexes and socioeconomic classes which includes serious comorbidities such as heart diseases. While ischaemic heart disease represents the major cause of death of T2D patients, heart failure (80% of Heart Failure with preserved Ejection Fraction) is the second most common cardiovascular disease in T2D patients.

Your project is part of an European Union supported project with the aim to determine whether T2D represents a central mechanism contributing to the pathogenesis and progression of a specific cardiomyopathy, called ‘diabetic cardiomyopathy’.

Your task will be the analysis of multi-levels with multi-time points of OMICs data (e.g. genome, epigenome, proteome and metabolom) by controlling for common confounders (e.g. age, sex and BMI) using population-based human cohort as well as clinical data, in order to better assessment of underlying pathophysiology and identification of new biomarkers.

Description of existing or sought Chinese collaboration partner institute:
Dr. Rui Wang-Sattler is organically from China, and she has been collaborating for more than 10 years with colleagues from China. Three joint workshops have been organized and about 12 scientists participated in mutual exchange visits. These mutual exchanges yielded in 15

joint publications. Additionally, four students from China successfully completed the PhD under the supervision of Dr. Rui Wang-Sattler at the HMGU.

Required qualification of the post-doc:

- PhD degree in bioinformatics, statistics, physics, public health or related fields
- Programming skills and basic knowledge of biochemistry
- Experience in analysing OMICs data is an advantage

PART B

Documents to be provided by the post-doc, necessary for an application to OCPC via a postdoc-station:

- Detailed description of the interest in joining the project (motivation letter)
- Curriculum vitae, copies of degrees
- List of publications
- 2 letters of recommendation
- Proof of command of English language

PART C

Additional requirements to be fulfilled by the post-doc:

- Max. age of 35 years
- PhD degree not older than 5 years
- Very good command of the English language
- Strong ability to work independently and in a team