



The Leibniz Institute on Aging - Fritz Lipmann Institute (FLI) is a research institute of the Gottfried Wilhelm Leibniz Association, which is financed by the Federal State of Thuringia and the Federal Ministry of Education and Research with 50% each. The main focus of research is to delineate basic molecular mechanisms and its consequences for the development of dysfunctions and aging-related diseases. Around 350 employees work and conduct research at the FLI, with international employees from over 40 nations.

The **Ori Research Group** of the Leibniz Institute on Aging -Fritz-Lipmann-Institute e.V. in Jena invites applications for a

## PhD student position(TV-L E13/2)

(Job ID 1917) in the project: Functional characterization of AGE modifications in aging

### Background:

The homeostasis of the proteome of cells is required to maintain the function of organs and it was shown to decline during aging. Advanced glycation end products (AGEs) are a family of non-enzymatic posttranslational modifications that have been shown to accumulate in aging tissues. Although a handful of specific AGE-modified proteins have been identified, a detailed characterization of the targets of AGEs and the relationship between this modification and protein function is still missing. We have devised a mass spectrometry based approach to identify specific sites of carboxymethyl lysine (CML, one of the most abundant AGEs) modifications in proteins. Using this approach, we were able to identify over 1000 CML sites in cells treated with glycosylating agents and over 800 sites in primary tissues. Our data revealed that in vivo CML modifications occur in a specific set of proteins with members of the mitochondrial respiratory chain being particularly affected.

### Specific aims:

In this project, we would like to investigate the functional role of these modifications and their relationships to the aging process. In particular, our aims are: (1) to develop targeted proteomics assays for the identified CML sites to investigate their value as biomarkers of aging; (2) to assess the consequences of CML modifications in terms of protein stability, interactions and turnover; (3) to investigate the relationship between mitochondrial dysfunction and CML modification of respiratory chain complexes.

### Your profile:

The ideal candidate will be a motivated and independent thinking person willing to undertake the challenge of working across disciplines' boundaries. She/he should hold a Master degree or equivalent in biology/biochemistry/bioinformatics/medicine or

### We offer:

We offer a thriving international environment, access to cutting edge technologies, and complementary training for scientific as well as soft skills in the context of the Leibniz Graduate School on Aging (LGSA, <http://lgsa.leibnizfli.de/>).

The PhD position will be integrated in our Leibniz Graduate School on Aging and Age Related Diseases

The contract conditions and the salary will be according to the collective labor agreement for public service employees of the Federal State of Germany (TV-L E13/2).

### Application:

Please acquaint yourself with the LGSA procedures and with the application procedure on our website <http://lgsa.leibnizfli.de/>, fill in the application form and send it electronically to the LGSA until July 25th, 2019.

Please note that your application will be made available to the LGSA selection committee for assessment. Please check here for FLI data protection ([www.leibniz-fli.de/dataprotection](http://www.leibniz-fli.de/dataprotection)) regulation and the processing of personal information according to the EU-GDPR.