



Buchmann Institute
for Molecular Life Sciences



**Postdoctoral Researcher Position at the
Buchmann Institute for molecular life sciences,
Goethe University Frankfurt, Germany
(Postdoctoral Researcher, E 13 TV-G-U)**

Institute of Cell Biology and Neuroscience
Max-von-Laue Str. 13
and
Neurovascular Disorders Group
Buchmann Institute for Molecular Life
Sciences
Max-von-Laue-Str. 15
D-60438 Frankfurt am Main

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<http://www.bmls-institute.de/>

Host university:

With more than 46.000 students and approx. 4.600 employees the Goethe University Frankfurt is one of the largest universities in Germany. The Goethe University is positioned among the top international research universities, offers a wide variety of academic programmes, a diverse group of research institutes, and a focus on interdisciplinary approaches to solving complex problems. The university comprises 5 campuses with 16 faculties, 100 study courses and has an excellent focus on research. With 600 Germany scholarships and a total of 1,08 million euros in supporting donations, the university once more ranked top among German universities in this category. Situated in Germany's most cosmopolitan and international city, the university attracts a diverse body of students and researchers from around the world. Students at Goethe benefit from studying and living in Frankfurt, the largest financial and trading centre in Europe—with plenty of opportunities to learn and practise speaking German.

Group description:

Alzheimer's disease (AD) is a progressive neurodegenerative disorder that remains one of the major burdens on our society with no available cure. AD, in combination with vascular cognitive impairment (VCI), represents over 80% of the total dementia cases. At autopsy the overlap of the underlying pathological hallmarks of AD (beta-amyloid (A β) plaques and neurofibrillary tangles) and VCI (strokes, small vessel disease and vascular dementia) is obvious, but is often unrecognized in the clinical setting. Hence, our group is focused on the basic research of the comorbidity states of AD and VCI to investigate underlying disease pathways as well as potential biomarker profiles. The neurovascular unit is of particular interest to us and we aim to investigate the long-term interplay of vascular cognitive impairments with Alzheimer's Disease. The function of the neurovascular unit and its alteration during disease progression is investigated using various methods including *in vivo* 2 Photon imaging, RNA sequencing, primary cell culture, and molecular biology. This position, therefore, provides the opportunity to conduct research in the field of neurovascular disorders in a vibrant and well-rounded environment.

The Position:

We are seeking to fill the position at the earliest possible opportunity. The position is initially limited to August 31th, 2021, with the possibility of extension. The funded project aims to characterize and track the functional aspects of the neurovascular unit in transgenic mouse models mimicking the comorbidity of Alzheimer's Disease and vascular cognitive impairments. Further analysis will include the investigation of the amyloid clearance mechanisms from the brain parenchyma, the integrity of the BBB as well as different aspects of cell signalling changes. Methods that are used include the use of intracranial *in vivo* 2 Photon imaging, acute brain slices, primary cell culture models of the blood brain barrier as well as immunohistochemistry and molecular biology.

General requirements:

We are seeking enthusiastic and ambitious candidates with a strong background in neurodegenerative disorders, stroke, cellular and molecular biology. We encourage interdisciplinary work and invite candidates with a background in physics and experience in 2-Photon imaging who show a keen interest in the functional mechanisms of the neurovascular unit in disease states for application. Candidates are required to have a PhD in biology or physics.

Our laboratory is part of a multidisciplinary, modern institute which is highly international, dynamic and scientifically stimulating. Good communication skills and the ability to work in a multidisciplinary team are required. The common language in the institute is English with applications from abroad especially welcome. As an equal opportunity employer, applications of women are specifically invited. In the case of equal qualifications, competence, and specific achievements, women will be considered on preferential terms within the framework of the legal possibilities. The Goethe University is committed to giving preference to handicapped candidates with equivalent qualifications. The limitation of the contract is based upon the regulations of the "Wissenschaftszeitvertragsgesetz" in conjunction with the "Hessischen Hochschulgesetz".

Contact and Deadline:

Please send the formal application including

- 1) Cover letter
- 2) CV
- 3) 2 reference letters

Until **October 16th, 2018** to Hefendehl@bio.uni-frankfurt.de and bataille@bio.uni-frankfurt.de