

Carry out your own PhD or Dr. med. project!

– in Medicine, Biology, Neuroscience –
supervised by

Prof. Katrin Amunts (C. and O. Vogt Institute for Brain Research, Düsseldorf)

Project description:

The Hector Fellow Academy offers you the opportunity to realize a self-developed research project under supervision Prof. Katrin Amunts. She is one of the Hector Fellows, a community of outstanding professors from different research institutions across Germany working in STEM-subjects, medicine, and psychology. Katrin Amunts is a world's leading expert on the development of a human brain atlas at microscopical scale. She has applied deep learning, image analysis and advanced computing to develop the Julich-Brain atlas and BigBrain, which have set new standards in the field of brain mapping, and enable to study relationships between structure and function.

Keywords

Human Brain, Cytoarchitectonics, Julich-Brain Atlas, Foundation Models, Deep Learning

Entry requirements

You are enthusiastic about investigating and mapping the human brain, and you want to work at the intersection of neuroscience and artificial intelligence. Your goal will be to achieve full-coverage cytoarchitectonic mapping across all brains underlying the Julich-Brain Atlas by adapting and scaling AI foundation model methods developed at the INM-1. To do so, you will first build profound neuroanatomical knowledge of cytoarchitectonic patterns, and then use this expertise to adapt and optimize AI methods — including scalable techniques to validate the automatically derived areas. You are open-minded about new methods, such as deep learning and foundation models, and would like to incorporate them into your research project. The ultimate aim is to create full-coverage cytoarchitectonic maps of the human brain and share them as FAIR data with the scientific community.

You have a Master's degree in a scientific or engineering subject, ideally with prior experience in neuroscience, artificial intelligence, or both, and achieved excellent grades.

Our Offer

- ✓ Opportunity to realize a research project with high visibility
- ✓ Be part of a strong interdisciplinary project with computer scientists, biologists and physicians
- ✓ Mentored by an internationally renowned, top-level scientist
- ✓ Funded position (according to TV-L 13, up to 100%, based on the funding rates of the DFG for PhD students)
- ✓ Extensive research funding
- ✓ Membership in an excellent research network
- ✓ Additional management courses, trainings & networking events

Location

Cécile and Oskar Vogt Institute of Brain Research at the Heinrich-Heine University (HHU)

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Funding

Four years of funding (3+1, three years with the possibility to extend for one year)

How to apply

Please apply via the [HFA application portal](#).

The Hector Fellows will arrange interviews (via skype or if feasible in-person) with the most promising applicants. The final candidates will be invited to give an online presentation. The final decisions will be announced in the following days after the presentation.

Application Deadline

October 15, 2026

Enquiries

For further details about the project, please contact Hector Fellow at: Katrin.Amunts@uni-duesseldorf.de

For questions related to making your application, please contact Hector Fellow Academy Office:
application@hector-fellow-academy.de or www.hector-fellow-academy.de