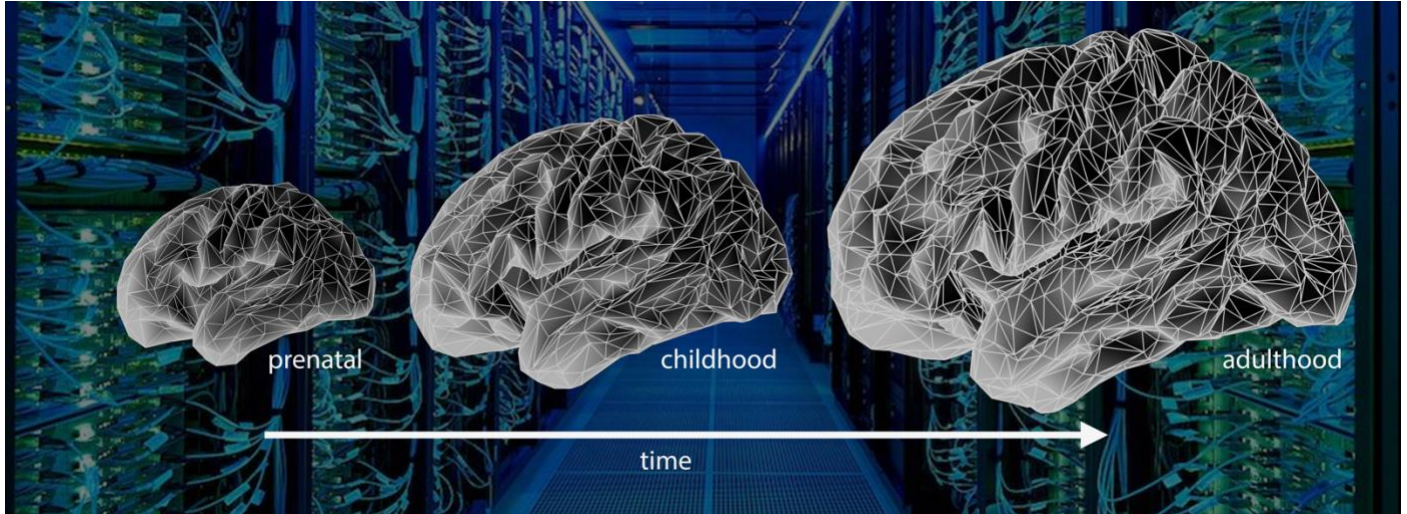


PhD position (3year scholarship)

Modelling human brain development at the cellular level

We are seeking a PhD trainee to join the Multiscale Neuroanatomy lab in the Institute of Neuroscience and Medicine, Forschungszentrum Jülich. The Multiscale Neuroanatomy Lab develops theories on how the cellular organisation of the human brain gives rise to complex functional dynamics. The PhD project involves creating a generative growth model of human brain development, based on detailed investigations of *post mortem* brain samples as well as *in vivo* MRI. The position is suitable for a researcher that aspires to work at the cutting edge of computational neuroscience.



The lab is part of INM-1 (Structural and Functional Organisation of the Brain), which integrates cytoarchitecture, connectivity, receptor densities and genetics to create multimodal brain atlases, in cooperation with the Jülich Supercomputing Centre (JSC). The JSC operates the most powerful supercomputers in Europe. The PhD position will be embedded within this interdisciplinary network of researchers, providing unique opportunities to undertake world leading research. The Forschungszentrum Jülich is located on an attractive research campus, between the cities of Cologne, Düsseldorf, and Aachen.

The Position entails:

- Generating mechanistic models of human neurodevelopment
- Developing automated pipelines to analyse and compare cellular distributions in histological sections of brain tissue
- Creating a translation dictionary between ultra-high-resolution histology (1µm pixels) and in vivo MRI (~1mm voxels)
- Close cooperation with an interdisciplinary team of neuroscientists, computer scientists and physicists
- Production of high-quality scientific articles
- National and international travel to present at scientific conferences and strengthen inter-lab cooperations.

Requirements:

- Master's degree in neuroscience, computer science, biology, physics or a related field of study
- Programming skills in Bash, Python and/or Matlab
- Prior experience with image processing is desirable
- Excellent written and verbal English communication skills

Position details. Location: Jülich. Duration: 3 years fixed term. Start date: Flexible. Salary and social benefits: Pay is in line with 65% of pay group 13 of the Collective Agreement for the Public Service (TVöD-Bund) and additionally 60% of a monthly salary as special payment („Christmas bonus“).

To apply, please submit:

- A cover letter (1-2 pages) outlining your career goals, how you meet the specific requirements of the position and a description of the scientific questions you would like to pursue.
- Curriculum Vitae
- Contact information for a referee
- Sample of your scientific writing (e.g. publication or thesis)
- Copy of transcripts from undergraduate and Master's degrees

We encourage applications from individuals that belong to groups that are underrepresented in science. The job will be advertised until the position has been successfully filled.

Contact person: Dr. Casey Paquola (c.paquola@fz-juelich.de)