



Human Brain Project
Education Programme

HBP SCHOOL

THE HUMAN BRAIN ATLAS:

NEUROSCIENTIFIC BASIS, TOOLS AND APPLICATIONS

3-7 SEPTEMBER 2018
DÜSSELDORF/JÜLICH, GERMANY
MAASTRICHT, NETHERLANDS

APPLICATION DEADLINE:
27 JUNE 2018



@hbpeducation



@hbp_education



HBP Education



HBP Education Programme



<https://education.humanbrainproject.eu/>

CALL FOR APPLICATIONS

This HBP School will teach neuroanatomy and cognitive function of the human brain, including hands-on dissection courses, and give an overview about selected methodologies used in the Human Brain Project (HBP) to investigate the structural and functional organisation of the human brain. Students will receive hands-on training on the handling and usability of the Human Brain Atlas, part of the HBP Neuroinformatics Platform and an introduction to the services of the HBP High Performance Analytics and Computing Platform. The school programme also includes lectures on ethical implications and EU funding possibilities.

Application information

Application is open to the entire student community and early career researchers, regardless of whether they are affiliated with the Human Brain Project or not.

Applications from young female investigators are highly encouraged.

A maximum of 40 participants will be selected by the Scientific Chair and the HBP Education Programme in a competitive selection process based on academic merit. Participants are required to submit an abstract on their current research, a CV and a motivation letter with their application.

Application deadline: **27 June 2018**

Participation fee: 250 €

The fee does not include travel and accommodation. Fees will be collected after participants have been selected.

Scientific Chair:

Katrin Amunts | Forschungszentrum Jülich,
Heinrich Heine University Düsseldorf

Organisers:

Sabine Bradler | Forschungszentrum Jülich
Viktoria Tipotsch | Medical University Innsbruck

Contact:

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For more information and application visit:

<http://bit.ly/2sPcCli>



Human Brain Project



MEDIZINISCHE
UNIVERSITÄT
INNSBRUCK

Co-funded by
the European Union



PRELIMINARY SCIENTIFIC PROGRAMME

Monday 3 September 2018:

Neuroanatomy of functional systems, cytoarchitectonic mapping, receptor autoradiography and hands-on dissection courses

Welcome and introduction | 30 min

Katrin Amunts (Forschungszentrum Jülich/Heinrich Heine University Düsseldorf)

Neuroanatomy and functional systems/ Cytoarchitectonic mapping | 60 min each

Svenja Caspers (Forschungszentrum Jülich/Heinrich Heine University Düsseldorf)

Hands-on dissection and hands-on digital dissection | 100 min

Svenja Caspers, Nicola Palomero-Gallagher, Christiane Jockwitz, Sabine Bradler (Forschungszentrum Jülich)

Neurotransmitter systems in brain function | 60 min

Nicola Palomero-Gallagher (Forschungszentrum Jülich)

Tuesday 4 September 2018:

Ethics in neuroscience and EU funding opportunities for young researchers

Ethics in the neurosciences | 75 min/120 min

Dieter Sturma, Bert Heinrichs (Forschungszentrum Jülich/University of Bonn)

Poster session | 100 min

EU research funding: Horizon 2020 political background, funding opportunities and how to set thematic priorities | 60 min/90 min

Claudia Häfner (Forschungszentrum Jülich)



Wednesday 5 September 2018:

Brain connectivity and introduction to the High Performance Analytics and Computing Platform

Fibre architecture of the human brain (3D polarized light imaging) | 60 min

Markus Axer (Forschungszentrum Jülich)

Lab visit – Brain slicing, light microscopy of brain slices and high throughput microscopy, polarized light imaging set-up | 120 min

Markus Axer, Sabine Bradler, Sebastian Bludau, Sabrina Buller (Forschungszentrum Jülich)

Variability of the cortical folding pattern and mapping of U-fiber bundles of white matter | 60 min

Jean-François Mangin (Commissariat à l'Énergie Atomique, Paris)

Diffusion-weighted MRI and aging (1000BRAINS) | 60 min

Svenja Caspers (Forschungszentrum Jülich/Heinrich Heine University Düsseldorf)

Functional MRI and functional connectivity modelling | 60 min

Simon Eickhoff (Forschungszentrum Jülich/Heinrich Heine University Düsseldorf)

Introduction to the High Performance Analytics and Computing Platform and visit of Jülich supercomputers | 90 min

Anna Lührs (Forschungszentrum Jülich)

Thursday 6 September 2018:

Ultra-high field human brain imaging

Resolving activity in cortical columns and cortical layers in the human brain with ultra-high field fMRI | 60 min

Rainer Goebel (Maastricht University)

Multiscale imaging of the human brain with ultra-high field MRI and light sheet microscopy | 60 min

Alard Roebroek (Maastricht University)

Co-Design Project 4 – From cognitive neuroscience to robotic applications | 60 min

Mario Senden (Maastricht University)

MRI scanner visit – 7 & 9.4 | 90 min

Alard Roebroek (Maastricht University)

Bridging the gap between mice and humans – Comparative research in the Human Brain Project | 60 min

Wim Vanduffel (KU Leuven)

Friday 7 September 2018:

Neuroinformatics and the HBP Human Brain Atlas

The Human Brain Atlas as a part of the Human Brain Project's Neuroinformatics Platform | 60 min

Timo Dickscheid (Forschungszentrum Jülich)

Hands-on: Browsing reference atlases online | 90 min

Sebastian Bludau (Forschungszentrum Jülich)

Tutorial: Bringing data to the HBP Atlas I - Metadata organisation and semantic data integration | 60 min

Stefan Köhnen, Sara Zafarnia, Lyuba Zehl (Forschungszentrum Jülich)

Tutorial: Bringing data to the HBP Atlas II - Spatial anchoring of neuroscience data to atlases | 60 min

Yann Leprince, Stefan Köhnen (Forschungszentrum Jülich)

Big data analytics for cellular-level brain mapping | 30 min

Timo Dickscheid (Forschungszentrum Jülich)

Tutorial: Using the Neuroinformatics Platform to analyse data - Feature extraction from images using interactive machine learning | 60 min

Timo Dickscheid, Anna Kreshuk (Forschungszentrum Jülich/Heidelberg University)



