



Human Brain Project
Education Programme

FIRST HBP CURRICULUM WORKSHOP SERIES

UNDERSTANDING THE BRAIN: NEUROBIOLOGY FOR NON-SPECIALISTS

3-5 July 2017

Medical University Innsbruck, Austria

Application deadline: 24 May 2017

Scientific Programme

The aim of this interactive workshop is to provide practical insights into basic and translational neuroscience research for interested non-specialists. The topics addressed range from essential neuroanatomy and neurophysiology, over IPS cells, to networks and behaviour. Plasticity and modulation of networks and signal transmission under physiological (like learning and memory) and pathological situations (like addiction, epilepsy or neurodegeneration) will form an essential part.

Lectures and tutorials will be accompanied by lab visits, practical work and an open discussion round. Experts in functional neuroanatomy, neurobiochemistry, neuropharmacology and psychiatry from Medical University Innsbruck (Austria), the Allen Institute for Brain Science (USA) and the Human Brain Project (HBP) will be available on site.

This workshop is open to the whole student community and early post-docs upon application. Applications from young female investigators are highly encouraged.

Scientific Directors:

Christoph Schwarzer,
Alois Saria
Medical University
Innsbruck

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ATA GTA ATC AAT TAC GGG GTC
ATT AGT TCA TAG CCC ATA TAT GGA ATC
AAT AAT TAT CAT TAG TTA ATG CCC CAG TAA
TCA AGT ATC GGG TAT ATA CCT GTT CCG CGT
TAC ATA ACT TAC AAA TGG CCC GCC TGG CTG ACC GCC CAA
CGA CAA GGC GCA ATG TAT TGA ATG CCA TTT ACC GGG CGG ACC
GAC TGG CGG GTT GCT CCC CCG CCC ATT GAC GTC AAT AAT GAC
GTA TGT TCC CAT AGT AAC GCC AAT AGG GGG GGC GGG TAA CTG CAG
TTA TTA CTG CAT ACA AGG GTA TCA TTG CGG TTA TCC GAC TTT CCA TTG
ACG TCA ATG GGT GGA GTA TTT ACG GTA AAC TGC CCA CTT GGC CTG AAA
GGT AAC TGC AGT TAC CCA CCT CAT AAA TGC CAT TTG ACG GGT GAA
CCG AGT ACA TCA AGT GTA TCA TAT GCC AAG TAC GCC CCC TAT TGA
CGT CAA TGA CGG TCA TGT AGT TCA CAT AGT ATA CGG TTC ATG CGG GGG
ATA ACT GCA GTT ACT GCC TAA ATG GCC CGC CTG GCA TTA TGC CCA GTA
CAT GAC CTT ATG GGA CTT TCC TAC ATT TAC CGG GCG GAC CGT AAT
ACG GGT CAT GTA CTG GAA TAC CCT GAA AGG ATG TTG GCA
GTA CAT CTA CGT ATT AGT CAT CGC TAT TAC CAT GGT GAT
GCG GTT TTG AAC CGT CAT GTA GAT GCA TAA TCA GTA GCG
ATA ATG GTA CCA CTA CGC CAA AAC GCA GTA CAT CAA
TGG GCG TGG ATA GCG GTT TGA CTC ACG GGG ATT
TCC AAG TCT CGT CAT GTA GTT ACC CGC
ACC TAT CGC CAA ACT GAG
TGC CCC TAA AGG TTC
AGA CCA CCC CAT TGA
CGT CAA
TGG GAG
TTT GTT
TTG

Organisers:

Elisabeth Wintersteller,
Lisa-Marie Leichter
Medical University Innsbruck

Contact:

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For more information visit:

[https://education.humanbrainproject.eu/web/
1st-hbp-curriculum-neurobiology](https://education.humanbrainproject.eu/web/1st-hbp-curriculum-neurobiology)

Scientific programme schedule

as of 7 March 2017



Human Brain Project
Education Programme

Monday, 3 July

08:30 - 09:00

Registration

09:00 - 09:30

Welcome note and workshop introduction

**Christoph Schwarzer (MUI),
Alois Saria (MUI)**

09:30 - 10:30

The rodent brain atlas
tbc

10:30 - 12:00

The Allen Brain Atlas
Neuroanatomy - gene
expression

Terri Gilbert (AI)

12:00 - 13:00

Lunch break

13:00 - 16:30

Lab visits*

16:45 - 18:15

The Allen Brain Atlas
Neuroanatomy - connectivity

Terri Gilbert (AI)

18:15

Open Discussion

This workshop is open to the whole student community and early post-docs upon application. Applications from young female investigators are highly encouraged. **Application is required as space may be limited.** Applicants selected for participation will be informed within two weeks after the application deadline.

There is no registration fee. Seven travel grants will be available upon request (European students only). Accommodation can be provided for 30 students (first come, first served). This programme may be subject to change.

Note: The workshop is a supplement to the online course 'HBP Curriculum - Neurobiology for non-specialists'. It is recommended for workshop participants to attend the online course as a basis for the workshop. During the workshop, participants will have the possibility of taking an exam about the content of the HBP online course 'HBP Curriculum - Neurobiology for non-specialists'.

Contact:

curriculum.edu@humanbrainproject.eu

For more information and application visit:

<https://education.humanbrainproject.eu/web/1st-hbp-curriculum-neurobiology>

Tuesday, 4 July

09:00 - 10:00

Principles of
neuropharmacology

Sandra Santos Sierra (MUI)

10:00 - 11:00

Ion channels in diseases

Alexandra Koschak (LFU)

11:00 - 12:00

Induced pluripotent stem cells

Roxana Nat (MUI)

12:00 - 13:00

Lunch break

13:00 - 16:30

Lab visits*

16:45 - 17:45

The pyramidal neuron in the
cerebral cortex of humans and
rodents

tbc

17:45 - 19:15

The Allen Brain Atlas: Cell
typing and visual coding

Terri Gilbert (AI)

Wednesday, 5 July

08:00 - 09:00

Modulation of synaptic
plasticity and neuronal network
activity

Uri Ashery (TAU)

09:00 - 10:30

The HBP Brain Simulation
Platform

Michele Migliore (CNR)

10:30 - 11:00

Coffee break

11:00 - 12:30

The HBP Neuroinformatics
Platform

Timo Dickscheid (Juelich)

* lab visit themes

- Addiction / Psychiatry

**Barbara Pinheiro (MUI),
Gerald Zernig (MUI)**

- Experimental EEG

Iwona Kmiec (MUI)

- Studying behaviour

tbc

- Regeneration in the CNS

**Marta Cubero (LFU),
Sandra Rizzi (LFU),
Frank Edenhofer (LFU)**

- Neurodegeneration

Christoph Schwarzer (MUI)

- Comparative neuroanatomy

**Barbara Hausott (MUI),
Lars Klimaschewski (MUI)**

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the European Union



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UNIVERSITÄT
INNSBRUCK

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