

Human Brain Project
Education Programme

5th HBP SCHOOL - FUTURE MEDICINE

BRAIN DISEASE NEUROSCIENCE

INFLUENCING CLINICAL DIAGNOSES AND TREATMENTS BY DATA
MINING ANALYSIS- AND MODELLING-DRIVEN NEUROSCIENCE

27 November - 3 December 2017
Obergurgl University Center, Austria

Application deadline: 4 September 2017

PRELIMINARY SCIENTIFIC PROGRAMME

as of 4 September 2017



**APPLICATION DEADLINE extended to
18 September 2017**



Contact:
education@humanbrainproject.eu

For more information visit:
education.humanbrainproject.eu/web/5th-school



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Education Programme

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Preliminary Scientific Programme

as of 4 September 2017

The availability of clinical, genomic, proteomic and neuroimaging data sets combined with recent advances in ICT, data mining and computational modelling makes it possible to uncover unique biological signatures of disease from multi-level descriptions of the brain. Medicine of the future will capitalise on these biological signatures of diseases for faster diagnosis, more accurate prognosis and leverage the discovery of mechanistic pathways for new types of drugs, novel treatments and ultimately personalised medicine.

The programme of the 5th HBP School combines lectures and practical sessions. In small groups, students will be working on a week-long project. Throughout the school, participants are encouraged to introduce new ideas and suggest original experimental techniques. Speakers will be available throughout the week to go into details of concepts, provide deeper insights, answer questions or help with specific group requests.

Monday 27 November Arrival day

16:00 - 18:30

Registration

18:30 - 19:00

Welcome reception

19:00 - 20:30

Dinner

20:30 - 22:00

Welcome address

Speaker tbc

Tuesday 28 November

08:00 - 09:15

Alzheimer's Disease
biomarkers

Speaker tbc

09:15 - 10:30

Therapeutic approaches for
stroke and Alzheimer using
large-scale brain network
models

Ana Solodkin (UCI)

10:30 - 11:00

Coffee

11:00 - 12:15

Data-driven disease
progression modelling

Alexandra Young (UCL)

12:15 - 15:30

Lunch break

15:30 - 16:00

Coffee

16:00 - 19:00

Project session

19:00 - 20:30

Dinner

20:30 - 22:00

Student Lightning Talks and
Poster Session I

Wednesday 29 November

08:00 - 09:15

Large-scale brain networks
in epilepsy: Understanding
seizure generation and
predicting treatment
outcome

Marc Goodfellow
(University of Exeter)

09:15 - 10:30

Epilepsy modelling:
Cell level

Speaker tbc

10:30 - 11:00

Coffee

11:00 - 12:15

Structural and functional
connectivity-based
macroscopic modelling in
epilepsy

Speaker tbc

12:15 - 14:15

Lunch break

14:15 - 15:30

Mouse models of epilepsy
John Huguenard
(Stanford University)

15:30 - 16:00

Coffee

16:00 - 19:00

Project session

19:00 - 20:30

Dinner

20:30 - 22:00

Student Lightning Talks and
Poster Session II

Thursday 30 November

08:00 - 09:15

Large-scale models of
interacting cortical areas

Sacha van Albada
(JUELICH)

09:15 - 10:30

Rehabilitation-induced
cortical plasticity after
stroke

Anna Letizia Allegra
Mascaro (LENS)

10:30 - 11:00

Coffee

11:00 - 15:30

Lunch break

15:30 - 16:00

Coffee

16:00 - 19:00

Project session

19:00 - 20:30

Dinner

20:30 - 22:00

Student Lightning Talks and
Poster Session III



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Friday 1 December

08:00 - 09:15

Stimulation in large-scale connectome-based network models

Speaker tbc

09:15 - 10:30

Pathological sleep-like activity in cortical perilesional areas

Speaker tbc

10:30 - 11:00

Coffee

11:00 - 12:15

Modelling stroke and rehabilitation in mice using large-scale brain networks

Spase Petkoski (AMU)

12:15 - 15:30

Lunch break

15:30 - 16:00

Coffee

16:00 - 19:00

Project session

19:00 - 20:30

Dinner

Saturday 2 December

08:00 - 10:30

Conclusion and presentation of group projects

10:30 - 11:00

Coffee

11:00 - 12:15

Conclusion and presentation of group projects ctd.

12:15 - 15:30

Lunch break

15:30 - 16:00

Coffee

16:00 - 19:00

Conclusion and presentation of group projects ctd.

19:00 - 20:30

Dinner

20:30

Farewell

Sunday 3 December Departure day

Student participation information:

Application for the 5th HBP School is open to the whole student community and early post-docs. Up to 40 participants will be selected in a competitive application process based on an academic decision by the Scientific Committee.

Participants are required to submit an abstract on their current research with their application. Applications from young female investigators are highly encouraged.

There is no registration fee. Accommodation will be provided. Seven travel grants will be available upon request for European students only (country of residence). Travel grant requests have to be sent to education@humanbrainproject.eu prior to the application deadline.

Organisers:

Viktoria Tipotsch,
Theresa Rass | MUI, Austria

Contact:

education@humanbrainproject.eu

For further information visit:

education.humanbrainproject.eu/web/5th-school

Scientific Committee:

Ferath Kherif | CHUV
Egidio D'Angelo | UNIPV
Alain Destexhe | CNRS
Bogdan Draganski | CHUV
Viktor Jirsa | AMU
Mira Marcus-Kalish | TAU
Marcello Massimini | UMIL
Francesco Pavone | LENS



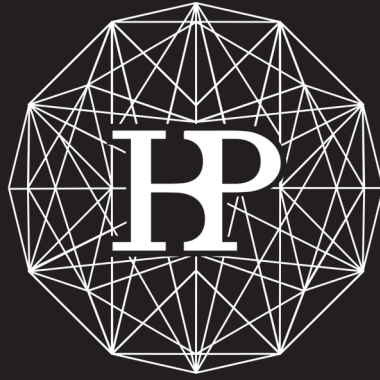
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Co-funded by
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HBP Education Programme

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