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

Contact:
education@humanbrainproject.eu

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

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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

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

MEDIZINISCHE UNIVERSITÄT INNSBRUCK

CHUV

Co-funded by the European Union

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