Human Brain Project
Education Programme

HBP SCHOOL
THE BRAIN SIMULATION PLATFORM OF THE HUMAN BRAIN PROJECT

17-21 SEPTEMBER 2018
MONDELLO (PALERMO), ITALY

SCIENTIFIC PROGRAMME

@hbp_education

@hbpeducation

HBP Education

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NOTES

SCIENTIFIC PROGRAMME

This School will introduce participants to the Brain Simulation Platform (BSP) of the Human Brain Project (HBP), with the main aim to train users on how to exploit the possibilities offered by the Platform to implement cellular level computational models, to use High Performance Analytics and Computing Platform systems to configure and run a simulation, and to visualise/analyse the results. Both short lectures and longer afternoon activities will be delivered at a basic and intermediate level. Through tutorials and hands-on activities, attendees will learn how to interact with the BSP to carry out their own research, to set up and manage a data-driven collaborative project, or to use the BSP to interact with the HBP Neuroinformatics Platform. Participants will be encouraged to introduce new ideas and suggest ways to use their original experimental data/techniques to implement/use the multiscale neural model they would like to investigate.

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Consiglio Nazionale delle Ricerche

MEDIZINISCHE UNIVERSITÄT INNSBRUCK

Human Brain Project

Co-funded by the European Union

MONDAY 17 SEPTEMBER 2018

08:30 - 09:00	Registration
09:00 - 09:30	Welcome and introduction to the School Michele Migliore | CNR
09:30 – 10:30	First steps into the Brain Simulation Platform (BSP) Luca Leonardo Bologna | CNR
10:30 - 11:00	Coffee break
11:00 - 12:00	The Collaboratory Akos Hencz | EPFL
12:00 - 14:00	Lunch break
14:00 - 17:00	Hands-on session: Electrophysiological features extraction (theory and practice) Luca Leonardo Bologna, Rosanna Migliore | CNR

TUESDAY 18 SEPTEMBER 2018

09:00 - 10:30	Scientific drive: Single cell modelling Michele Migliore | CNR
10:30 - 11:00	Coffee break
11:00 - 12:00	Single cell model optimisation: Algorithms and methods Carmen Alina Lupascu, Stefano Masoli | CNR/UNIPV

12:00 - 14:00 Lunch break

14:00 - 16:00 Hands-on session:
Build your own cell model (theory and practice)
Carmen Alina Lupascu, Rosanna Migliore, Stefano Masoli, Martina Rizza | CNR/UNIPV

16:00 - 17:00 ELSEVIER – Journal of Neuroscience Methods Workshop:
How to get a paper published, read & cited
Giuseppe Di Giovanni | ELSEVIER

WEDNESDAY 19 SEPTEMBER 2018

09:00 - 10:30 Scientific drive:
Circuit models - the Hippocampus and the Cerebellum
Armando Romani, Egidio D'Angelo | EPFL/UNIPV

10:30 - 11:00 Coffee break

11:00 - 12:00 Circuit modelling pipeline
Jean-Denis Courcol | EPFL

12:00 - 14:00 Lunch break

14:00 - 16:00 Hands-on session:
Circuit analysis (theory and practice)
Armando Romani, Jean-Denis Courcol, Stefano Casali, Elisa Marenzi | EPFL/UNIPV

16:00 - 17:00 ELSEVIER – Journal of Neuroscience Methods Workshop:
How to get a paper published, read & cited
Giuseppe Di Giovanni | ELSEVIER

THURSDAY 20 SEPTEMBER 2018

09:30 - 10:30	Technical drive: The architecture of the BSP Felix Schürmann | EPFL
10:30 - 11:00	Coffee break
11:00 - 12:00	Technical drive: Using NEURON+Python for parallel simulations Michael Hines | Yale School of Medicine
12:00 - 14:00	Lunch break
14:00 - 16:30	Hands-on session: Implement and run NEURON on the Collaboratory Carmen Alina Lupascu, Michael Hines | CNR/Yale School of Medicine
16:30 - 17:00	Coffee break
17:00 - 18:00	The science behind the Human Brain Project Felix Schürmann | EPFL
19:00	Social dinner

FRIDAY 21 SEPTEMBER 2018

09:00 - 10:30	Technical drive: Interacting with High Performance Computing (HPC) systems Carmen Alina Lupascu | CNR
10:30 - 11:00	Coffee break
11:00 - 12:00	How to write an HPC proposal: Success stories Michele Migliore | CNR
12:00 - 14:00	Lunch break
14:00 - 16:00	Student presentations
16:00 - 17:00	General discussion and conclusions

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