



Human Brain Project
Education Programme

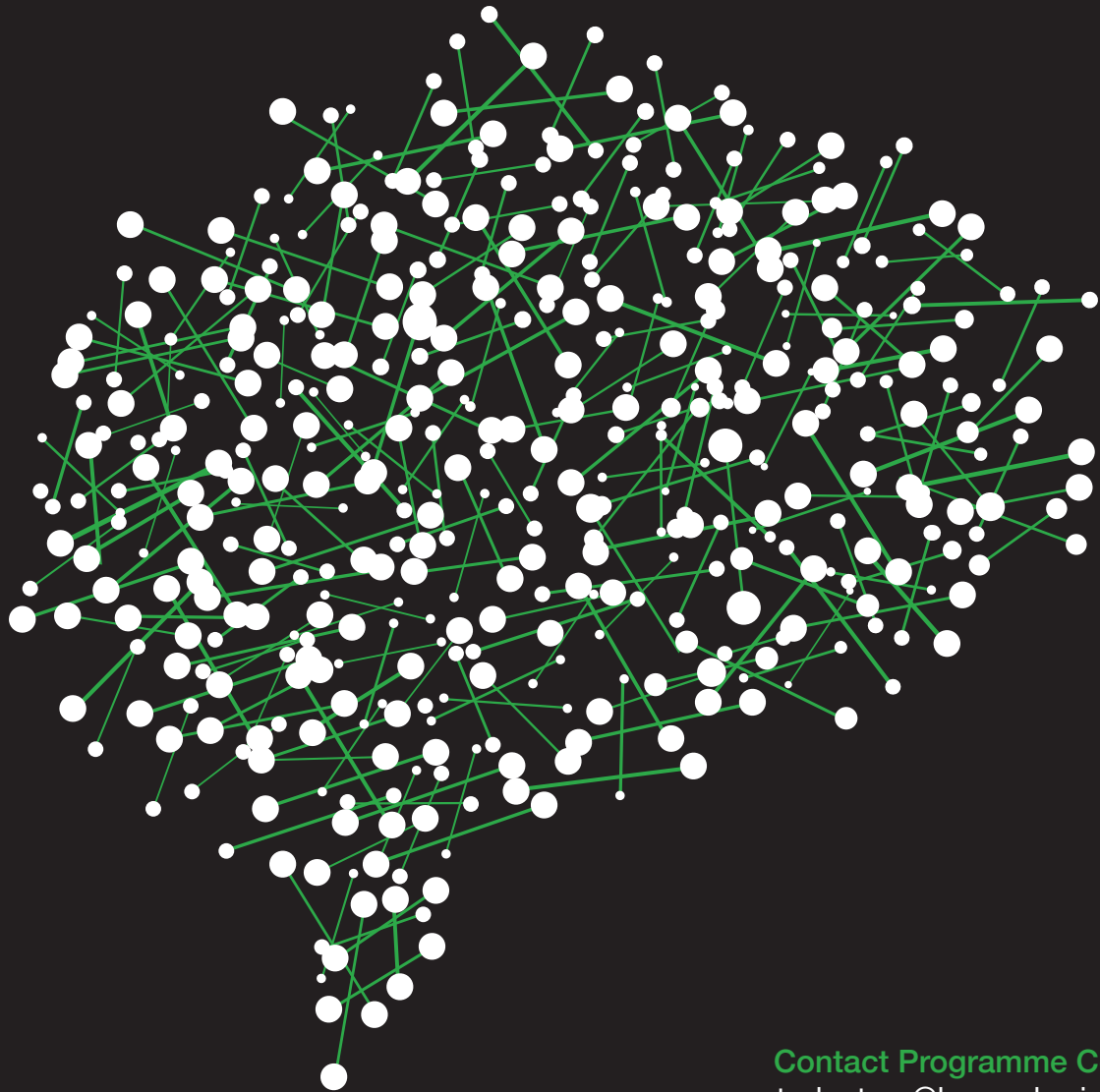
2ND HBP STUDENT CONFERENCE

TRANSDISCIPLINARY RESEARCH LINKING
NEUROSCIENCE, BRAIN MEDICINE AND COMPUTER SCIENCE

14-16 February 2018
Central Post Office, Ljubljana, Slovenia

On-site registration is possible

SCIENTIFIC PROGRAMME



Contact Programme Committee:
studentrep@humanbrainproject.eu

Contact organisers:
education@humanbrainproject.eu



For more information visit:
education.humanbrainproject.eu/web/2nd-hbp-student-conference



Scientific programme

The 2nd HBP Student Conference provides an open forum for exchange of new ideas among young researchers working across various aspects of neuroscience, brain medicine and computer science relevant to the Human Brain Project. The scope of the conference offers a plethora of opportunities for extensive scientific discussions, both intra- and interdisciplinary, among peers and faculty through a variety of discussion sessions, lectures and social events.

Wednesday 14 February

12:00 - 14:00

Registration

14:00 - 15:00

Welcome speech and introduction to the HBP

Marc-Oliver Gewaltig (EPFL)

15:00 - 16:00

Introduction to Neurorobotics

Marc-Oliver Gewaltig (EPFL)

16:00 - 16:30

Coffee break

16:30 - 17:30

Student Session I:

Neurorobotics, Neuromorphic Computing, Theoretical Neuroscience*

17:30 - 18:30

Querying and exploring big scientific data

Thomas Heinis (ICL)

18:30 - 20:00

Welcome reception

* Please find a detailed schedule of the student sessions on page 2.

Thursday 15 February

09:00 - 10:00

What can we learn from artificial deep networks about biological brain function?

Radoslaw Cichy (FU Berlin)

10:00 - 11:00

Student Session II: Medical Informatics*

11:00 - 11:30

Coffee break

11:30 - 13:00

Neuroethics in the big brain initiatives: Necessity or luxury?

Arleen Salles, Michele Farisco (UU) Karen Rommelfanger (Emory University)

13:00 - 14:30

Lunch break

14:30 - 15:30

Student Session III:

High Performance Computing, Brain Simulation*

15:30 - 16:30

Building and interacting with The Virtual Brain

Anthony Randal McIntosh (Toronto)

16:30 - 18:00

Posters & coffee I

Friday 16 February

09:00 - 10:00

Why does ICT need biology?

Isabel Feraud (UPM)

10:00 - 11:00

Student Session IV:

Human Brain/Mouse Brain Organisation, Systems and Cognitive Neuroscience*

11:00 - 11:30

Coffee break

11:30 - 13:30

Career building - parallel break-out sessions

Andrea Krönke, Manuela Möller, Uta Kletzing (EAF Berlin)

13:30 - 15:00

Lunch break

15:00 - 16:30

Posters & coffee II

16:30 - 17:30

Designing visual artificial intelligence systems by computationally modelling human vision perception

Gemma Roig (MIT)

17:30 - 18:00

Closing ceremony

Student participation information:

Participation in the 2nd HBP Student Conference is open to advanced master students, PhD students and young researchers, regardless of whether they are affiliated with the HBP or not and regardless of whether they make a submission to the scientific programme or not.

Conference Programme Committee:

Chair:

Andrea Santuy | UPM, Spain

Committee:

Nikola Simidjievski | JSI, Slovenia
Marcelo Armendariz | KU Leuven, Belgium
Petruț Bogdan | UMAN, UK
Carlos Canova | JUELICH, Germany
Claudia Modenato | CHUV, Switzerland
Agata Mosinska | EPFL, Switzerland

Organisers:

Viktoria Tipotsch,
Theresa Rass | MUI, Austria

Mili Bauer | JSI, Slovenia

Contact organisers:

education@humanbrainproject.eu

Contact Programme Committee:

studentrep@humanbrainproject.eu

Student Sessions



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Student Session I

Towards grasping with Spiking Neural Networks for anthropomorphic robot hands
J. Camilo Vasquez Tieck (FZI)

Bio-inspired cat robot: Closed-loop locomotion with neural central pattern generators
Gabriel Urbain (UGent)

Learning movements by imitation from event-based visual prediction
Jacques Kaiser (FZI)

SpiNNakEar - Auditory pathway modelling on neuromorphic hardware
Robert James (UMAN)

The structure of complex neural networks and its effects on learning
Pau Vilimelis Aceituno (MPI-MIS)

A dynamic complex network framework to model cognition: Unveiling correlation structures from network centrality metrics
Gemma Rosell-Tarragó (UB)

The impact of music on the brainwave oscillations in children
Domantė Sakalauskaitė (Vilnius U)

Student Session II

Feature aware domain adaptation for robust medical signal processing
Steffen Schneider (RWTH)

Venue information:

Central Post Office
Čopova ulica 11
1000 Ljubljana
Slovenia

Detecting cognitive decline through dialogue processing
Sofia de La Fuente Garcia (UEDIN)

Detection of normal speech development using artificial neural networks
Ana Catalina Muñoz-Arbelaez (UPB)

Detection of pathological ageing with artificial neural networks
Juan Esteban Betancur Ochoa (UPB)

Semantic annotation of data on neurodegenerative diseases in patients using ontologies
Ana Kostovska (JSI)

Analysing dialogue to support detection of Alzheimer's disease
Matthew Purver (QMUL)

Ordinal synchronization: A novel approach for quantifying synchronization
Ignacio Echegoyen (UPM)

Student Session III

Exponential first passage time approximations of neuron model with conductance-based dynamics
Jan Hendrik Kirchner (BCF)

Communication optimisation in distributed Spiking Neural Network simulations
Carlos Fernandez Musoles (USFD)

cuHinesBatch: Solving multiple hines systems on GPUs
Ivan Martínez-Peréz (BSC)

Dynamic resource management for interactive supercomputing in neuroscience
Raúl Sirvent (BSC)

Big data for HPC: The Human Brain Project
Pol Santamaria (BSC)

Student Session IV

Synaptology of the mesial temporal cortex in Alzheimer's disease
Marta Domínguez (UPM)

Synaptology of the somatosensory cortex in the adult mouse
Marta Turégano (UPM)

Fighting inactivity to prevent cognitive decline: The role of dopamine in modulating physical activity levels in older adults
Jaisalmer de Frutos-Lucas (UPM)

A software pipeline for efficient processing of 3D high-resolution microscopy images of large brain samples
Giacomo Mazzamuto (LENS)

Integrating multiple data sources for predicting the mouse mesoconnectome
Nestor Timonidis (RU)

Cortical feedback to superficial layers of V1 contains predictive scene information
Andrew Morgan (UGLA)

Cultured neuronal networks as complex dynamical systems
Alejandro Tlaie Boria (URJC)

Fees:

On-site registration:
€ 150.00 for students
€ 200.00 for regular participants



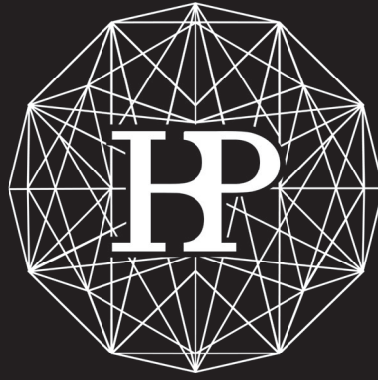
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Co-funded by
the European Union

For further information visit:

<https://education.humanbrainproject.eu/web/2nd-hbp-student-conference/>



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HBP Education Programme

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