EBRAINS

Human Brain Project
Education Programme

EBRAINS WORKSHOP

HBP PARTNERING PROJECTS MEETING: STATUS QUO AND OUTLOOK

5–7 SEPTEMBER 2022
NIJMEGEN, THE NETHERLANDS

ABSTRACT SUBMISSION DEADLINE:
14 JULY 2022

EARLY BIRD REGISTRATION DEADLINE:
15 JULY 2022

ANNOUNCEMENT AND PRELIMINARY PROGRAMME

Human Brain Project

Co-funded by the European Union

ABOUT THE EVENT

As the Human Brain Project is in its final phase, it is time for Partnering Projects to convey the scientific community the tour-de-force they have made in furthering knowledge concerning various aspects of Brain Research. This EBRAINS Workshop offers Partnering Projects an international pedestal to showcase their major achievements to the Human Brain Project Partnering environment and the wider scientific community. The Workshop is open for scientists from various fields of Neuroscience research, and will be hosted by the annual Donders Cognitive, Brain & Technology Summer school (DCBT 2022) promoting a shared systems-level understanding of the functional architecture of the brain and its possible emulation in artificial systems. The event is designed as a platform for Partnering Projects to exchange about their scientific findings, extend their collaborative network and engage into open discussions with EBRAINS representatives about the transition from the Human Brain Project to EBRAINS. It will be a three-day event hosted at the Fletcher Landgoed Hotel Holthurnsche Hof (Nijmegen, the Netherlands). This will create new communities of interested scientists that can critically contribute, as user or developer, to the evolution of EBRAINS as a sustainable infrastructure for the wider scientific community.

CALL FOR SUBMISSIONS

We invite original, high-quality submissions describing innovative research addressing the topics of brain structure, function and cognition in health and disease, networks, brain simulation and modelling, neuromorphic computing, neurorobotic applications and neuroethics. The contributions can emphasise theoretical or empirical aspects. We particularly encourage submissions exploiting computational models for a mechanistic understanding of brain function and cognition.

Poster session information:

More information will be sent to applicants upon acceptance of their poster abstract submission. The best poster presenter will receive an award (Best Poster Award certificate and a 500 euros prize).

Abstract submission deadline: **14 July 2022**

REGISTRATIONS

HBP and EBRAINS together with the Partnering Projects Representatives invite interested scientists to join the forthcoming HBP Partnering Projects Meeting: Status Quo and Outlook.

Early Bird Registration Deadline: **15 July 2022**
Late Registration Deadline: **01 August 2022**

Registration fees:

Early Bird Registration **Student 270,00 €**
Late Registration **Student 360,00 €**
Early Bird Registration **Regular 390,00 €**
Late Registration **Regular 470,00 €**

Scientific Chair & Local host:

Julien Vezoli | Ernst Strüngmann Institute
Paul Verschure | Radboud University

Contact:

workshop.edu@humanbrainproject.eu

Supported by:

Human Brain Project Education Programme

In cooperation with:

Ernst Strüngmann Institute for Neuroscience in Cooperation with Max Planck Society

Further information & registration:

humanbrainproject.eu/en/education/ebrains-workshops/pp-meeting

DONDERS INSTITUTE

MONDAY 5 SEPTEMBER 2022

This programme is subject to change. Please note that all times are in CEST (=GMT/UTC+2)

08:30 - 09:00 Registration & Coffee

09:00 - 09:30 Welcome & Introduction
Julien Vezoli, Paul Verschure, Marie-Elisabeth Colin

09:30 - 10:30 PLENARY LECTURE (Chair: Julien Vezoli | ESI)
Deep brain stimulation of the thalamus restores signatures of consciousness in a non-human primate model
Béchir Jarraya | CEA Paris-Saclay, Centre NeuroSpin

10:30 - 11:00 Coffee Break

11:00 - 12:00 PLENARY SESSION I: PRIMATE BRAIN SPECIFICS
(Chair: Simon Nougaret | Aix-Marseille University)
PrimCorNet
Bjørg Kilavik | Aix-Marseille University **& Sacha van Albada** | Forschungszentrum Jülich
Comparative Investigation of the Cortical Circuits in Mouse, Non-human primate and Human
Henry Kennedy | Stem Cell and Brain Research Institute

12:00 - 13:00 Lunch Break

13:00 - 14:30 PLENARY SESSION I: PRIMATE BRAIN SPECIFICS
(Chair: Simon Nougaret | Aix-Marseille University)
Computational analysis of primate vision
Simo Vanni | Helsinki University Hospital
Integrated effects of multiple Attentional Control signals in the primate brain
Elisa Santandrea | Verona University
Development of cortical multisensory integration mechanisms at micro- and macro- scales during normal and pathophysiological conditions
Conrado A. Bosman | University of Amsterdam

14:30 - 15:00 Presentation & Open Discussion: MEBRAINS: a new monkey template
Wim Vanduffel | KU Leuven

15:00 - 15:30 Coffee Break

15:30 - 17:00 PARALLEL SESSIONS
Atlas services
Timo Dickscheid | Forschungszentrum Jülich
Rapporteur: Simon Nougaret | Aix-Marseille University
Data & knowledge
tbc
Rapporteur: Luca Montelisciani | University of Amsterdam

17:30 - 18:00 Summaries by rapporteurs & concluding remarks

TUESDAY 6 SEPTEMBER 2022

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09:00 - 09:30	**Status quo & outlook**
09:30 - 10:30	**PLENARY LECTURE** (Chair: Ingvild Bjerke | University Of Oslo) **Chemistry of the adaptive mind: lessons from dopamine** **Roshan Cools** | Donders Institute for Brain, Cognition and Behaviour
10:30 - 11:00	**Coffee Break**
11:00 - 12:00	**PLENARY SESSION II: BRAIN CIRCUITS & SIMULATION** (Chair: Ingvild Bjerke | University Of Oslo) **The Pattern of Cellular Activity in the CA1 of the Hippocampus after Spatial Learning Depends on the Time Interval between Training Sessions** **Eleonora Centofante** | Sapienza Università di Roma **Map of dopamine 1- and 2-receptor positive cells in the developing mouse forebrain: perceived fit of registered atlas across sex, age, and regions** **Jee Hyun Kim** | Deakin University
12:00 - 13:00	**Lunch Break**
13:00 - 14:30	**PLENARY SESSION II: BRAIN CIRCUITS & SIMULATION** (Chair: Luca Montelisciani | University of Amsterdam) **Project FIIND: Ferret Interactive Integrated Neuro Development Atlas** **Roberto Toro** | Institut Pasteur **SENSEI: uncovering neuron structure using hard and soft approaches** **Nicola Vanello** | University of Pisa **Integrative Frameworks in Single-cell Connectomics** **Nestor Timonidis** | Donders Institute for Brain, Cognition and Behaviour
14:30 - 15:00	**Open Discussion** **Amaryllis Raouzaiou** | Athena Research and Innovation Center
15:00 - 15:30	**Coffee Break**
15:30 - 17:00	**PARALLEL SESSIONS:** **Brain modelling & simulation** **Marmaduke Woodman** | Aix-Marseille University (Rapporteur: Ingvild Bjerke | University of Oslo) **Massive Computing** **Lena Oden** | Forschungszentrum Jülich (Rapporteur: Ingvild Bjerke | University of Oslo)
17:00 - 17:30	**Summaries by rapporteurs & concluding remarks**

WEDNESDAY 7 SEPTEMBER 2022

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09:00 - 10:00 **PLENARY LECTURE** (Chair: Julien Vezoli | ESI)
Exploiting individual differences to inform computational models of dopamine in reinforcement learning
Mehdi Khamassi | Institute of Intelligent Systems and Robotics

10:00 - 10:30 Coffee Break

10:30 - 12:00 **PLENARY SESSION III: APPLIED BRAIN MODELS**
(Chair: Francesco Sheiban | Politecnico di Milano)
MULTI-LATERAL: Multi-level Integrative Analysis of Brain Lateralization for Language
Clyde Francks | Max Planck & Donders Institute & Radbound University
SMART BRAIN: Advanced Morphological Reconstruction of Human Brain Tissue by Multimodal Fusion of Multiscale Optical Imaging Technologies
Jonathan Mapelli | University of Pavia
CerebNEST: A Bioinspired Multiscale Modelling of The Cerebellar Network
Alessandra M. Trapani | Politecno di Milano

12:00 - 13:00 Lunch Break

13:00 - 15:00 **PLENARY SESSION III: APPLIED BRAIN MODELS**
Responsible Research and Innovation in Applied Brain Models
Mayen Cunden | De Montfort University
Efforts on the integration and large-scale simulation of a whole-brain model led to the development of a collaborative framework for data-driven modeling
Carlos Enrique Gutierrez | Okinawa Institute of Science and Technology
The Virtual Brain Cloud (TVB-Cloud)
Petra Ritter | Charité University Medicine Berlin
The RGS@HOME project: Scaling ICT based neurorehabilitation to personalized 24/7 home care
Paul Verschure | Donders Institute for Brain, Cognition and Behaviour

15:00 - 15:30 Coffee Break

15:30 - 16:00 **Open Discussion: Workshop wrap-up & next steps**
Paul Verschure | Donders Institute for Brain, Cognition and Behaviour
Julien Vezoli | Ernst Strügmann Institute (ESI) for Neuroscience in Cooperation with Max Planck Society

16:00 - 17:00 **Poster Session (with presenters)**

17:00 - 18:00 Closing Plenary Lecture
Enabling Complex Simulations with Multilevel Health Data
Petra Ritter | Charité University Medicine Berlin

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