



Human Brain Project Newsletter

May 2018

Dear Sir or Madam,

Please find below a short overview on recent research and project news from the Human Brain Project (HBP) in May 2018, as well as upcoming HBP events.

Best Wishes,
HBP editorial office

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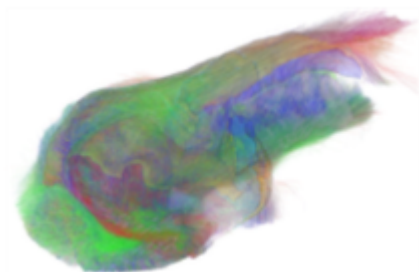
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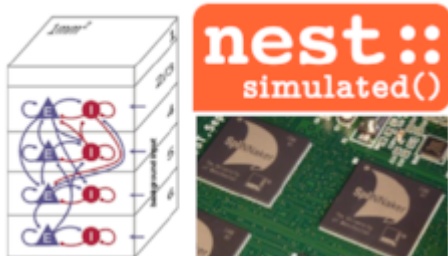
Research News

The hippocampus as never seen before



HBP researchers have imaged a post-mortem human hippocampus at unequalled resolution, using NeuroSpin's 11.7T preclinical MRI. Next, the same sample will be analyzed with Polarized Light Imaging (PLI) in order to compare results from the two imaging approaches. [More](#)

Largest ever simulation on the SpiNNaker neuromorphic system



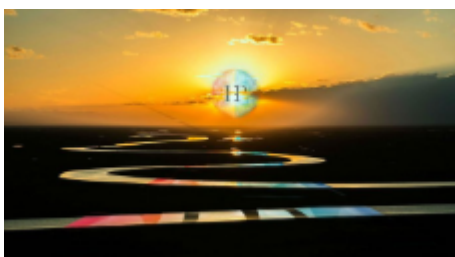
HBP's neuromorphic and supercomputing teams in Manchester and Jülich have for the first time ported a full-scale model of a neuronal network, representing a square millimeter of cortical tissue, from the NEST simulator to the neuromorphic system SpiNNaker. By approximating realistic numbers of synapses per neuron, the model lays the foundation for simulating yet larger networks on neuromorphic hardware. [More](#)

Upcoming: HBP International Conference on *Understanding Consciousness*



At this conference HBP's research into consciousness will be discussed, along with presentations by world-leading scholars like Karl Friston, David Chalmers, Ned Block, Rodolfo Llinas, Wolf Singer, Emery Brown and Olaf Blanke. [More](#)

Measures of consciousness in unresponsive patients



HBP researchers are working on more accurate and clinically useful ways of measuring whether a patient is conscious, in order to help doctors to make decisions on treatment and care. [More](#)

Coma patients might feel pleasure and pain like the rest of us



Emerging evidence suggests the unconscious can experience many of the things that conscious people do. HBP Neurophilosophy and ethics researcher Michele Farisco asks what this means for medical ethics and even how we perceive ourselves as humans. [More](#)

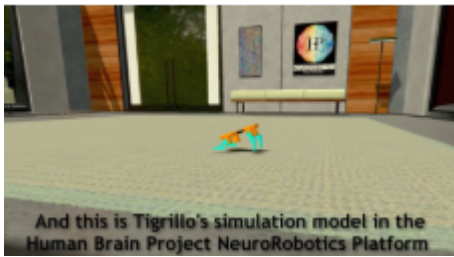
Opening up the discussion on data governance and consent



HBP researchers joined with leading neurologists, personal data managers, bioethicists, legal advisers and patient representatives to discuss ethical and legal

challenges in data-driven health research. [More](#)

Video: Demonstrating the NeuroRobotics Platform



The Human Brain Project's Neurobotic team have made a video showing how the NeuroRobotics Platform is used to develop and test neural control systems for the next generation of robots. You can watch it [here](#)

A new integration experiment for the visual system of the NRP



In a newly implemented experiment on the NeuroRobotics Platform (NRP) multiple models now work together as a single visual system, giving many novel opportunities to vision research, especially to explain global effects in human vision. [More](#)

Strengthening collaboration to model cortical function



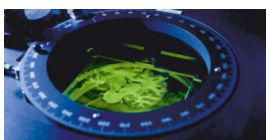
The cerebral cortex is the part of the brain which processes and combines sensory stimuli. To integrate anatomical data into models of cortical function, the CANON project and the Cajal Institute of the HBP's Mouse Brain Subproject will now develop a common approach. [More](#)

HBP International Conference
Understanding Consciousness
A scientific quest for the 21st century
21 - 22 June 2018 | BARCELONA



The **HBP International Conference on Consciousness** will bring together world-leading scholars to explore consciousness. Join us, June 21-22, in Barcelona: <http://hbp-ic.com/>

Project News



HBP has started into the next phase

The European Commission and the HBP have signed the second Specific Grant Agreement (SGA2), which

will fund the project from April 1st 2018 until March 31st 2020 with EUR 88 million. [More](#)



Scientific Alignment meeting in Alpbach, Austria

From May 7-9 2018 the HBP held a meeting of representatives from all of its research areas in Alpbach, Austria, to discuss the alignment of HBP science and technology with respect to developments outside the project. The talks and the discussions served as guidance for the way forward to maximize research success and impact in the coming phase.

[More](#)



CEA welcomed as new supercomputing partner

The Très Grand Centre de calcul of CEA (Commissariat à l'énergie atomique et aux énergies alternatives) in Paris has joined the Human Brain Project's High Performance Analytics and Computing Platform. [More](#)



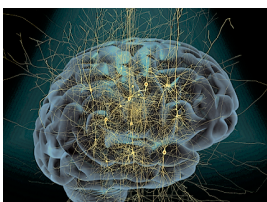
Bernd Stahl to lead new computer ethics project

HBP's Ethics Director Bernd Stahl is the coordinator of the new *SHERPA project - Shaping the ethical dimensions of smart information systems - a European perspective*, which is receiving 2,8 Million Euro in funding under the H2020 programme. "SHERPA will benefit from working with the HBP experts and I hope that it can feed into the discussion of ethics of AI as the technologies develop further", Prof. Stahl said. [More](#)



Event Report: Data Governance in International Neuro-ICT Collaborations

The Data Governance Working Group of the HBP, in collaboration with the UK ORBIT Project, hosted a two-day conference on data governance in large collaborative neuro-ICT projects at Exeter College in Oxford. [More](#)



Event Report: Understanding the Human Brain – Re-thinking Man and Machine

About 100 guests gathered in Geneva on May 3 to hear a broad discussion on how a greater understanding of the brain might impact society through technological advances. [More](#)

Events and Dates

June and beyond

HBP International Conference: Understanding Consciousness - A scientific quest for the 21st century.

CaixaForum, Barcelona, Spain

June 21, 2018 – June 22, 2018

On behalf of the Human Brain Project, we are pleased to invite scientists, physicians, and students to join HBP's first large international conference devoted to the understanding of consciousness. The conference is open to all who are interested in this topic.

FENS Technical Workshop: Investigating neural substrates of perception and cognition with large-scale data

Berlin, Germany

7 July 2018

At this technical workshop during the FENS Forum, renowned experts from the HBP, the Allen Institute and the BRAIN Initiative will describe large-scale efforts to systematically collect, curate, analyse and model in vivo neural activity in the rodent brain during sensation and behaviour.

FENS Networking event: Next Generation Networks in Neuroscience: Networking, Training and Funding Opportunities in Neurosciences for the next generation of researchers

Berlin, Germany

10 July 2018

As part of the FENS Forum of Neuroscience, this networking event is co-organised by FENS-CHET, ERA-NET NEURON & the HBP Education Programme. Meet and mingle with music, drinks and food, while getting updates on support possibilities, training, educational opportunities and available financial aid.

HBP School - The HBP Human Brain Atlas: Neuroscientific basis, tools and applications

3-7 September 2018

Düsseldorf/Jülich, Germany; Maastricht, Netherlands

This HBP School will teach neuroanatomy and cognitive function of the human brain, including hands-on dissection courses, and give an overview about selected methodologies used in the HBP to investigate the structural and functional organisation of the human brain. *Application deadline: 27 June 2018*

HBP School “Barcelona Cognition, Brain and Technology Summer School”

Barcelona, Spain

3-14 September 2018

The BCBT School promotes a shared systems-level understanding of the functional architecture of the brain and its possible emulation in artificial systems. It addresses the investigation of learning and memory, brain function and behaviour.

Application deadline: 20 July 2018

HBP School “The Brain Simulation Platform of the Human Brain Project”

Mondello (Palermo), Italy

17-21 September 2018

This School will introduce participants to the HBP Brain Simulation Platform, 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.

Application deadline: 11 July 2018

Find further events at: <https://www.humanbrainproject.eu/en/follow-hbp/events/>

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