



HBP Newsletter · December 2021

Dear subscribers,

With the holiday season approaching, we would like to take a moment to look back on 2021, which has been a unique year for the Human Brain Project and EBRAINS.

We are delighted to share that Human Brain Project research has now resulted in over 1500 journal publications. Our research from the past year led to many interesting and promising results. You can find a selection of research highlights [here](#).

We have also taken further steps to establish EBRAINS as a long-term research infrastructure. In June, EBRAINS was selected for the ESFRI Roadmap of European Research Infrastructures 2021, which marked a major milestone for EBRAINS and a recognition of the sustainable value that it brings to the European scientific community.

In addition, we have continued to develop the data, tools, and services available on EBRAINS. You can explore our wide range of services for brain research [here](#).

For 2022 and beyond, we look forward to the establishment of the first EBRAINS National Nodes. The National Nodes will enable us to overcome the fragmentation of research efforts in Europe and to foster greater coordination and cooperation between brain science stakeholders.

We wish you a happy and healthy holiday season and the very best for 2022,

Paweł Świeboda and Katrin Amunts

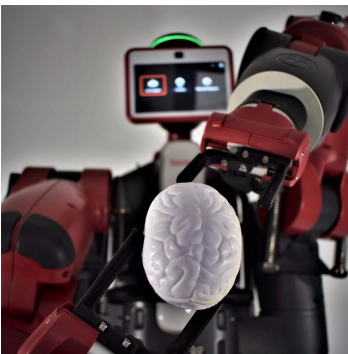


Top news



HBP scientists outline in Science how brain research makes new demands on supercomputing

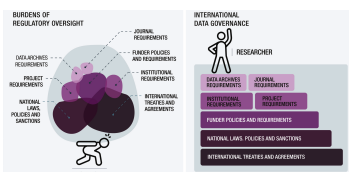
Katrin Amunts and Thomas Lippert explain how advances in neuroscience demand high-performance computing technology and will ultimately need exascale computing power. [Read more](#)



Human Brain Project: Researchers design artificial cerebellum that can learn to control a robot's movement

Researchers at Human Brain Project partner University of Granada in Spain have designed a new artificial neural network that mimics the structure of the cerebellum, one of the evolutionarily older parts of the brain, which plays an important role in motor coordination. [Read more](#)

News



Why neuroscience needs international data governance

In a recently published paper in *Neuron*, a group of renowned brain researchers – which includes the Human Brain Project's Damien Eke and Jan

Bjaalie - looks at how an international data governance framework could facilitate international collaboration and accelerate scientific discovery. [Read more](#)

Event Recap: EAN-EBRAINS Joint Workshop: The Future of Medical Data Sharing in Clinical Neurosciences

This event aimed at identifying and openly discussing all issues and challenges associated with data sharing in Europe. [Read more](#)

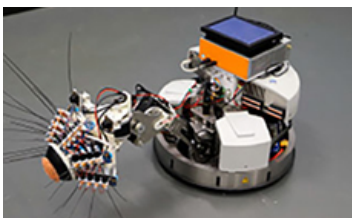


“We need to rethink the way we build computers”

An interview with Giacomo Indiveri on how developers take inspiration from the human brain to make computers more energy-efficient and what the future of computing will look like. [Read more.](#)

Interview with Arleen Salles on the value of neuroethics and philosophical reflection in the Human Brain Project

The Human Brain Project is committed to implementing responsibility in research and innovation practices. [Read the interview with Arleen Salles](#)



Scientists use EBRAINS to help robots remember places

Researchers of the Human Brain Project at University of Amsterdam and University of the West of England have built a neural network architecture on the EBRAINS research infrastructure that can enable robots to effectively combine multiple senses for perception and navigation. [Read more.](#)

Results of the HBP Calls for Expression of Interest

A total of 15 Calls for Expression of Interest (CEoI) were launched for the third and final phase of the Human Brain Project. In response to these CEoIs, 80 proposals were submitted and 17 of them were selected for EC funding:

- [7 new projects](#) were selected through the first wave of (9) CEoIs
- [7 new projects](#) were selected through the second wave of (4) CEoIs
- [2 new projects](#) and [1 new project](#) were selected through the third wave of (2) CEoIs

We look forward to our collaborations with these teams!

Read more news items [here](#).

News from EBRAINS Services



New in eNEURO: Web-based application facilitates use of advanced simulation tool NEST

NEST Desktop has been presented to the scientific community in a publication in eNeuro, the open access journal of the American Society for Neuroscience. [Read more](#)

EBRAINS Research Infrastructure Vouchers – Community-driven research and technology development

Since April 2020, the HBP has given out 26 vouchers to groups worldwide for the realization of challenging research and technology questions on the EBRAINS infrastructure. The initiative is worth about 300 person-months of EBRAINS developer and engineering time and attracted researchers from 27 new institutions and companies that had not been associated with the HBP before.

Four projects are now finished and we can see the first results. [The projects](#) will be featured in the upcoming newsletters. Stay tuned!

EBRAINS Computing and storage resources

An overview of Fenix's computing and storage resources can now be found on EBRAINS website [here](#).

Fenix is a collaboration of HPC centres working on the harmonisation and federation of their offerings of e-infrastructure services with the goal of supporting a variety of science and engineering communities. It is an outcome of the Human Brain Project (HBP) and funding through HBP allowed to realise a first version of the infrastructure that is providing services and resources at scale to brain researchers as well as European scientists at large.

Fenix was created with the vision of supporting different science and engineering communities. The strategy of Fenix and the general concepts have been outlined in the ["Fenix Strategy Document"](#).

Learn more about EBRAINS services [here](#).

Publications

Read recent publications from Human Brain Project scientists below!

Brain research challenges supercomputing

Katrin Amunts and Thomas Lippert

[Read the full paper in Science](#)

Epistemic Challenges of Digital Twins & Virtual Brains: Perspectives from Fundamental Neuroethics

Evers K & Salles A

[Read the full paper in SCIO: Journal of Philosophy](#)

NEST Desktop, an Educational Application for Neuroscience

Sebastian Spreizer, Johanna Senk, Stefan Rotter, Markus Diesmann and Benjamin Weyers

[Read the full paper in eNeuro](#)

A cerebellar-based solution to the nondeterministic time delay problem in robotic control

Ignacio Abadia, Francisco Naveros, Eduardo Ros, Richard R. Carrillo, Niceto R. Luque

[Read the full paper in Science Robotics](#)

Read more publications [here](#).

Upcoming Events

EBRAINS Workshops Call next cut-off date: 25 January 2022

Request administrative and financial support provided by the HBP Education Programme for the planning and organisation of an EBRAINS Workshops event [here](#).

22–25 February 2022: 6th HBP Student Conference on Interdisciplinary Brain Research

Participation in the 6th HBP Student Conference is open to the entire student community and early career researchers, regardless of whether they are affiliated with the HBP or not.

Registration deadline: 07 February 2021

[Register here](#)

13-15 June 2022: BASSES EBRAINS Workshop

The goal of the BASSES Workshop (Brain Activity across Scales and Species: analysis of Experiments and Simulations) is to provide an overview of the scientific topic of brain states and complexity, state transitions, and their connection with cognitive functions, and to demonstrate the achievements in this field obtained within the Human Brain Project thanks to the functionalities provided by the EBRAINS research platforms.

[Save the date!](#) Registration & Abstract Submission will open soon.

Submit your manuscript to Applied Science

A special issue of the Applied Science journal titled 'New Insights into Computational Neuroscience' will be published in connection with the BASSES workshop. Learn more about submitting your manuscript [here](#). The deadline for submissions is 20 September 2022.

Learn about more upcoming events [here](#).

Event Recordings

Did you miss one of our recent events or workshops? We've got you covered! Watch replays on our YouTube channel via the links below:

[Catch up on the latest episodes of HBP Tea & Slides](#)

[Watch videos from the 8th Baltic-Nordic Summer School playlist](#)

Job Opportunities

[Science Journalist / Technology Journalist for the Human Brain Project at Forschungszentrum Jülich](#)

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