



NEWSLETTER

HBP Newsletter · September 2021

News

Stay up-to-date with the latest Human Brain Project - EBRAINS research and developments!





12-15 October 2021: Human Brain Project Summit 2021, 'Pushing the Boundaries of Brain Research'

We're excited to announce that registration for the Human Brain Project Summit 2021 is open!

This year's event will take place in an **online format** from 12 – 15 October.

The HBP Summit will be a four-day event, featuring:

 The European Brain Summit, which will provide an opportunity to discuss how the challenge of the brain can become the focal point of Europe's scientific and technological efforts.

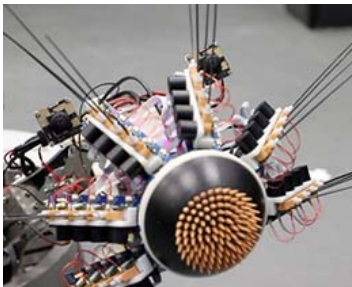
 The HBP Scientific Conference, which will showcase how the EBRAINS infrastructure builds on the HBP's scientific excellence, how it can assist the research community, and the role it plays as an enabler of scientific progress.

[Register here](#)



Bolstering collaborative brain science: Human Brain Project welcomes new partnering projects

The EU-funded Human Brain Project adds new projects to its partner network dedicated to translating the societal benefits of brain science. Focused on topics such as tackling schizophrenia, developing models to better understand the brain and helping expand human sensorial perception, these projects represent a key milestone in HBP's transition towards a user-driven research infrastructure, the new EBRAINS. [Read more](#)

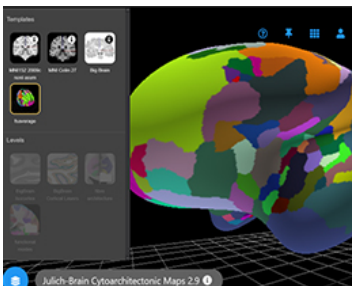


A robot on EBRAINS has learned to combine vision and touch

On the new EBRAINS research infrastructure, scientists of the Human Brain Project have connected brain-inspired deep learning to biomimetic robots. [Read more](#)

Read more news items [here](#).

News from EBRAINS Services



New Maps and Features in the EBRAINS Multilevel Human Brain Atlas

The recently released Julich-Brain Version 2.9 is now available online as part of the EBRAINS Multilevel Human Brain Atlas. The new release introduces full coverage of the human cortex, includes 24 additional probabilistic maps of cytoarchitectonic areas, and provides a surface

map in the FreeSurfer reference space. With these updated maps come several new features of the online viewer 'siibra-explorer', including a pure 3D surface view and a 'Quick Tour' for new users. [Read more](#)

The **Hippocampus Facility Hub** (www.hippocampushub.eu), which was recently launched, is jointly developed and managed by the EPFL Blue Brain Project, Switzerland (EPFL) and the Institute of Biophysics, National Research Council, Italy (CNR).

The aim of the Hippocampus Facility Hub is to provide a community-focused portal of tools, services and resources to stimulate and enable collaboration of the hippocampal brain region. Broadly speaking, the Hub is divided into two parts: workflows and tools to build models, and online services to interactively explore previously built models. Users are welcome to explore and use the Hub to: 1) build their own cellular model, without the need for downloading and/or having extensive programming skills, 2) pick morphologies and channel kinetics from popular public databases to create their own models and 3) seamlessly use supercomputing power to run *in silico* experiments.

Technically speaking, the Hub is comprised of a set of websites and services that provide a user-centric view (shopping cart) to data from a diversity of sources such as NeuroMorpho.org, ModelDB, a dedicated Blue Brain Nexus instance and the HBP Knowledge Graph, and allows the transfer of this data for consumption by other web services, as e.g. the Cellular Level web services hosted by EBRAINS. Furthermore, the Hub provides dedicated functionality to explore detailed brain tissue models from the data, its structure and function, as well as the model validation.

Additional tools and resources will be added to the Hub on a rolling basis. The full hippocampus CA1 model will be available and accessible in due course when the publication is released. In addition, in the autumn, the MOOC on 'Simulation Neuroscience - Analyze and Simulate Microcircuit Models' will be added to the Hub. The MOOC, which is just coming to the end of its beta test, focuses on the simulation of the rodent hippocampus microcircuit.

The Hub is an extension and continuing development of the hippocampus work carried out in the HBP during 2014-2020.

We are certainly happy to hear from you with any potential collaboration ideas and projects, and to discuss commercial and industrial applications.

Prof. Felix Schuermann, EPFL Blue Brain Project and Prof. Michele Migliore, CNR

Contact: info@hippocampusub.eu

The Facility Hubs are in kind contributions from Human Brain Project (HBP) partners to the new EBRAINS research infrastructure, thus providing additional and unique services for the users of EBRAINS. [Learn more about Facility Hubs.](#)

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

Publications

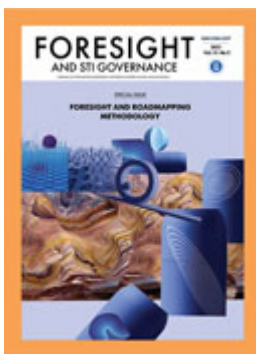


Bridging Scales in Alzheimer's Disease: Biological Framework for Brain Simulation With The Virtual Brain

Leon Stefanovski, Jil Mona Meier, Roopa Kalsank Pai, Paul Triebkorn, Tristram Lett, Leon Martin, Konstantin Bülau, Martin Hofmann-Apitius, Ana Solodkin, Anthony Randal McIntosh and Petra Ritter

In the present review, we discuss candidate contributing factors leading to AD, and evaluate novel computational brain simulation methods to further disentangle their potential roles.

[Read more](#)



Repositioning People in Creative Futures: A Method to Create Sound Advice with Exploratory Scenarios

Guillermo Velasco, Rafael Popper, Ian Miles

[Read more](#)



MIT Technology Review: [The hunt for hidden signs of consciousness in unreachable patients](#)

"Experts may not agree on what consciousness is or isn't. But that hasn't stopped Marcello Massimini from peering into the minds of those with profound brain injuries to determine if anyone is still inside—and how to proceed with treatment."

Read more publications [here](#).

Upcoming Events

Learn about the Human Brain Project and EBRAINS through events, workshops, webinars, and more!

21 to 25 September 2021: 8th Baltic Nordic Summer School on Neuroscience and Neuroinformatics

This event offers interdisciplinary courses and covers modelling at different levels of organisation of the brain, from single neurons to microcircuits, neural networks and neurorobotics.

The summer school targets advanced master students, doctoral students and postdoctoral researchers in biomedical and technology sciences who would like to get an introduction to neuroinformatics and computational neuroscience and especially the [EBRAINS Infrastructure](#).

Registration deadline: Late registration still possible

[Register here](#)



28–30 September 2021: 17th ANA Meeting 2021

The HBP & EBRAINS are honoured to be part of the upcoming 17th Meeting of the Austrian Neuroscience Association with a booth and a presentation on EBRAINS given by EBRAINS CIO Steven Vermeulen.

Registration deadline: 19 September 2021

[Register here](#)

2 October 2021: [18F]FDG-PET WORKSHOP

This [18F]FDG-PET workshop, "Assessing Brain Glucose Metabolism in Patients with Disorders of Consciousness: from Acquisition to Interpretation", will provide a thorough overview of [18F]FDG-PET imaging in brain-injured patients.

Following an introduction on the scientific evidence about alterations of brain glucose metabolism in patients with disorders of consciousness, the speakers will cover a broad range of topics, from patient preparation to acquisition, processing and image analysis to results interpretation.

A major focus will lie on hands on activities, to facilitate practical learning, and on the presentation of real clinical cases, to promote questions and discussions between participants and experts.

Registration deadline: 25 September

[Register here](#)

5 October 2021 at 15:00 CET: FENIX webinar "EBRAINS services deployed on ICEI services: NMC front-end"

This webinar will present the remote access services for neuromorphic computing using the EBRAINS infrastructure, including the job queue and

compute quota services and the associated web app and Python client. It will show how to use the services from a user perspective, and explain how the services are built and deployed using ICEI OpenStack services.

[Register here](#)



29 November - 1 December 2021: 31st Alzheimer Europe Conference

Talk by Prof. Petra Ritter “From virtual brain simulation to personalised prevention and treatment of dementia”

[Find out more](#)

09-11 December 2021: The Future of Medical Data Sharing in Clinical Neurosciences (EAN-EBRAINS Joint Workshop)

The Human Brain Project (HBP) and EBRAINS together with the European Academy of Neurology invite the entire scientific community to join the forthcoming workshop on the Future of Medical Data Sharing in Clinical Neurosciences taking place virtually from 9-11 December 2021. This event aims at exposing and openly discussing all issues and challenges associated with data sharing in Europe, from ethics to data safety and privacy, including those specific to data federation, such as the development and validation of federated algorithms.

Registration deadline: 25 November 2021

[Register here](#)

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

Abstract submission deadline: 27 October 2021

We invite original, high-quality submissions describing innovative research work in all disciplines addressed in the HBP. These contributions can emphasise theoretical or empirical works relating to a wide spectrum of fields including but not limited to: neuroscience, computer science, robotics, medicine, psychology, cognitive science and philosophy. We particularly encourage submissions with a potential to inspire collaboration in the research community by introducing new and relevant problems, concepts, and ideas, even if the work is at an early stage of development.

[Find out more](#)

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

Event Recordings

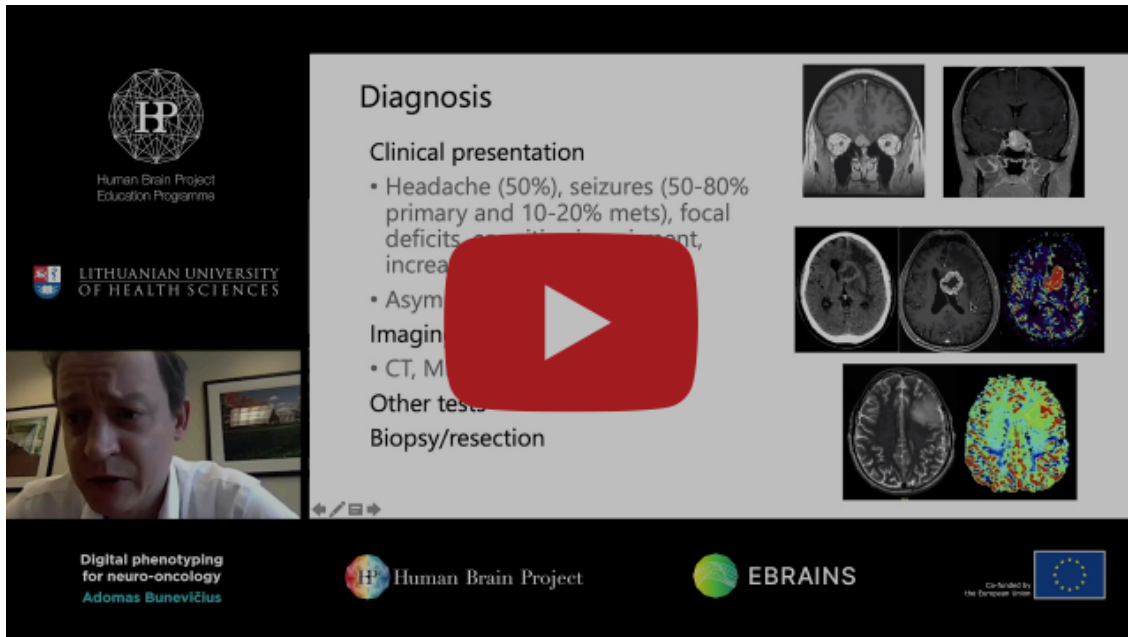
Have you missed a recent HBP event? Don't worry, you can watch it on demand! Find a selection of recordings from some of our latest events below:



HBP Tea & Slides Session XII

In the 12th HBP Tea & Slides session, Francesco Jamal Sheiban (Politecnico di Milano, Italy) presented "In-silico implementation of a reach-to-grasp behavioural task" and Juan Pablo Romero Bermudez (KTH, Sweden)

introduced "Real-Time Brain-Inspired Control of Collaborative Robots with Neuromorphic Hardware".



Videos from the Young Researchers Event 2021 now available!

During this two-day virtual conference participants had the chance to explore how EBRAINS supports the next generation of brain medicine. Topics like brain atlasing and simulation, translational neuroscience, and AI applications were addressed in interactive plenaries and hands-on workshops.

Social Media

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