

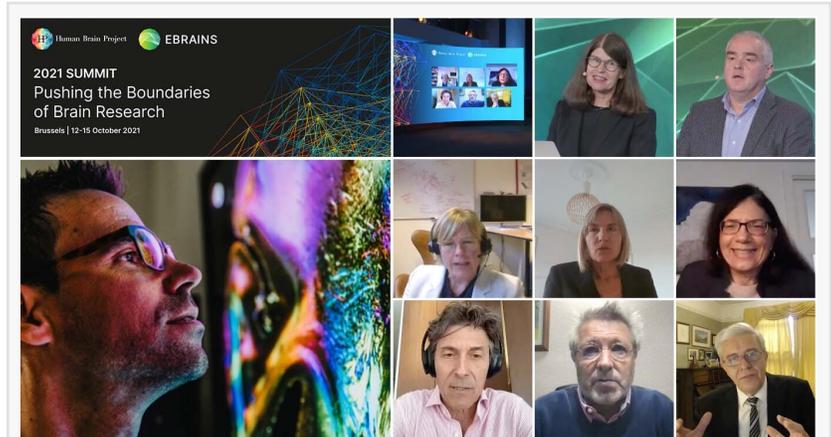
New Tools for the Neurosciences: Human Brain Project Presents Key Advances at Annual Summit

The HBP has opened its 8th Summit with presentations of scientific insights and technologies as well as a powerful infrastructure for brain research – EBRAINS

BRUSSELS, BELGIUM, October 15, 2021 /EINPresswire.com/ -- The annual Human Brain Project (HBP) scientific conference is being held virtually for the first time on the 14 and 15 October 2021.

"The virtual format allows external participants to join much more easily, broadening the reach and sparking new collaboration," said Katrin Amunts, who opened the meeting. 130 external scientists among the total of 572 registered participants took the opportunity, including many students. In her welcome address, Amunts, who was elected HBP Scientific Director in 2016, after leading a subproject on human brain organisation, described the beginnings of the project:

"When the HBP started, it was a courageous step; the neuroscience field was highly fragmented, and collaboration between disciplines often difficult." Progress in computing and digitalisation emerged as powerful factors to improve on that, and to address brain complexity. "It was clear that we needed advanced technological tools and data systems not just as a collection, but as a platform where they could be combined, to address multi-scale brain organisation." This became [EBRAINS](#), now both an infrastructure and an association based in Brussels.



Participants during a session on the past, present and future of brain research (from top left to right) Katrin Amunts, Wim Vanduffel, Roshan Cools, Gitte Knudsen Mavi Sanchez-Vives Maurizio Corbetta, Gustavo Deco and Karl Friston. (c) HBP EBRAINS / Photo M



The EBRAINS Multilevel Brain Atlas, Neuromorphic Computer SpiNNaker, and a robot steered by brain-inspired networks

Prof. Andre Syrota, Chairman of EBRAINS emphasised that the enduring infrastructure will serve generations of brain scientists. With its recent inclusion in the ESFRI roadmap, EBRAINS is now one of the top science facilities in Europe and on track to become a go-to platform for tackling research problems around the brain. “The pieces of this fascinating puzzle are falling into place,” Syrota said.

Open participation is key to ensuring that EBRAINS stays aligned with the changing needs of science. This is why the HBP invites the community in various ways to give feedback and reaches out to scientific organisations worldwide. The EBRAINS association is open to accepting new institutional members to take part in shaping its future.

Keynotes and additional sessions gave insights into the wide range of science supported by EBRAINS today. Theoretical neuroscientist Karl Friston described his plans to use EBRAINS to better understand pathologies like schizophrenia. The eminent scientist joined the HBP at the beginning of 2021 as a lead scientist.

Katrin Amunts introduced the 3D digital human brain atlas openly available on EBRAINS, which delivers unmatched data quality with regards to brain structure and variability, and is used to link data from very different types of experiments. “Atlases today go way beyond just visualisation of findings. They allow to scale up analyses and link data to other computational tools, e.g., for simulation.” The new high-resolution maps are relevant for a broad range of neuroscience topics, including neuroimaging and in future also neurosurgery.

Breakout sessions and a virtual science Market presented the EBRAINS services that are available to the scientific community. HBP scientists showcased ambitious research projects already made possible by EBRAINS – from areas like robotics, consciousness research, medicine and basic neuroscience. The first Summit day also saw the launch of the EBRAINS Community Tool, a means of onboarding new users and fostering interaction to create a vibrant collaborative ecosystem.

A panel discussion brought together leading scientists in European brain research: Wim Vanduffel, Karl Friston, Roshan Cools, Maurizio Corbetta, Gustavo Deco and Gitte Knudsen. Under the moderation of Katrin Amunts and Mavi Sanchez-Vives the panelists discussed the past, present and future of brain research. Participants emphasized the need for balance between agile smaller team science and large initiatives creating shared resources and platforms, as well as the importance of multi-disciplinarity in the training of young neuroscientists.

Innovation awards were presented for Prof. Viktor Jirsa for “The Virtual Epileptic Patient” and Prof. Marcello Massimini for PCI, a new method to measure consciousness levels in non-responsive patients. Both scientists are currently moving their HBP-enabled innovations towards broad clinical application and the market.

The general meeting of the largest European brain science project continues on Friday, with a packed programme on neurotechnologies like brain-inspired computing and robotics, poster sessions, and several panel discussions on “Brain Research in the European Landscape”, “The Concept of EBRAINS Services”, and the “HBP and EBRAINS Towards 2023 and Beyond”.

The scientific conference was preceded by the [European Brain Summit](#) and [Brain Innovation Days](#) held in Brussels 12-13 October.

Peter Zekert

Human Brain Project

+49 2461 6196860

[email us here](#)

Visit us on social media:

[Facebook](#)

[Twitter](#)

[LinkedIn](#)

This press release can be viewed online at: <https://www.einpresswire.com/article/553879686>

EIN Presswire's priority is source transparency. We do not allow opaque clients, and our editors try to be careful about weeding out false and misleading content. As a user, if you see something we have missed, please do bring it to our attention. Your help is welcome. EIN Presswire, Everyone's Internet News Presswire™, tries to define some of the boundaries that are reasonable in today's world. Please see our Editorial Guidelines for more information.

© 1995-2021 IPD Group, Inc. All Right Reserved.