

# Human Brain Project Newsletter!

Dear Sir/Madam,

As this message arrives in your inbox, many of the Human Brain Project's participating scientists are under lockdown, across all of Europe. Meanwhile, the number of Coronavirus cases continues to rise every day, posing challenges for each of us personally, for society, and for the HBP.

Under these challenging conditions, the Human Brain Project remains committed to accelerate scientific understanding and innovation. We continue our quest to foster scientific collaboration and progress with the help of novel digital tools.

Several of our participating researchers are now involved in efforts to help: computational capacity from our supercomputing infrastructure is helping to model the disease spread; a group of our molecular modelling experts are applying their methods on viral proteins. Researchers of our project contribute with advice and counsel to decision makers.

As the situation further evolves we will keep you updated.

Thank you for your interest in the Human Brain Project and for your support. We wish you resilience and good health.

Dr. Katrin Amunts Scientific Research Director, Human Brain Project

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#### Newsflash

#### WATCH: Video from the HBP Summit & Open Day 2020

Our host Athena RIC has produced a wonderful <u>video</u> that captures the exciting atmosphere of the HBP Summit & Open Day which took place from February 3rd - 6th 2020!

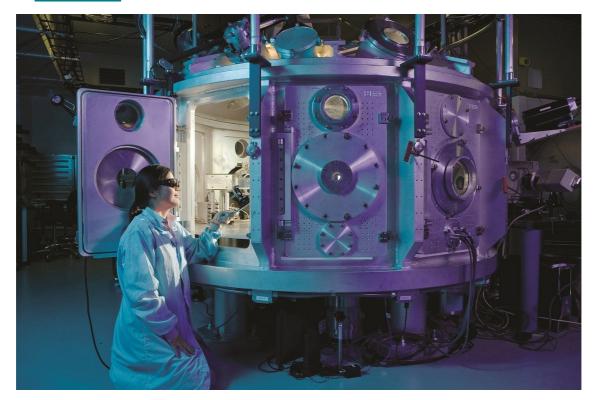
At this year's event, special emphasis was placed on the key steps taken to establish <u>EBRAINS</u>, the European Research Infrastructure for Brain Science.



#### **EU Prize for Women Innovators**

The European Commission has launched the seventh edition of the EU Prize for Women Innovators. The contest is funded under Horizon 2020, the EU research and innovation programme. Three women will each receive €100,000, and another €50,000 will be awarded to a "Rising Innovator", an exceptional entrepreneur at the beginning of her career. The application deadline is April 21st.

#### Find out more



### Call for Clusters - The European Brain Research Area

The EBRA Call for Clusters is open until January 1st, 2021. It aims to promote cooperation and exchange between brain research projects and to enable or enhance international collaboration and the development of clusters in all areas of brains research.

A cluster is an association of research projects that can be directed towards basic research, clinical research and/or methodological approaches under a common topic, and disease and/or thematic area.

#### Find out more



#### **Research News**

# Graph-theoretical derivation of brain structural connectivity

Brain connectivity at the single neuron level can provide fundamental insights into how information is integrated and propagated within and between brain regions.

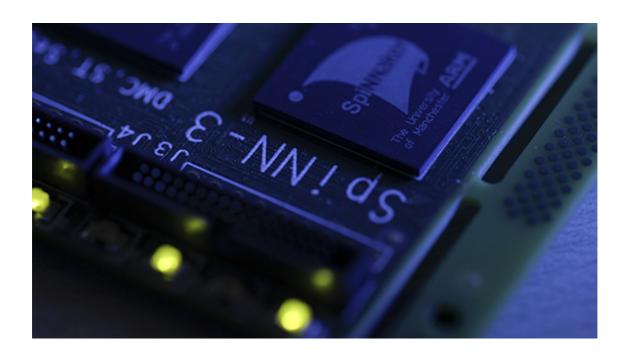
#### Read more



"Noisy" Chips: Insights from Brain Research Offer Benefits for Neuromorphic Hardware

Neuromorphic chips modelled on the human brain have enormous potential, offering a promising and efficient alternative for artificial intelligence (AI) tasks in particular.

#### Read more



#### **Qbeast wins 5th Barcelona Activa Pre-Incubation**

The Qbeast technology, partly developed in WP7.2, was selected as the company with the highest evaluation, for its growth potential, and both technological and social impact.

#### Read more

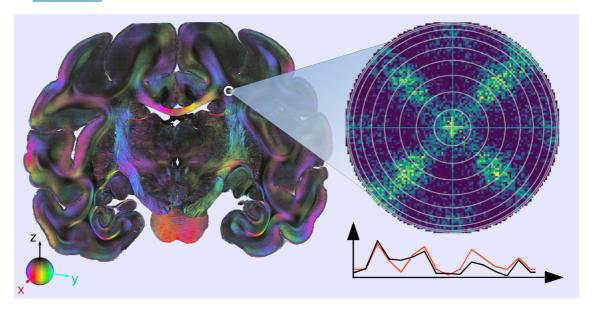
#### Read more (Spanish)



# New neuroscience method disentangles crossing fibers in brain tissue

Scientists at Forschungszentrum Jülich have now found that scattered light can be used to resolve the brain's substructure with micrometer resolution.

#### Read more



# **Project News**

# 20 Actions for 2020 and Beyond

The HBP celebrated International Women's Day by publicly announcing that HBP leaders have signed a letter of personal commitment to enhance equal opportunities and inclusiveness.

#### Read more



# Human Brain Project / EBRAINS: Call for Proposals for European Neuroscientists at Large for Using ICEI e-Infrastructure Resources

European neuroscientists are invited to submit proposals for using these resources for research on topics in the broader scope of the HBP.

#### Read more



#### **Publications**

- Zolnik TA, Ledderose J, Toumazou M, Trimbuch T, Oram T, Rosenmund
   C, Eickholt BJ, Sachdev RNS, Larkum ME. <u>"Layer 6b Is Driven by Intracortical Long-Range Projection Neurons."</u> Cell Reports, March 2020
- Hannelore Aerts, Michael Schirner, Thijs Dhollander, Ben Jeurissenf, Eric Achteng, Dirk Van Roosth, Petra Ritter, Daniele Marinazzoa. "Modeling brain dynamics after tumor resection using The Virtual Brain."
   Neurolmage, 2020
- Katrina L. Grasby, Neda Jahanshad, Jodie N. Painter, Lucía Colodro-Conde, Janita Bralten, Derrek P. <u>"The genetic architecture of the human cerebral cortex."</u>
- Manel Vila-Vidal, Carmen Pérez Enríquez, Alessandro Principe, Rodrigo Rocamora, Gustavo Deco, Adrià Tauste Campoa. "Low entropy map of brain oscillatory activity identifies spatially localized events: A new method for automated epilepsy focus prediction." Neurolmage, March 2020

- Niels Reuter, Sarah Genon, Shahrzad Kharabian Masouleh, Felix Hoffstaedter, Xiaojin Liu, Tobias Kalenscher, Simon B. Eickhoff & Kaustubh R. Patil. "CBPtools: a Python package for regional connectivitybased parcellation." Brain Structure and Function, March 2020
- Cesare Cugnasco, Hadrien Calmet, Pol Santamaria, Raul Sirvent, Ane Beatriz Eguzkitza, Guillaume Houzeaux, Yolanda Becerra, Jordi Torres, Jesus Labarta. <u>"The OTree: Multidimensional Indexing with efficient data Sampling for HPC" (P2402)</u>, 2019 IEEE International Conference on Big Data (Big Data).
- Jakob Jordan, Moritz Helias, Markus Diesmann and Susanne Kunkel.
   "Efficient communication in distributed simulations of spiking neuronal networks with gap junctions" (P2404), Frontiers in Neuroinformatics.
- Sergio E. Galindo, Pablo Toharia, Oscar D. Robles, Eduardo Ros, Luis
   Pastor and Jesús A. Garrido. "Simulation, visualization and analysis tools
   for pattern recognition assessment with spiking neuronal networks"
   (P2427), Neurocomputing, Elsevier Academic Press, 2020.

#### **HBP** in the Media

Welt (Germany): <u>Hoffnung auf digitales Double</u>

Gemeinnutzige Hertie Stiftung (Germany): Wie sieht die Hirnforschung der Zukunft aus?

La Stampa (Italy): Decifrare il cervello significa ripartire dai canali dei neuroni

MOST Science Channel: STEM: Human Brain Project

Forbes (USA): Neurotechnology & Corporate Wellbeing? Yes, Please!

Parliament Magazine (EU): The noncommunicable disease pandemic

#### **Events**

Please check with the organizer of your event to see if it has been cancelled, postponed, or will take place online due to COVID-19 prevention measures.

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