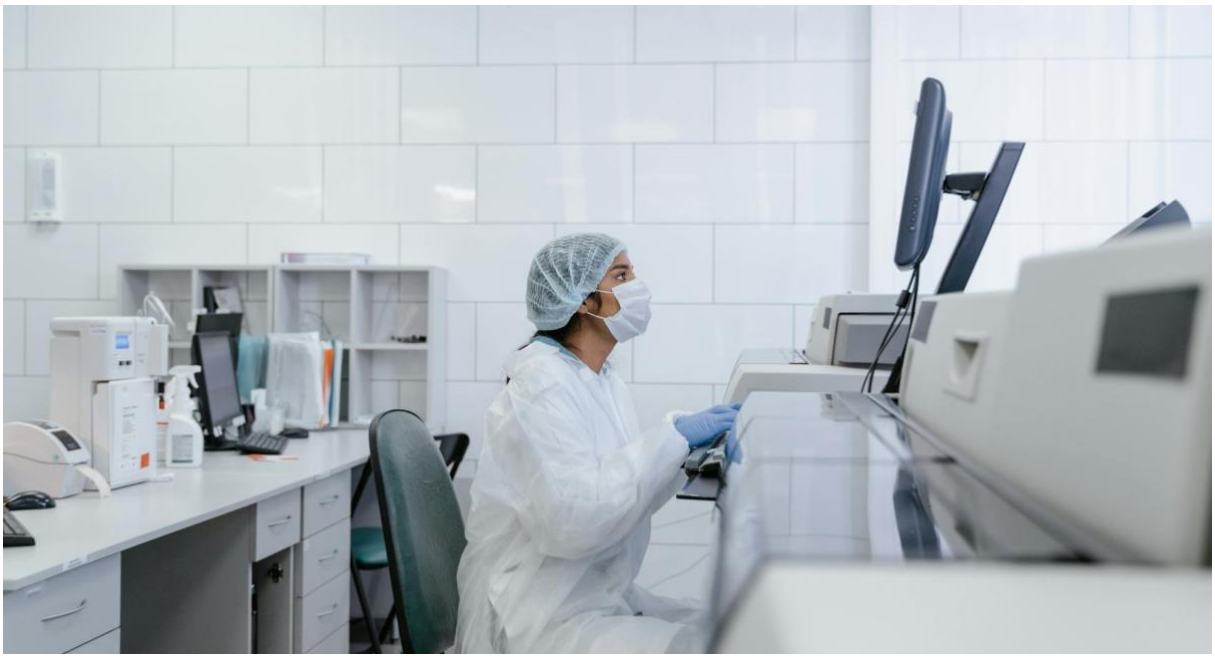
Institut du Cerveau ICM

Communiqué de presse
Press release



Paris Brain Institute Announces Winners of the Second Edition of NeurAL, Its Acceleration Program for Innovative Projects

***Paris, December 11, 2024*. Identifying and supporting innovative neuroscience projects up to the creation of viable startups: this is the mission of iPEPS, Paris Brain Institute's startup studio. Through the NeurAL program, launched in 2023 and renewed for a second edition thanks to the support of the Anne and Claude Berda Foundation since 2023, and Indosuez Wealth Management this year, the two 2024 winners will receive personalized mentorship to foster the emergence of innovative, high-impact medical startups.**

Paris Brain Institute aims to transform fundamental research results into tangible solutions that benefit patients in the field of brain health. A cornerstone of this approach is leveraging the power of entrepreneurship, notably through NeurAL, its acceleration program for innovative projects funded by an entrepreneurial philanthropy fund.

The Institute's startup studio identifies and supports the most promising R&D projects for 12 to 18 months. The mentorship includes technological, scientific, clinical, and regulatory expertise to enhance their chances of success, convince investors, and secure the necessary funding rounds.

> « *Building on the success of its pilot edition, NeurAL now aims to become the main European model for the emergence of robust biotech and medtech companies in brain*

health. The high quality of the 2024 winning projects will undoubtedly strengthen the Institute's attractiveness and, more broadly, showcase European neuroscience. » – **Gérardine Farjot**, Innovation Director at Paris Brain Institute.

In addition to personalized coaching to mitigate risks, create a startup, develop a business strategy, and establish a financing and market access plan, the winners will receive dedicated funding of up to €400,000. This support is made possible through the commitment of the Anne and Claude Berda Foundation and Indosuez Wealth Management.

NeurAL reflects Paris Brain Institute's ambition to bring breakthrough, original, and creative technologies to life to address pressing health needs by combining the excellence of academic research, the drive of entrepreneurship, and the engagement of its partners and sponsors.

*

Braincoder: Restoring Hearing Through Neurostimulation

Brice Bathellier, a CNRS research director heading the "Auditory System Dynamics and Multisensory Perception" team at the Institut Pasteur, leads **Braincoder**. The project aims to address profound hearing loss, affecting patients with hearing loss exceeding 90 decibels. Such individuals can no longer hear speech, which isolates them socially and accelerates cognitive decline.

Profound hearing loss is typically treated with cochlear implants. These devices transform the analog signal recorded by a microphone into a digital signal to stimulate auditory nerve fibers directly via electrical impulses. However, they provide only average sound quality, limiting patients' ability to enjoy music or navigate complex auditory environments. Furthermore, patients with damaged auditory nerves are ineligible for this technique.

Building on fundamental research into auditory signal processing, Bathellier and his colleagues have developed a proof-of-concept device that overcomes the limitations of traditional cochlear implants. Using an artificial neural network-based encoding algorithm, the device converts sounds into electrical signals, enabling faithful auditory perception through direct stimulation of the auditory cortex via a brain implant. This groundbreaking technology aims to deliver improved sound quality, fostering better communication and enhancing patients' quality of life.

GlycaDX: Slowing Alzheimer's Disease Progression

The second laureate, **GlycaDX**, is led by **Dulce Papy-Garcia**, a professor of biochemistry and glycoscience, and director of the "Cell Growth, Repair, and Tissue Regeneration" (Gly-CRRET) research unit at Paris-Est Créteil University (UPEC). The project aims to develop a drug candidate targeting the aggregation of abnormal tau proteins in neurons, a hallmark of Alzheimer's disease.

Papy-Garcia and her team have demonstrated that certain complex sugars, known as 3S-heparan sulfates (3S-HS), accumulate within hippocampal neurons and play a key role in the formation of deposits of abnormally phosphorylated and aggregated tau proteins. By doing so, they contribute to the pathological mechanisms that precede neurodegeneration.

GlycaDX seeks to block this process using a small molecule inhibitor targeting a specific brain sulfotransferase enzyme involved in 3S-HS synthesis, thus slowing the progression of Alzheimer's disease significantly. This original and innovative approach, which has already shown effectiveness in cell and animal models, could give us a new tool to combat Alzheimer's, potentially offering patients additional years of healthy life.

About Paris Brain Institute

Created in 2010, Paris Brain Institute is a leading scientific and medical research center dedicated to the study of the brain and the discovery of new treatments for diseases of the nervous system. Its innovative model brings together patients, doctors, researchers, and entrepreneurs with a common goal: to transform fundamental discoveries into therapeutic solutions via a translational and interdisciplinary approach. Located in Paris at the heart of the Pitié-Salpêtrière Hospital—the largest neurology center in Europe—Paris Brain Institute includes over 900 international experts in 26 research teams, 11 cutting-edge technological platforms, a clinical investigation center, a training organization, a living lab, and a business incubator. It is based on the association of a joint research unit (CNRS, Inserm, and Sorbonne University) and a private foundation recognized as being of public utility, the ICM Foundation, in partnership with Assistance Publique–Hôpitaux de Paris. parisbraininstitute.org

Press contact

presse@icm-institute.org