

# **Founding Document of the Latin American Brain Initiative (LATBRAIN)**

## Revealing the mysteries of the brain to promote development

In the last 10 years, Brain Sciences have gained special relevance in the scientific world. Developed countries have made a historic investment to understand the mysteries of the brain and then use that new knowledge to the prevention, treatment and cure of brain diseases, as well as the development of new technologies and the promotion of changes in education, culture, economy and other areas of life in society. Latin America has also begun the process to join this global undertaking.<sup>1,2</sup>

Latin American countries have a historical heritage in studies of the Brain, characterized by an excellent culture of cooperation that has brought together a large community of recognized researchers.<sup>3</sup> This scenario allows us to be in a position to contribute to important transformations in the various domains of society.

## Challenges and Opportunities

Unraveling the "secret codes" that make the brain work, generating our thoughts, desires and actions, is one of the most important challenges of our time. Multiple diseases and disorders related to the brain (eg. addictions, violence, neuropsychiatric, neurologic, neurodevelopmental and social cognition disorders, etc) negatively affect the quality of life of individuals, in addition to causing great losses in productivity and in the economy of the countries, which incur in enormous expenses in the treatments and in the answers to the problems that arise from these conditions. At the same time, new knowledge and technological changes generate changes in learning processes, in how we communicate, and even in the way we think. The benefits and transformations that we can imagine from a deeper and more comprehensive understanding of how our brain works are enormous. For this, we must create the conditions for an interdisciplinary approach that prioritizes Brain research. Other regions of the world, including countries such as Australia, Canada, China, South Korea, the US, Japan, and the European Union, have already understood the opportunities offered by Brain Sciences research.<sup>4,5</sup> Latin America is ready to join this great challenge and also be a protagonist of the historical changes that are taking place.

## Global Collaboration

These global efforts to understand the brain converged in the creation of an International Brain Initiative<sup>6</sup>, that brings together researchers and Brain Initiatives from multiple countries with the aim of increasing the exchange of knowledge and enhancing collaboration, avoiding the overlap between the different efforts taken by each region of the world. While some initiatives emphasize creating new tools and technological applications, others aim to develop better experimental models to cure and treat diseases, promote fundamental research, increase multidisciplinary work and the training of human resources, improving and optimizing existing resources.<sup>7,8,9,10</sup>

## Latin American Brain Sciences

Latin America must find its own place in this global endeavor. There is no doubt that, in the region, we are in a position to establish centers of reference in Brain Sciences, create cooperation platforms to optimize access to technology in the region, increase the exchange of researchers and students

between countries that are part of the different Brain Initiatives, add cultural aspects and particular solutions of our region, work to improve ethical, bioethical and gender equality aspects in science, and establish a strategic plan for the development of Brain Sciences that includes the complementary needs and capacities of our countries.

It is urgent to start working together to position Latin America as an important node in the global plan of Brain Initiatives, the objective of which is to advance knowledge of the brain.

### Mission and Vision of the LATBRAIN

The mission of the LATBRAIN is to promote and advance brain research through collaboration and knowledge exchange, combining the different approaches and visions in Latin America to expand the scope of our research, and thus produce and disseminate new knowledge and scientific applications for the benefit of our countries and the world.

The vision is to achieve a deep and comprehensive knowledge of the brain that leads us to improve the quality of life of people in the world, in the different areas of individual and social life.

The LATBRAIN will achieve its goals by identifying common priorities to the different countries and facilitating the exchange of ideas; recognizing opportunities and challenges in our region; building networks and catalyzing collaborations that involve its members, scientists from academia and industry, educators, philanthropists, communicators, governments, civil society, and stakeholders from other areas of science; and stimulating the creation of national programs and / or projects in brain sciences.

### Organization of the LATBRAIN

To meet the goals of the LATBRAIN, we need an organization that includes certain structures of work such as:

#### **Strategic Planning Steering Committee**

This committee will be formed with a representative (and two alternates) from each of the participating Latin American countries.

Each country will resolve the coordination of the election of its representatives, which should include the societies related to Brain Sciences, local Brain Initiatives, or if they do not have them, the centers or institutions of reference in Brain Sciences in each country.

The Steering Committee will elect a Coordinator and a Secretary from among its members. This committee will meet at least once a year in person or virtually.

The tasks of this committee include preparing a strategic plan, convening working groups in the areas that are considered priority, integrating and communicating the different proposals that arise from these working groups or specific proposals made by the different countries, centralizing communications aimed at the LATBRAIN and organizing its representation.

## **Collective of Participating Agents**

The Collective of Participating Agents will include organizations that participate in the LATBRAIN and support it, such as: Research Centers, Universities, and Research Laboratories, among others.

Other organizations of recognized scientific activity in the area of Brain Sciences and civil associations or organizations that have adhered to the declaration of Montevideo<sup>1</sup> will also be part of the Initiative.

To participate in the annual meetings of the LATBRAIN, each country will appoint at least two representatives of the Collective.

## **Collective of Companies and Funding Agencies**

This group will include those agents interested in collaborating and financing the initiative.

All companies and funding agencies will be invited to participate in the annual meeting of the LATBRAIN.

## **Local Integration Work**

Each Country will create working groups or other mechanisms of collaboration and exchange to prepare proposals that contribute to the creation of the specific strategic plan of the LATBRAIN. Each Country will transfer its proposals and vision to its representatives in the Strategic Planning Steering Committee.

### General Strategic Plan

The strategic plan will aim to understand how the normal brain develops and functions, to understand the origin of the various pathologies related to the brain, as well as to use new knowledge to improve mental health in the region, and to apply the knowledge of the brain in other disciplines inspiring new discoveries and technological tools that improve education, the well-being of the population, and the economic and social development of the region.

Some specific goals include:

- 1) Identifying opportunities and / or particular problems in the region in the area of Brain Sciences.
- 2) Recognizing complementary areas among the countries that participate in the Latin American Brain Initiative.
- 3) Promoting the establishment of Research Centers in Brain Sciences of reference in the region.
- 4) Promoting the creation of collaborative technology platforms.
- 5) Designing strategies for the training of Researchers in specialized centers within and outside the region
- 6) Strengthening scientific societies, centers and institutions that study the brain in the region through cooperation (in and out of the region).
- 7) Promoting ethics in research and neuroethics, ensuring that the products that result from Brain Science research reach society and respect the rights and privacy of citizens.
- 8) Improving and promoting gender equity and diversity in brain sciences.
- 9) Promoting the development of communication channels that allow the dissemination of advances in brain knowledge among the population.

The undersigned endorse this founding document and commit to work in the promotion and development of the LATBRAIN. With the creation of the LATBRAIN, we will be able to undertake this path that involves us responsibly in a world new scientific moment.

1. <https://sociedadneurocienciasuy.com/2019/09/13/declaracion-de-intencion-iniciativa-cerebro-latinoamericana/>
2. <https://www.nature.com/articles/d41586-019-03065-7>
3. <http://falan-ibrolarc.org/site/>
4. International Brain Initiative: An Innovative Framework for Coordinated Global Brain Research Efforts. Neuron, 105, 2020
5. Toward a Global Brain Initiative. Cell, 168, 2017.
6. <https://www.internationalbraininitiative.org/>
7. <https://canadianbrain.ca/>
8. China Brain Project: Basic Neuroscience, Brain Diseases, and Brain-Inspired Computing. Neuron 92, 2016.
9. <https://www.humanbrainproject.eu/en/>
10. <https://braininitiative.nih.gov/>



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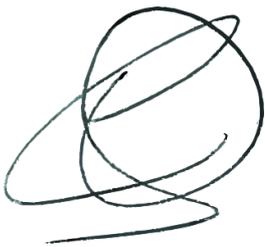
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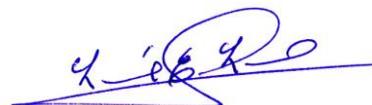
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