BrainLat INSTITUTE

UNIVERSIDAD ADOLFO IBÁÑEZ

GLOBAL BRAIN HEALTH INSTITUTE

The Latin American Brain Health Institute BrainLat

A regional initiative to reduce the scale and impact of dementia

GERO

Clínica de Memoria y Neuropsiquiatría

FACULTAD DE INGENIERÍA Y CIENCIAS

UNIVERSIDAD ADOLFO IBÁÑEZ

ESCUELA DE PSICOLOGÍA

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Summary

About BrainLat

The Latin American Brain Health Institute (BrainLat) at Universidad Adolfo Ibáñez (UAI) is committed to strengthening national, regional, and international research in brain health. Our multidisciplinary research and our advocacy carry out brain health leaders in Latin America and elsewhere. BrainLat is proud to be part of an international network, alongside Trinity College Dublin, University of California San Francisco, and other participants in the Global Brain Health Institute (GBHI)."

Our Mission

The mission of BrainLat is to carry out innovative brain health research across Latin America, in full integration with leading centers worldwide. BrainLat seeks to transcend disciplinary boundaries, forge groundbreaking investigation, and reduce the regional impact of dementia. This mission benefits from partnerships with multiple regional institutions and specific agreements with international networks and alliances with distinguished organizations.

Our Values

- **I. Translation and commitment: research-based project developments geared towards capacity building and implementation science.**
- **II. Multidisciplinary innovation: assessing how overlooked converging factors impact on brain health to develop innovative approaches to research and capacity building.**
- **III. Local ideas in a global landscape: bottom-up regional initiatives merge into a single landscape via win-win collaborations between high- and low/middle-income countries, facing local needs from a local-global perspective.**
- **IV. Transforming challenges into opportunities: turn typical regional problems (cultural differences between high- and low/middle-income countries, underrepresented populations, lack of trust among teams, isolationist practices, poor multicenter funding) into opportunities to make greater changes.**

A unique regional initiative

Focus on Research

6 Principal Investigators (18 by 2025)
engaged in traslacional studies on brain health and dementia in LAC countries

Multidisciplinary and transdisciplinary science Researchers at BrainLat have co-authored more than 150 academic publications

Educational Curriculum

Increasing education and training through three novel programs:
1.The BrainLat fellowship for brain health
2.Ph.D. program in brain health
3.The European-Latin American Brain Health Academy (ELBHA)
4.Regional courses: Inter-American development bank international courses in Brain Health; Latin America training on neurology (EdubrainLat); Outreach for Research in Latin America

Pioneer center in the LAC region

BrainLat coordinates a regional working group in Latin American and Caribbean countries focused on research, as well as capacity building and transnational applications.

Major challenges faced in dementia in LAC: socioeconomic differences, linguistic barriers, lack of health policies, a limited capacity for diagnostic and therapeutic methods, and great diversity, heterogeneity and cultural disparities.

Partnerships and agreements

BrainLat is affiliated to the Global Brain Health Institute (GBHI) at the University of California, San Francisco (UCSF), and at the Trinity College Dublin (TCD), as well as multiple local and international associations.

Reinforce capacity building with Latin America and Caribbean networks through two multi-partner and collaborative consortia on dementia: the LAC-CD and the ReDLat projects.

Outreach Activities

Annual BrainLat meeting
102+ webinars & meetings
94+ newsletters
12+ Interviews
19+ awards
10+ designations

Synergies in novel themes, such as brain health and arts; and brain health and inequalities

Active search for new opportunities for international cooperation in brain health with partners from all over the world

Research at BrainLat

BrainLat is organized into four research domains:

1. **Multidisciplinary and multicentre research, as facilitated by the Multi-Partner Consortium to Expand Dementia Research In Latin America (ReDLat).**
2. **Translational Neuroscience: biomarkers in Latin American Countries (LAC) populations**
3. **Algorithms, models, and methods for images and signals of the human brain**
4. **Long term Brain Health risk factors**

These domains are highly interconnected and provide the opportunity to conduct translational research at different levels, including basic studies, genomics, neuroimaging, behavior/cognition, clinical data, and social determinants of health.

1. ReDLat Consortium

ReDLat Consortium involves several PIs (Jennifer Yokoyama, Kate Possin, Francisco Lopera, Kenneth Kosik, Victor Valcour, Bruce Miller), PIs (Ricardo Nitrini, Leonel Takada, Nilton Custodio, Diana Matallana, Ana Luisa Sosa, Alberto Avila-Funes, Andrea Slachevsky, María Isabel Behrens,), stakeholders (NIH-NIA, Alzheimer's Association, Tau Consortium, and GBHI) and Institutions (UCSF, UCSB, Hudson Alpha and local teams from Argentina, Chile, Colombia, Brazil, Mexico and Peru).

In the NIH grants, there are multiple PD/PI (Agustín Ibáñez, Bruce Miller, Nilton Custodio, Francisco Lopera, Leonel Takada, Kate Possin, and Jennifer Yokoyama) and subcontract PIs (Agustín Ibáñez, Nilton Custodio, Francisco Lopera, Leonel Takada, Diana Matallana, and Nick Cochran).

At the Rainwater grant, the PI is Kate Possin and the subcontract PIs are Agustín Ibáñez, Nilton Custodio, Francisco Lopera, Leonel Takada, Diana Matallana, Ricardo Nitrini, and Kenneth Kosik.

The Alzheimer's grant has two PIs, Jennifer Yokoyama and Victor Valcour, and the following subcontract PIs: Alberto Avila-Funes, María Isabel Behrens, Andrea Slachevsky, Ana Luisa Sosa, and Ricardo Nitrini.

RedLat cohort involves > 4000 participants (controls, AD and FTD patients) from LACs (Argentina, Chile, Colombia, Brazil, Mexico, Peru) and a US team (UCSF) aimed at provide:

(1) Genetic contributions to AD-FTD (target

genes, exploratory genome-wide association studies-GWAS, and polygenic risk scores-PRS). (2) Impact of SES/SDH on clinical-cognitive-neuroimaging signatures. (3) Machine-learning differentiation of genetic and SES/SDH risks in LACS vs. US. ReDLat fosters synergy and harmonization to assess underserved dementia populations. Additionally, with the aim of strengthening research in Latin America, the GBHI-UCSF and University Adolfo Ibáñez will create a joint Latin American Center of Brain Heath (BrainLat) to develop a new platform to improve prevention, diagnosis, and research of relevant disorders in the region.

2. Translational Neuroscience: biomarkers in LAC populations

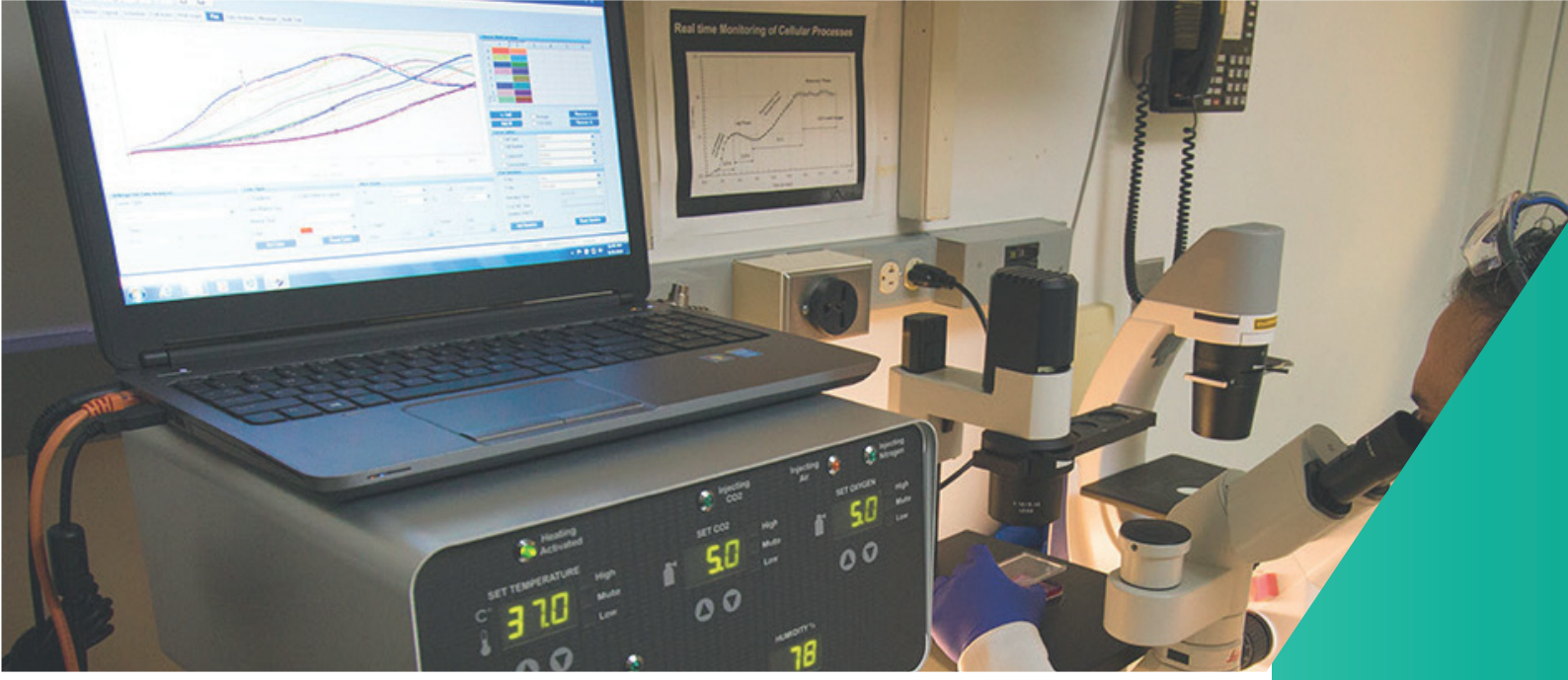
BrainLat's lead Researchers, Claudia Duran-Aniotz and Agustín Ibáñez, are developing peripheral biomarkers using LAC populations. Following BrainLat's mission, they search for novel and affordable biomarkers (e.g., electroencephalogram, functional magnetic resonance imaging, blood-based biomarkers) for the early diagnosis of neurodegenerative and age-related disorders in underserved populations. Additionally, they are studying risk factors for dementia involving different mouse model of neurodegenerative diseases.

3. Algorithms, models, and methods for images and signals of the human brain

Agustín Ibáñez, Enzo Tagliazucchi, Hieab Adams, and Pavel Prado, lead researchers at BrainLat, are developing EEG, MRI, DTI, and fMRI brain activity markers, using multiple connectivity measures, source space analysis, decoding, and mathematical modeling for the characterization of global brain dynamics and harmonization of multicenter brain activity data. This approach enables the application of computational methods to objectively analyze multidimensional measures.

4. Long-term Brain Health risk factors.

BrainLat's lead researchers, Agustín Ibáñez, Graciela Muniz, and Gary O'Donovan, are developing measures of social determinants of health (SDH), including socioeconomic status (SES), educational levels, health care access, lifetime employment, social and community context. Also, are investigating predictors of healthy aging. They are particularly interested in modifiable risk factors, such as education, diet, and physical activity.



Lead Investigators

Agustín Ibáñez, Ph.D. in Cognitive Psychology, a neuroscientist interested in global approaches to dementia and social, cognitive, and affective neuroscience. He studies specific brain networks in frontotemporal dementia (FTD), Alzheimer's disease (AD), and other neurodegenerative condition. His research combines genetic, imaging, and behavioral assessments in the study of neurodegeneration. He leads the neuroimaging core of the largest longitudinal study of dementia in South America (FONDAP Center for Geroscience in Chile, with participants assessed during five years). He has performed multicenter studies on cognition and imaging of neurodegenerative diseases in Latin-American countries, Australia, UK, and the US, developing robust normalization processes and machine learning approaches. Together with Dr Parra, he has created the Latin American and Caribbean Consortium on Dementia (LAC-CD) and he is also a founding member of the Latin American Big Data Network (LADaC, Red Latinoamericana de Análisis de Datos Complejos). Currently, he is co-director of the Multi-partner Consortium to Expand Dementia Research in Latin America (ReDLat) for developing a multilevel clinical and research platform for dementia in the region.

Claudia Duran-Aniotz, Ph.D. in Biomedicine, neuroscientist dedicated to understanding neurodegenerative disorders with special emphasis in Alzheimer's disease. Her research and academic interests are aligned to provide an invaluabl platform to generate new knowledge and link basic and clinical research, promoting high translational discoveries and clinical collaborations. Her projects encourage the consolidation of a research group to study neuropathological, clinical and translational research in Alzheimer's disease. She is also interested in global studies to validate novel biomarkers for early diagnosis and therapies to treat this neurodegenerative and age-related disorder in Latin American population. She is also contributing to diminish the major economic and social costs associated with brain health disorders. She holds several national and international projects and colla-

borations to strengthen Latin American research on brain health and dementia.

Enzo Tagliazucchi, PhD in Neuroscience obtained at the University of Frankfurt, Germany. He was awarded fellowships by AXA, the European Commission (Marie Curie) and the DFG (Mercator fellowship), and received the E. Gaviola prize in physics granted by the Argentinian Academy of Sciences. His research is dedicated to the neuroscience of healthy and pathological brain states, including states characterized by full or partial loss of consciousness and self-awareness, such as sleep, anesthesia, dementia and disorders of consciousness. He also leads a multidisciplinary group of scientists working at the interface between theoretical and computational neuroscience, machine learning, data science and computational neuropsychiatry. In one of his main projects, he is working on mapping and modeling the healthy and pathological aging trajectories of the human brain.

Graciela Muniz Terrera, PhD in Biostatistics, her research agenda includes studies in the epidemiology of aging and methodological developments aimed at gaining a better understanding of the aging process, with a particular focus on modifiable risk factors associated with healthy aging. Her research agenda also includes the study of social determinants of health. Graciela graduated in Mathematics and completed a Masters Degree in Mathematical Statistics at Universidad de la República del Uruguay, and then did her doctoral studies at the University of Cambridge, UK. After graduating, she worked at the MRC Biostatistics Unit of the University of Cambridge for several years, and then UCL and the University of Edinburgh. Now, in addition to the professorship she holds at BrainLat, she also holds an Endowed Professorship at Ohio University and at the University of Edinburgh.

Gary O'Donovan, Ph.D. in Sport Science, he is an expert in physical activity and health and he is particularly interested in the bold policies and large-scale interventions that might actually make a difference. When he was working at Loughborough University in the UK, he was the leading author of one of the most talked about studies in the world in 2017. His study about the benefits of the 'weekend warrior' physical activity pattern (O'Donovan et al., JAMA Internal Medicine, 2017, 177, 3, 335-342). He didn't know then that he would move to Latin America and find himself living among millions of weekend warriors. Every Sunday and public holiday, roads are closed to motor vehicles in dozens of cities in Latin America and are filled with walkers, runners, and cyclists. He now realizes that every city should have a so-called 'Ciclovía' and much of his work is about gathering the evidence that might be needed to help policy makers.

Hieab Adams, Ph.D. in Genetic Epidemiology, he is a medical doctor who performed his training in Rotterdam, the Netherlands. He has a multidisciplinary research background, spanning cell biology, epi-

demiology, and clinical studies. Since brain health is determined by many factors, his approach to understand these is by studying large populations in great detail. For this, key techniques that are employed include extensive genetic testing and imaging of the brain. The resulting big data require special statistical methods, which are also being developed in his group. A major focus of his research is in the ethnic differences that exist in brain aging, where a lot remains unknown about non-European populations. In his role at BrainLat, Dr. Adams aims to increase the knowledge about the Chilean aging process and the wider Latin-American region.

Carolina Ochoa-Rosales, PhD in Epidemiology. Her research is focused on (epi)genetic and molecular mechanisms linking environmental determinants, such as lifestyle, pharmacological and socioeconomic factors with age-related health outcomes in population studies. To this end, Carolina has used a multi-OMICs approach, combining genomic, epigenomic and transcriptomic markers using cutting edge technologies, advanced biostatistical methods and interdisciplinary teams. Her work is embedded in large international and national cohort studies from diverse ethnic backgrounds, such as the Rotterdam Study, the UK Biobank and the Framingham Heart Study, the Chilean National Health Survey and others. Dr. Ochoa-Rosales has several scientific publications in prestigious scientific journals in the top 25% of their respective field, and has received multiple honours from prestigious scientific societies and scholarships. Further, she has served as peer-reviewer for prestigious scientific journals such as Clinical Epigenetics, Clinical Nutrition and PlosOne. As a Lead Investigator at BrainLat Institute, Carolina Ochoa-Rosales aims to research genomic and epigenomic diversity of mental and cognitive health outcomes in underrepresented populations, as well as the epigenetic mechanisms linking such outcomes and their environmental determinants.

Vicente Medel, Ph.D. in Neuroscience, He is a neuroscientist with a system-level perspective of brain function, working to understand the mechanisms of consciousness and attention using multimodal brain imaging and computational models in health and disease. He obtained his degree in philosophy at the Universidad de Chile and his Master's and Ph.D. in Neuroscience at the Pontificia Universidad Católica de Chile. He also worked as a Postdoctoral Researcher at Universidad de Chile and in the Brain and Mind Centre at The University of Sydney. His work focuses on multiscale information processing in the brain and the modulatory role of the ascending arousal system in shaping brain complex activity and behavior. Vicente's research includes different physiological measures to understand their contributions to the dynamics emerging from the interaction between the brain, body, and environment. To address this, he combines scalp and intracranial EEG, structural and functional MRI, magnetic resonance spectroscopy

(MRS), audition, pupil diameter, and computational modeling.

Postdoctoral & Ph.D. Students

Carlos Coronel, Ph.D.in Biophysics and Computational Biology, Lines of interest: Computational Neuroscience, Graph Theory, Whole-Brain Modeling, Computational Psychiatry, Neuromodulation.

Ariel Caviedes, Ph.D. in Biomedicine, Lines of interest: Brain-Derived Neurotrophic Factor, Psychiatric disorders, Biomarkers, Neuroprotection, Neurodegeneration.

Josefina Cruzat, Ph.D. in Theoretical and Computational Neuroscience, Lines of interest: Large-scale Mathematical Models, Multimodal Neuroimaging, Neurophysiology and Neuropsychology Data

Valeria Gutierrez, Ph.D. in Health Psychology, Lines of interest: Basic Psychology (Cognitive-behavioral), Psychopharmacology and Animal Models.

Sebastián Moguilner, Ph.D. in Biology, Line of interest: Neuroimaging, Computational Neuroscience, Biomarkers, the Scientific study of consciousness.

Rubén Herzog, Ph.D. in Biophysics and Computational Biology, Line of interest: Electrophysiology, Neuroscience, Mathematical Models

Sol Fittipaldi, M.Sc. in Psychopathology, Health and Neuropsychology, Line of interest: Social Cognitive Neuroscience, Neuropsychiatric Disorders

Raúl Gonzalez, Biology, Ph.D student in Social Neuroscience and Cognition. Lines of interest: Neurodegenerative diseases, MRI, connectivity, social neuroscience, neuroplasticity, statistics, machine learning.

Joaquin Migeot, M.Sc. in Social Psychology, Ph.D student in Social Neuroscience and Cognition. Lines of interest: Cognitive Psychology, Social Cognition, Cognitive Semantics, Social Cognitive and Affective Neuroscience (SCAN), Social Psychology, Socioeconomic Status

Paulina Orellana, Biochemist, PhD student in Social Neuroscience and Cognition, Lines of interest: Neurodegenerative Diseases, Alzheimer's Disease, Dementias, Aging, Peripheral Biomarkers.

Carolina Panesso, M.Sc. in Social Neuroscience, Ph.D student in Social Neuroscience and Cognition. Lines of interest: Neurodevelopment, Child and Adolescent Neuropsychology, Social Cognition

Stefanny Salcidua, Civil Engineering in Bioengineering, PhD student in complex systems engineering. Lines of interest: Machine Learning, Neurodegenerative Diseasessorders

International Advisory Board

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Manos Tsakiris
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Victor Valcour
University of California, San Francisco

Robert Whelan
Trinity College Dublin

Jennifer Yokoyam
University of California, San Francisco

Former members

- **Constanza Avalos** - M.Sc. in Biomedical and Molecular Sciences Research - Research Assistant. 2020-2021
- **Agustina Birba** - Ph.D. in Biology - Postdoc. 2020-2021
- **Tamara Escobedo** - M.Sc. in Biochemistry - Research Assistant. 2020-2021
- **Fernanda Gaete** - Public Relations Officer - Administrative. 2020-2021
- **Andrea Garces** - Ph.D. in Structural and Computational Biology - Program Manager. 2020-2021
- **Mara Hidalgo** - M.Sc. in Biochemistry - Research Assistant. 2020-2021
- **Cecilia Lopez** - Ph.D. in Psychology - Postdoc. 2020-2021
- **Tania Sauma** - Ph.D. in Non-Linear Physics and Liquid Crystals - Postdoc. 2020-2021

Research Networks:

BrainLat promotes research, networking and implementation science through different mechanisms and collaborative initiatives.

ReDLat

The Multi-Partner Consortium to Expand Dementia Research in Latin America (ReDLat) aims to expand dementia research in Latin America by combining genomic, neuroimaging and behavioral data to improve dementia characterization in diverse populations. ReDLat will develop an innovative, harmonized, and cross-regional approach on two of the region's most prevalent neurodegenerative disorders: Alzheimer's disease and frontotemporal dementia.

Project directors: Agustín Ibáñez, Jennifer Yokoyama, Kate Possin, Kenneth Kosik, Victor Valcour, Bruce Miller and Francisco Lopera.

Support: NIH/NIA, Alzheimer's Association,-Tau Consortium, Alector, Takeda, GBHI.

LAC-CD

The long term goal of the Latin America and the Caribbean Consortium on Dementia is to create a regional task force in LACs focused on research as well as capacity building and implementation science. LAC-CD is a regional organization overseeing and promoting clinical and research activities on dementia.

Coordinator: Agustín Ibáñez and Mario Parra.

Support: Alzheimer's Association and GBHI.

Global Brain Health Institute (GBHI)

BrainLat is affiliated with the Global Brain Health Institute at the University of California, San Francisco, and Trinity College Dublin. This

partnership provides a unique opportunity to develop research collaborations, educational programs, and faculty and fellows exchanges, among other initiatives.

Other affiliations

There is constant collaborative work between BrainLat and other academic and research units within the Universidad Adolfo Ibáñez, namely, the most active links are with the Center for Social and Cognitive Neuroscience of the Faculty of Psychology and the Faculty of Engineering and Sciences. BrainLat has also signed agreements with the Memory Unit of the Neurology Service of the Hospital del Salvador and the Memory and Neuropsychiatry Clinic of the Faculty of Medicine at the University of Chile, and with the Center for Geroscience, Mental Health and Metabolism (GERO) which is the first center in Latin America dedicated to the study of aging.

Seed Grants Projects

BrainLat has launched two seed grant calls to fund preliminary projects that prioritize activities demonstrating the potential to lead to larger projects with an emphasis on Latin American communities. Different seed initiatives (e.g., preliminary study, extended project planning, focused networking, or impact-based proposal) have been supported to identify, change or improve outcomes around age, cognitive related cognitive loss, and dementia.

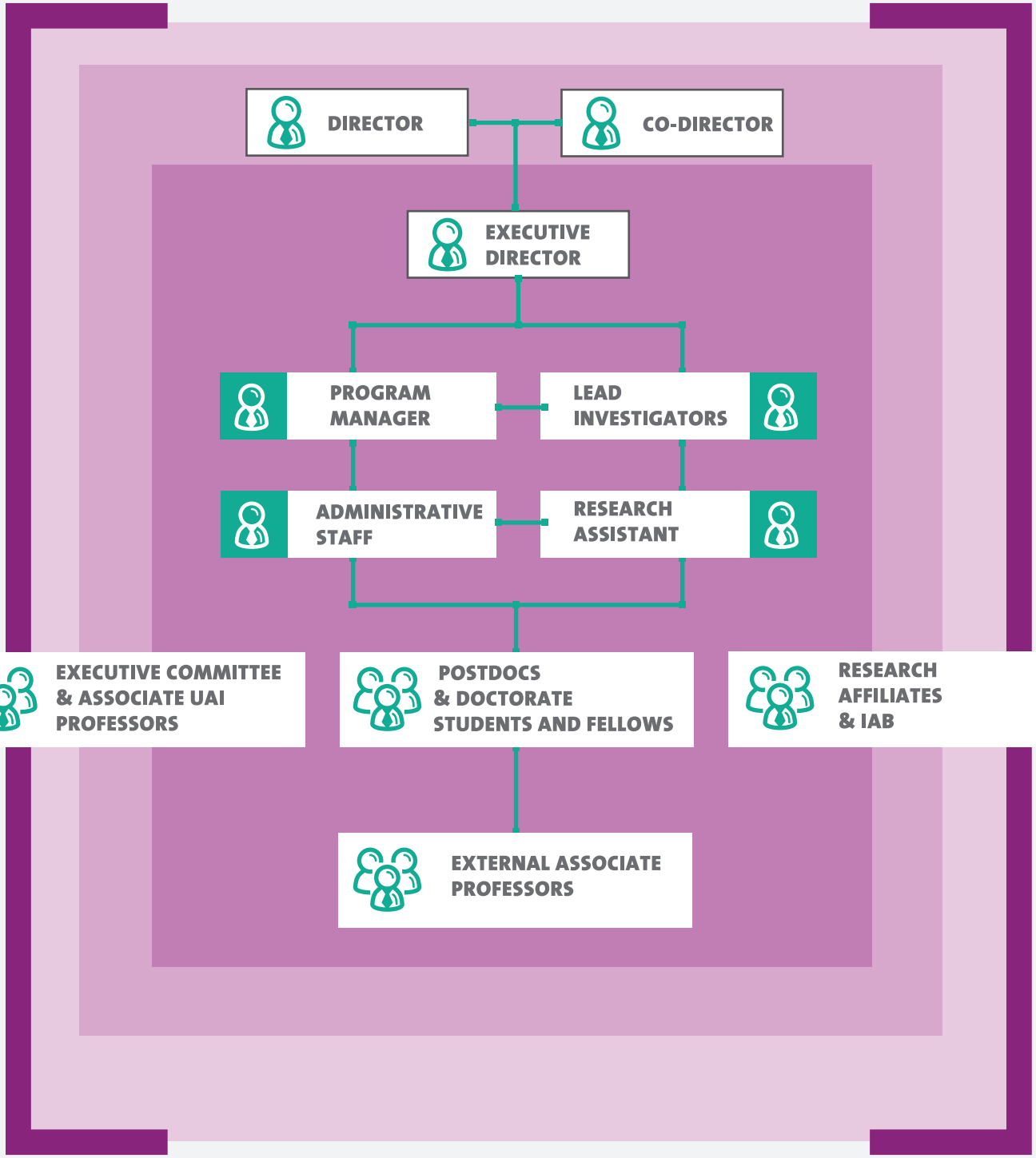
The first Seed Grant call in 2020 was addressed to researchers belonging to the UAI community, the GBHI, and the LAC-CD/ReDLat project. From the 2020 call, the following six projects were funded:

- "Building sustainable operations systems to support growth for BrainLat and ReDlat" PIs **Shireen Javandel, Maria Eugenia Godoy.**
- "The EuroLaD-EEG consortium: towards a global EEG platform for dementia", PI **Mario Parra.**
- "Predicting normal and pathological aging pathways from the interactions between social determinants of health, cognitive reserve and clinical-cognitive: functioning in the Latin American population", PIs **Hernando Santamaría-García, David Huepe, and Sandra Báez.**
- "Online abridged behavioral neurology training for specialists in Latin America (EDUBrainLat)", PI **Stefanie Piña Escudero.**
- "Developing a Regional Capacity in Health Economics for BrainLat: A cross-sectional study to inform economic evaluations on dementia in Chile", PI **Dominic Trepel.**
- "Single T-cell whole transcriptomic profile in Dementia ReDLat Consortium", PI **Martin A.Bruno.**

From the 2021 call, the following five projects were funded:

- "Automated speech analysis framework for Latinos with Alzheimer's disease and frontotemporal dementia", PI **Adolfo García.**
- "Unveiling Trail Making Test: Visual and manual trajectories indexing multiple executive processes", PIs **Juan Kamienkowski and Agustin Petroni.**
- "A Toolkit to Support Brain Health Diplomacy Leaders in Latin America", PI **Walter Dawson.**
- "Transcriptomic characterization of circulating cell-free mRNA in Latin American patients with Alzheimer's Disease and Frontotemporal Dementia", PIs **Rolando De la Cruz and Miguel Renteria.**
- "Creative and Arts Intervention Network Latin America", PI **Dominic Campbell.**

Team structure & organization chart



Who we are

Director

Dr. Agustín Ibáñez, full professor and director of the BrainLat Institute, Associate research professor and group leader at the Predictive Brain Health Modelling group, Trinity College Dublin, and Senior Atlantic Fellow of the GBHI. He holds a track record with +300 publications (+120 in the last five years), including top-ten journals (e.g., Lancet Neurology, World Psychiatry, Nature Reviews Neurology, Nature Human Behavior, JAMA Neurology, Alzheimer's & Dementia, Brain). He has received funding from the Inter-American Development Bank (IDB), ANID (Chile), COLCIENCIAS (Colombia), DAAD (Germany), MRC (United Kingdom), CONICET (Argentina) and Alzheimer's Association, Tau Consortium, GBHI, Takeda, Alector and NIH/NIA (USA). He is the founder of the critical regional initiatives, such as the Multi-partner Consortium to Expand Dementia Research in Latin America (ReDLat) and the Latin American and Caribbean Consortium on Dementia (LAC-CD). His work has been highlighted in multiple press releases, such as the BBC, Nature, Nature News, Discovery Channel, Popular Science, Daily Mail, Newsweek, Le Monde, and Oxford University Press, among others.

Co- Director

Dr. Claudia Duran-Aniotz, assistant professor and co-Director of BrainLat; she is a neurobiologist and neuroscientist fully dedicated to understanding neurodegenerative disorders with special emphasis in Alzheimer's disease. She has focused her work on Alzheimer's disease and dementia affecting this particular population contributing to diminish the major economic and social costs associated with brain health disorders. Her research and academic interests are aligned to provide a useful platform to generate new knowledge and link basic and clinical research, promoting high translational discoveries and clinical collaborations.

Executive Committee Director

Dr. Jorge Sanhueza, dean of the UAI School of Psychology since 2002. In this role, he has been responsible for designing and implementing the undergraduate curriculum for the training of psychologists at the UAI and a set of postgraduate programs taught by the school with special focus on neuroscience. He is also a full professor, specialist in the topics of organizational change and development, appreciative inquiry and social dialogue.

Program Manager

Dr. Rodrigo Ortega, program manager at BrainLat. He has worked in large public and private funded projects in Cognitive Neuroscience, as a researcher and in other administrative positions. He has participated in the set-up of several neurophysiological laboratories and has advanced skills in electrophysiological and eye-tracking data collection and analysis. He is Psychologist (Universidad Central de Chile), Master in Neurobiology and Ph.D. in Psychology (Universidad de Chile).

Administrative Staff

Eugenia Godoy, affiliated member at BrainLat. She is Program Manager of the NIH/NIR R01: "Multi-Partner Consortium to Expand Dementia Research in Latin America (ReDLat)". She is also in charge of managing international grants and local grants. She has strong experience in international applications. Previously, she worked as coordinator of Bilateral Cooperation at the National Directorate for Institutional Integration and Cooperation of the Ministry of Science, Technology and Productive Innovation of Argentina.

Claudia Hoffman, executive director at school of psychology and BrainLat. Claudia is in charge of the managing of national and international applications and grants. She holds extensive experience in management and executive production. She also builds and leads work teams. In BrainLat she manages and allocates budgets according to organizational priorities.

Francisca Cabello, lab manager, administrative and financial Assistant at BrainLat. Francisca has worked as a research assistant in public and private institutions in different fields of biological sciences and has actively participated in the formulation and management of projects subsequently awarded.

Amarys Aguilar, administrative and financial Assistant at BrainLat. has worked in the commercial area in different companies that distribute laboratory products. She has also participated as a lab manager in the management of projects awarded in start-up companies related to development in the scientific world.

Alejandra Davidziuk, outreach manager at BrainLat. She has extensive experience in international cooperation, project management, and search for funding research and innovation for public and private institutions. For more than five years, she was the coordinator of the Liaison Office Argentina – European Union at the Ministry of Science, Technology and Innovation of Argentina, and the coordinator of the Argentinean Node of the Enterprise Europe Network (EEN).

Mayte Vergara Manríquez, curriculum manager at BrainLat. She coordinates from BrainLat two Brain Health Courses funded by the International Development Bank (IDB). She has a degree in psychology and a master's degree in psychotherapy from the Universidad Adolfo Ibáñez (UAI) and a Diploma in "Child Neuropsychology" in "Adult Neuropsychology and Neuropsychiatry" at the Catholic University of Chile and also in Philosophy of Cognitive Sciences at the Alberto Hurtado University (UAH).

Lucas Neufeld, graphic designer and web designer (graduated from University of Buenos Aires, UBA), evolving into UX/UI Designer. Currently his task is to create and develop, along with a team of colleagues, Interface design (UI), user experience (UX) and Interaction design using knowledge in UX & Product Research, functional analysis of use cases and then testing of what has been analyzed. He takes the challenges with seriousness and commitment, looking for ways to solve the problems that arise every day. Curiosity and passion for what he does is what makes moves forward throughout his career.

Alejandro Bateman, Community and Outreach Manager, he has vast experience as a scientific communicator. He also leads the area of Science Communication embedded in a collaboration among several Chilean universities, wherein he is in charge of the development of a training program for new scientific communicators, participates in the open science team and is the program coordinator of the first massive knowledge communication network in Center-Southern Chile, called SaberConecta.

Executive Committee Board

- David Huepe
- Ian Robertson
- Rolando de la Cruz
- Andrea Slachevsky

Associated institutions

Global Brain Health Institute (GBHI) at San Francisco (US) and Dublin (Ireland)

University of California, San Francisco (UCSF)

Universidad de Chile

Fundación Universidad de Antioquia

Universidad de Málaga

Instituto Peruano de Neurociencias (IPN)

Universidad de San Andrés

Universidad del Valle

Instituto Nacional de Ciencias Médicas y Nutrición "Salvador Zubirán"

In process

Paris Brain Institute

University of Strathclyde

Erasmus University Medical Center Rotterdam

BrainLat Achievements

Latin American Brain Health Institute: Achievements and projections

	2021 ↻ 2022 (Achievements)	2023 ↻ 2024 (Projections)	2025 ↻ 2026 (Projections)
Teamwork	**6** faculty, **6** postdocs, **3** Ph.D student, Administrative staff	**12+** faculty, **12+** postdocs, **9+** Ph.D student, Administrative staff	**15+** faculty, **18+** postdocs, **12+** Ph.D student, Administrative staff
Projects	**12** National **10** International **12** BrainLat Funding Seed Grant	**17+** National (Chile), **1+** Large Local Project **12+** International (NIH, AA). **1–2** large collaborative project	**22+** National (Chile) **14+** International (NIH, AA). **4+** large collaborative project
Publications	**150** Published Papers including	**190–210** Published Papers	**230–250** Published Papers
Educational Curriculum	• Pilot ELBHA (IDB grant) • Regional training (seed grant)	• Brain Health Ph.D. Program • Fellowship Program	• ELBHA Project
Partnerships & agreements	Conformation of the International Advisory Board (currently 62 members).	• GBHI (dual affiliation) • Agreement with Latin American Institutions • Local government organizations (ministries) and international organizations	• New local and international agreements.
Outreach Activities	**102+** webinars & meeting, **94+** Newsletters, **12+** Interviews, **19+** Awards, **10+** Designations	• Annual BrainLat, LAC-CD and ReDLaT meetings, • Seminars with AA + GBHI, Atlantic Philanthropies. • Postdoc and PhD monthly presentations	• Annual BrainLat, LAC-CD and ReDLaT meeting, • Seminars with AA + GBHI, Atlantic Philanthropies. • Postdoc and PhD monthly presentations

Selected representative publications (from a total of 150 papers)

THE LANCET Neurology

- **Song, C., Boly, M., Tagliazucchi, E., Laufs, H., & Tononi, G. (2022).** fMRI spectral signatures of sleep. Proceedings of the National Academy of Sciences, 119(30), e2016732119. doi:doi:10.1073/pnas.2016732119 IF: 12.78

Official Journal of the Society of Biological Psychiatry
Biological Psychiatry
A Journal of Psychiatric Neuroscience and Therapeutics

- **Deco, G., Perl, Y. S., Vuust, P., Tagliazucchi, E., Kennedy, H., & Kringelbach, M. L. (2021).** Rare long-range cortical connections enhance human information processing. Current Biology, 31(20), 4436-4448. IF: 10.83

nature communications

- **Pintos, A. P., Shalom, D. E., Tagliazucchi, E., Mindlin, G., & Trevisan, M. (2022).** Cognitive forces shape the dynamics of word usage across multiple languages. Chaos, Solitons & Fractals, 161, 112327. IF: 10.41

- **Prado P, Birba A, Cruzat J, Santamaría-García H, Parra M, Moguilner S, Tagliazucchi E, Ibáñez A. (2022)** Dementia ConnEEGtome: Towards multicentric harmonization of EEG connectivity in neurodegeneration. International Journal of Psychophysiol 172: 24-38. DOI: 10.1016/j.ijpsycho.2021.12.008 (IF: 2.81, Q2)

alzheimer's association | Alzheimer's & Dementia
THE JOURNAL OF THE ALZHEIMER'S ASSOCIATION

- **Birba A, Santamaría-García H, Prado P, Cruzat J, Sainz Ballesteros A, Legaz A, Fittipaldi S, Duran-Aniotz C, Slachevsky A, Santibañez R, Sigman M, García AM, Whelan R, Moguilner S, Ibáñez A (2022)** Allostatic interoceptive overload in frontotemporal dementia. Biological Psychiatry 92(1):54-67. DOI: 10.1016/j.biopsych.2022.02.955 (IF: 12.81, Q1)

Trends in Neurosciences
A Cell Press journal

- **Castro C, Prado P, Espinoza VM, Testart A, Marfull D, Manríquez R, Stepp CE, Mehta DD, Hillman RE, Zañartu M (2022)** Lombard Effect in Individuals with Non-Phonotraumatic Vocal Hyperfunction: Impact on Acoustic, Aerodynamic, and Vocal Fold Vibratory Parameters. Journal of Speech, Language, and Hearing Research. 5:1-15. doi: 10.1044/2022_JSLHR-21-00508 (IF: 2.30; Q1)

PNAS

- **Duran-Aniotz, C, Sanhueza, J, Grinberg, LT, et al.** The Latin American Brain Health Institute, a regional initiative to reduce the scale and impact of dementia. Alzheimer's Dement. 2022; 1- 3. https://doi.org/10.1002/alz.12710

- **Adams, H.H.H., Brouwer, R.M., Klein, M., Grasby, K.L. et al.** Genetic variants associated with longitudinal changes in brain structure

across the lifespan. Nat Neurosci 25, 421–432 (2022). https://doi.org/10.1038/s41593-022-01042-4

- **Sexton, C, Solis, M, Aharon-Peretz, J, Ibanez, A. et al.** Alzheimer's disease research progress in the Mediterranean region: The Alzheimer's Association International Conference Satellite Symposium. Alzheimer's Dement. 2022; 1- 12. https://doi.org/10.1002/alz.12588
- **Sanz C, Carrillo F, Slachevsky A, Ibanez, A., Tagliazucchi, E, et al.** Automated text-level semantic markers of Alzheimer's disease. Alzheimers Dement (Amst). 2022;14(1):e12276. Published 2022 Jan 14. doi:10.1002/dad2.12276
- **Van Bavel, J.J., Cichocka, A., Capraro, V. Ibanez, A., et al.** National identity predicts public health support during a global pandemic. Nat Commun 13, 517 (2022). https://doi.org/10.1038/s41467-021-27668-9
- **Parra, M.A., Garcia, A.M., Ibanez, A., Sr. and (2021),** Addressing dementia challenges through international networks: Evidence from the Latin American and Caribbean Consortium on Dementia (LAC-CD). Alzheimer's Dement., 17: e055106. https://doi.org/10.1002/alz.055106
- **Eyre HA, Ayadi R, Ellsworth W, Ibanez, A., et al.** Building brain capital. Neuron. 2021;109(9):1430-1432. doi:10.1016/j.neuron.2021.04.007
- **Dawson, W. D., Bobrow, K., Ibañez, A., et al.** The necessity of diplomacy in brain health. The Lancet Neurology, Volume 19, Issue 12, 2020, doi: 10.1016/S1474-4422(20)30358-6

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The Latin American Brain Health Institute BrainLat

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