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Annual  
report

# A key year for science

pasqual  
maragall  
foundation

barcelonaβeta  
BRAIN RESEARCH CENTER



20  
**20** **A key  
year for  
science**

**Edition** **Pasqual Maragall Foundation**  
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# 20 20 Annual report



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## Greeting



The entity's annual report is the occasion to render accounts and also to take stock of the work done. Being at the header of the first pages is an important responsibility for any director. This year is also special for our sector, for all those who dedicate ourselves to science, for people who suffer from Alzheimer's disease and their families, and in general for everyone who is experiencing this situation of uncertainty as a result of the Covid-19 pandemic.

A little over a year ago, I accepted the task of directing this entity jointly with my predecessor, Dr. Jordi Camí. I faced it stimulated by the challenge, objective and determination to end Alzheimer's disease and knowing that I was facing a very well done job, of a solid entity with very well-established foundations to build a good future.

The new stage as a director began with the unexpected death of our president, Diana Garrigosa, who we continue to miss every day for her personal worth and drive. Diana's transfer brought her daughter Cristina Maragall to the presidency of the Foundation, whom I thank for her trust.

And right after the organizational changes and with no time to recover from Diana's death, the worst pandemic that humanity has experienced in the last 100 years broke out.

Covid-19 has impacted our lives and has forced us to find new ways of relating to one another, of understanding the world and of doing our jobs; to be imaginative in solving problems we never thought we would have, but, above all, the pandemic **has confirmed the value of research**. Thanks to science, we are facing the most rapidly solved health problem in the history of mankind.

And also with science we will **defeat Alzheimer's disease**. We will do this together! Thanks to **Patrons, Sponsors, the more than 45,000 Partners, Donors and Collaborators**, and also the team of the Pasqual Maragall Foundation, we are closer to achieving a world free of neurodegenerative diseases.

In these pages you will see the intense activity of the Foundation during 2020; the pandemic has not stopped us. On the contrary, we have maintained projects and we have started new ones.

**“The pandemic has confirmed the value of investigation. Thanks to science, we are facing the most rapidly solved health problem in the history of mankind. And also with science we will defeat Alzheimer’s disease”**

In terms of **research**, we have continued to analyse the data generated **by the Alfa Study** developed thanks to the encouragement of Fundación “la Caixa”. Also, after a period of stoppage due to the pandemic and confinement, we have restarted the visits to the participants.

In addition, we have detected **findings** as important as discovering that one of the **biomarkers** of a protein linked to Alzheimer’s disease can be used to detect the disease in the early stages with a **blood test**, and other **scientific breakthroughs related to risk factors of the disease derived from insomnia, pollution or parental age**. As a result of all our growing scientific activity, this year we have participated in over **60 scientific articles**.

Regarding our **social aspect** and our commitment to support people suffering from Alzheimer’s disease and their families, we have maintained **online and face-to-face therapeutic groups**. Likewise, since the beginning of the pandemic, through our **blog called “Hablemos del Alzheimer”** we have accompanied families with current information adapted to the situation.

We have also carried out different activities to **emphasize the need to invest in research** before the authorities or on September 21, World Alzheimer’s Day, through the initiative #UnDíaParaOlvidar. We have also worked to **change the social perception of the disease** through the publication of the “Encuesta de Actitudes y Percepciones sobre el Alzheimer” (survey of attitudes and perceptions on Alzheimer’s disease), and other initiatives.

This is only a small summary of a very intense year. I invite you to read and find all the information on these pages.

Thanks again to our **Patrons, Board of Trustees, Partners, Collaborators, Study Participants and Volunteers** for joining us in fulfilling our common commitment to defeat Alzheimer’s disease. Have no doubt that we will make it possible.

**Arcadi Navarro**  
Director

*Barcelona, June 2021*



# deter mina tion.

**"Nowhere is it written that  
Alzheimer's is invincible"**

Pasqual Maragall said it, and we will not tire of working to achieve a future without Alzheimer's or neurodegenerative diseases. The pandemic significantly affected the way we work, but we quickly and determinedly adapted to move forward with our mission.

# 01.

# 1.01

## Alzheimer's today

Every year **10 million cases** of dementia are registered around the world, most of them caused by Alzheimer's, which implies a **new diagnosis every 3 seconds**!. At the Pasqual Maragall Foundation and the Barcelonaβeta Brain Research Center we are convinced that the Scientific research, together with social awareness and dissemination, is the only way to stop Alzheimer's.

Every year **10 million cases of dementia are registered around the world, most of them caused by Alzheimer's.**



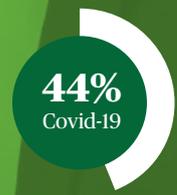
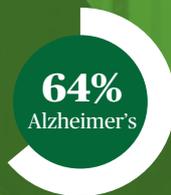
**50 Millions**  
cases

Every **3 seconds** a new case of dementia is diagnosed in the world.



**800.000**  
cases

**1 in 10 people** over the age of 65 suffers from Alzheimer's.



Alzheimer's (64%) and cancer (70%) are the most worrying health conditions for Spaniards, ahead of stroke (47%), and Covid-19 (44%)<sup>2</sup>



**2 out of 3 Spaniards** have or have had in their environment a person affected by Alzheimer's



**8 out of 10 families** take care of the affected person and up to **87% of the total cost** on average<sup>3</sup>

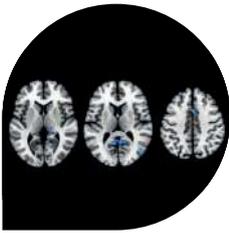


Caregivers dedicated an average of **4 more hours a day** to their Alzheimer's relatives during confinement<sup>4</sup>

1. Data of OMS and World Alzheimer Report. 2. Brain Foundation Data: Social Impact of Alzheimer's Disease and Other Dementias. 3. Data from the Pasqual Maragall Foundation: "Survey on the effect of Covid-19 on people with Alzheimer's and their caregivers". 4. Data from the Pasqual Maragall Foundation: Survey "Attitudes and perceptions of the Spanish population about Alzheimer's disease", prepared by the Pasqual Maragall Foundation.

# 1.02

## 2020: moving forward despite the pandemic



**January**  
New evidence

We found evidence that could link insomnia with Alzheimer's. Our study reveals evidence that people with sleep disorders have poorer cognitive performance and lower volume in some brain regions linked to Alzheimer's disease.



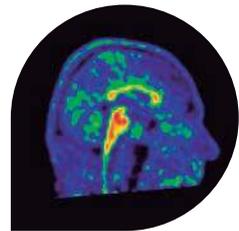
**May**  
Scientific findings

People most exposed to air pollution have greater brain atrophy and less cortical thickness in specific areas of the brain linked to Alzheimer's disease. We prove it in a new study.



**July**  
We listen to caregivers

Concerned about the possible worsening of dementia symptoms in those who suffer from it and about the well-being of their caregivers during confinement, we conducted a survey of caregivers in our therapeutic groups.



**August**  
We discovered a new risk factor

In our research center, we determined a new risk factor for developing the disease: proximity to the parental age of onset of Alzheimer's symptoms in women.

**March**  
We adapt to the new reality

With the emergence of Covid-19, we promoted in our blog a series of articles with tips to manage the health crisis situation with people with Alzheimer's and we continue to accompany affected families through virtual therapeutic groups.



**July**  
The peseta returns

We give the peseta a Last Mission. We collect forgotten pesetas in the drawers of thousands of homes in the country to transform them into research.



**July**  
We demand the protection of people with dementia

We urge the Government to prioritize the care of people in situations of fragility or dependency, as well as to provide resources for research on Alzheimer's and other dementias, in to the non-permanent Commission for Social and Economic Reconstruction of the Congress of Deputies.





**September**  
**We listen to society**

Alzheimer's equals cancer as **the disease of greatest concern**: we published data on the survey "Attitudes and perceptions of the Spanish population on Alzheimer's disease".



**November**  
**Advancement in early detection**

A new finding brings us closer to the early detection of Alzheimer's through a **simple blood test**. New markers for the tau protein are able to detect the preclinical phase of Alzheimer's disease in blood and cerebrospinal fluid.



**November**  
**Commitment and cooperation**

We joined the board of directors of the **Catalan Coordinator of Foundations (CCF)**.



**December**  
**For the promotion of science**

We adhere to the **Pact for Science and Innovation** promoted by the Government to increase resources, reinforce the role of funding agencies and attract and retain talent from the world of science, and to the State Board for the Rights of the Elderly.

**September**  
**European recognition**

One of our researchers, Dr. Marc Suárez-Calvet, obtained the prestigious **European grant "ERC Starting Grant"** to identify blood factors that rejuvenate the brain.



**October**  
**The festival of the brain**

We celebrate the 3rd edition of the **Brain Film Fest**, the international festival of cinema about the brain, with the participation of Viggo Mortensen.



**November**  
**We disseminate knowledge**

We promote the **"Remember"** series of talks to inform about Alzheimer's research, offer advice for people living with the disease and answer questions from our partners and followers.



**December**  
**The power of music**

The **"Life Soundtrack"** project unites, for yet another year, young people and people with dementia through music.



# 1.03

## The year in figures

Aggregated data from the Pasqual Maragall Foundation and the Barcelonaβeta Brain Research Center.

The annual accounts of the two entities are audited by an independent auditing

### Budget



Budget

€ **11,565,308**

Pasqual Maragall Foundation

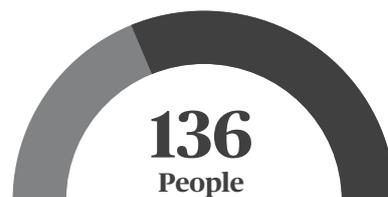
€ **7,241,947**

BBRC Research Center

€ **4,323,361**



### Human team



Pasqual Maragall Foundation



BBRC Research Center



# 2020

## Divulagation



**1,750**

Appearances in the media



**+ 73,000**

Followers on social networks



**+ 1,347,000**

Visits to the Blog "Let's talk about Alzheimer's"

**19**

Therapeutic groups in Barcelona, Girona, Lleida, Tenerife, Seville, Alcalá de Henares, Madrid, Vigo and Valencia



**158**

Participating caregivers



**207**

Individual telematic emotional support interventions

## Investigation



**+1,300**

Visits to participants



**+ 4,600**

Samples processed



**+ 600**

Magnetic resonances

## Social support



**41,290**

Members at the end of the year



**+ 2,700**

Donations



**82**

Solidarity initiatives



# cre dibi lity.

## **Scientific rigor and expert knowledge in everything we do.**

At the Barcelonaβeta Brain Research Center (BBRC) we are dedicated to Alzheimer's prevention research. Thanks to the experience, rigor and high competence of our scientific team, we are contributing new knowledge to one day be able to prevent, or at least delay, the onset of the disease.

# 02.

# 2.01

## Figures



**+ 4,600**

Samples processed



**+ 1,300**

Visits to participants\*



**+ 600**

Magnetic resonances



The COVID-19 pandemic forced us to suspend the visits of our scientific projects for 3 and a half months, coinciding with the period of strict confinement.

In July, they gradually resumed incorporating security protocols and prevention of COVID-19, extending the time of the sessions.

As a consequence, the number of visits to participants in 2020 is significantly lower than in previous years.



**15**

Study protocols



**27.8 %**

Nursing sessions



**25.8 %**

Cognition sessions



**46.4 %**

Clinical sessions

\*In the same visit the participants can carry out different sessions.

# 2.02

## Alfa Study

**2.700**  
Participants

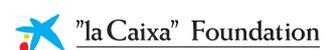
The **Alfa Study** is a research platform dedicated to the early detection and prevention of Alzheimer's disease, which stands out internationally for its number of participants and the large volume of information available to them. Launched in 2013 thanks to the encouragement of the "la Caixa" Foundation, it is made up of **more than 2,700 participants without cognitive alterations**, between 45 and 75 years old, most of whom are sons and daughters of people with Alzheimer's. Its objective is to collect information that allows the **identification of biomarkers and risk factors** to understand the natural history of Alzheimer's disease and to design prevention strategies.

In the first visit of the Alpha Study, the participants provided their medical history and performed a series of cognition and nursing tests, completed lifestyle questionnaires, and had blood drawn to obtain information on their APOE gene genotype.

The participants were later invited to participate in research projects, such as Alpha +, which also included other additional tests such as positron emission tomography (PET), lumbar puncture, magnetic resonance imaging or olfaction test.

The exhaustive characterization of the participants through periodic testing is what makes the Alpha Study a valuable research infrastructure for conducting prevention clinical trials. BBRC researchers publish numerous relevant advances in prestigious scientific journals thanks to the exploitation of the data generated through the study.

The Alfa Study  
is supported by:



# 2.03

## Alzheimer's prevention program



Discover the projects in which the BBRC researchers were immersed during confinement, with the video series #laCienciaNoPara



The BBRC Alzheimer's Prevention Program is divided into two research groups: the **Neuroimaging group**, led by Dr. Juan Domingo Gispert, and the **Clinical Research, Biomarkers and Risk Factors group**, led by Dr. José Luis Molinuevo until October 2020. The Program closed the year with 19 researchers on staff.

The Program's research focuses on the prevention of Alzheimer's and healthy aging from a clinical, cognitive, genetic, fluid marker and neuroimaging perspective. The focus of study is on the preclinical phase of the disease, which includes a period of up to 20 years prior to the appearance of the first clinical symptoms, in which certain changes in the brain associated with Alzheimer's already occur.

Despite the emergence of COVID-19 and the temporary suspension of visits to participants in the Alfa Study and other projects, the scientific production of the BBRC was not affected.

The researchers continued to publish results, participate in the main scientific conferences virtually, and obtain highly competitive scholarships and projects. In addition, they were able to continue analyzing data remotely, thanks in part to the digitization process that the center has led in recent years.

### 1

## Neuroimaging Research Group

The **Neuroimaging Research Group** specializes in the analysis of Magnetic Resonance Imaging and Positron Emission Tomography (PET) images to reveal brain characteristics related to healthy aging and risk factors for Alzheimer's disease. The team is led by **Dr. Juan Domingo Gispert**, and made up of experts in the acquisition, processing and analysis of neuroimaging data.

In addition to the studies led by the BBRC, during 2020 it actively collaborated with the European consortium EPAD and AMYPAD, the Cardiovascular Research Center (CNIC), the Polytechnic University of Barcelona (UPC), the Barcelona Supercomputing Center (BSC-CNS), and the Center for Genomic Regulation (CRG), among others.



# 2.03



**The aim of the group is to reveal brain characteristics that can be suggestive of novel prevention strategies.**

## Lines of investigation



- › Correlations between brain structure and risk factors for Alzheimer's in the preclinical phase of the disease.
- › Improving the use of amyloid PET images in clinical and research settings.
- › Genetic determinants of brain phenotypes.
- › New techniques for detecting the preclinical phase of Alzheimer's disease.
- › Generation of a repository of images of the preclinical phase of Alzheimer's disease.

## 2

### Clinical Research Group, Biomarkers and Risk Factors



The **Clinical Research Group, Biomarkers and Risk Factors** analyzes the biological processes that precede the onset of the symptomatic phases of Alzheimer's, in order to be able to design programs aimed at people at risk of suffering from the disease in order to stop or at least delay the incidence of cognitive decline and, lastly, dementia.

The research group is made up of a team of experts in the field of Alzheimer's disease pathophysiology, biomarkers, genetics, neuropsychological evaluation, and lifestyle habits and risk factors for the disease.

The members of the group collaborate on multiple projects with other research teams from the Alzheimer's Association network, the EPAD consortium, the University of Göteborg, the Barcelona Institute for Global Health (ISGlobal), the Hospital del Mar Medical Research Institute (IMIM) and the August Pi i Sunyer Biomedical Research Institute (IDIBAPS), among others.

# 2.03

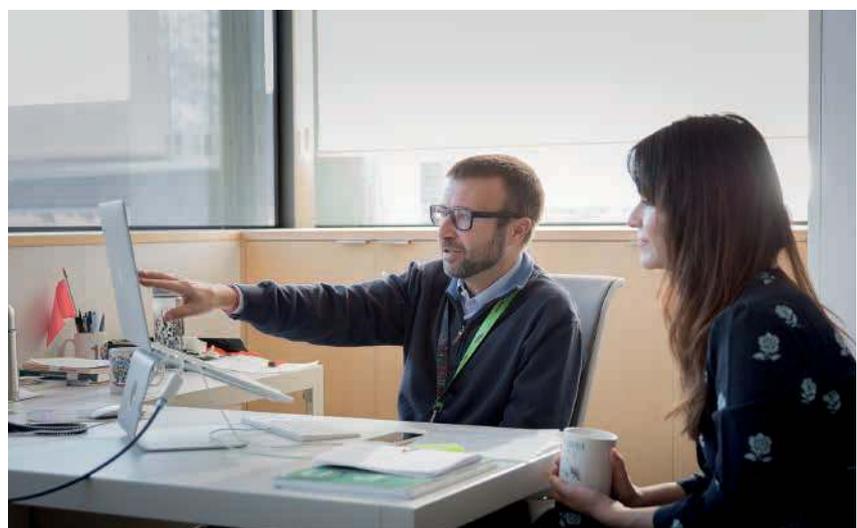


**The aim of the group is establishing prevention programs for people who have no symptoms but are at risk of developing the disease.**

## Lines of investigation



- Association between subjective cognitive impairment and brain changes and objective cognitive performance.
- Association between sleep disorders, cognitive impairment and Alzheimer's disease.
- Analysis and development of fluid biomarkers of the preclinical phase of Alzheimer's.
- Study of the personalized risk of developing dementia to offer personalized prevention plans.
- Role of vascular risk factors in the pathophysiology of Alzheimer's.
- Epidemiological studies on the role of pollution, anxiety, depression and other factors in Alzheimer's.
- Effects of confinement due to the COVID-19 pandemic on mental and brain health.
- Effect of dietary intake of omega-3 fatty acids in the preclinical phase of Alzheimer's.
- Multimodal interventions for the prevention of cognitive impairment.
- Study of reserve, resilience and lifestyle to understand brain mechanisms and risk factors that make some people resilient to disease.



# 2.04

## Research projects



**The HeBe project receives funding from the European Research Council within the framework of the European Union's Horizon 2020 research and innovation program.**



1

### HeBe



**HeBe** is a new research project that will start in 2021, led by Dr. Marc Suárez Calvet, under the umbrella of the prestigious European ERC Starting Grant. Named after the Greek goddess of eternal youth, it has an expected duration of 5 years.

Although we know that aging is the main risk factor for the development of Alzheimer's and other neurodegenerative diseases, the mechanisms behind this association are still unknown. The main objective of **HeBe** is to investigate these mechanisms by **identifying brain rejuvenation factors in the blood to use them as therapeutic targets for Alzheimer's disease.**

To identify these blood factors, the researchers will determine the biological age of the Alpha Study participants, and will analyze whether there are blood factors that differ among participants with extreme biological ages; that is, participants with much lower biological ages versus those with much higher biological ages than their chronological ages. HeBe's main hypothesis is that there are **factors in the blood** that explain the differences between biological and chronological age.

2

### Study on the Impact of home confinement during the Covid-19 pandemic on the brain and mental health



In 2020, a new study was launched to analyze the **effects of confinement on mental and brain health**, as well as other factors that mitigate its impact. The project was joined by more than **900 BBRC participants** without cognitive alterations, between 45 and 75 years old and descendants, most of them, of people with Alzheimer's.

Participants completed a series of online questionnaires during confinement and will do so again about 18-24 months later so researchers can assess outcomes related to anxiety, depression, and post-traumatic stress disorder.

This project aims to detect if there are brain changes related to Alzheimer's disease and to study the impact of confinement in people in the Alpha study, with special emphasis on those who are caring for a family member with dementia or other diseases that imply dependency or special needs.

# 2.04



**Alfa Sleep is funded by the Alzheimer's Association and the Carlos III Health Institute.**

alzheimer's association



Instituto de Salud Carlos III

## 3

### Alfa Sleep



**Alfa Sleep** is a new study that will deepen the relationship between insomnia and Alzheimer's. The project contemplates visiting **200 participants** starting in 2021, and has an expected duration of 2 years.

In the study, polysomnographies will be performed, actigraphs will be used and the levels of the neuropeptide orexin, key in sleep regulation, will be analyzed. These tests, together with others carried out in the Alfa + study, provide very precise and reliable objective data to study the association between different sleep parameters, biochemical changes, and changes in brain structure and functionality.

**The visits will start in 2021.**

## 4

### Alfa+



**Alfa+** is a prospective, observational cohort study for the early identification of biomarkers associated with the preclinical phase of Alzheimer's disease, prior to the symptomatic phases of the disease. In 2020, 584 visits to this study were carried out at the BBRC facilities.

Some **420 people** without cognitive impairment participate in the project and every three years different tests are carried out, such as cognitive tests, extraction of cerebrospinal fluid by lumbar puncture, nursing tests and two MRIs. Participants are also invited to undergo PET tests at the facilities of the Hospital Clínic de Barcelona.

**420**  
Participants



# 2.04

5

## Alfa Genetics



**Its objective is to improve the knowledge of the molecular bases of Alzheimer's and identify new markers and risk factors.**



**Alfa Genetics** is a cross-sectional study designed to broaden the **cognitive, genetic and brain characterization** of the participants in the Alfa Study. Its objective is to improve the knowledge of the molecular bases of Alzheimer's and identify new markers and risk factors to be able to detect the disease early.

Tests performed on the nearly **1,700 study participants** include an MRI, an odor identification test, a blood draw, and an update of medical history and cognitive tests.

In this way, the aim is to identify brain patterns associated with genetic variants related to the risk of developing Alzheimer's.

The visits to this study ended in 2019, and throughout 2020 the data collected continued to be analyzed to publicize the main results of the study.



# 2.04



**Bio Alfa has been led by Dr. Marc Suárez-Calvet, and funded by the Marie Skłodowska-Curie grant number 752310, within the framework of the European Union's Horizon 2020 research and innovation program.**

**The Blood and Tissue Bank, the Walnuts Study of the Barcelona Global Health Institute and the "la Caixa" Foundation, which supports the Alfa+ Study, have also collaborated in the project.**



## 6

### Bio Alfa



The **Bio Alfa** project aims to investigate whether certain blood factors that have been associated with aging or brain rejuvenation in mice can become potential therapeutic targets to combat Alzheimer's disease and other dementias in humans. Since it was launched in 2018, researchers have studied these factors in blood samples from participants of extreme ages, and

have measured them in **400 blood samples** from participants in the Alfa+ cohort.

In 2020 the study completed its main objective, that of measuring blood factors related to aging and brain rejuvenation, and the data is in the process of analysis to lead to the publication of the main results throughout 2021.

The line Research on these blood factors started in the Bio Alfa project will continue with the HeBe project.



# 2.04



The study analyzes the relationship between the subjective perception of cognitive decline and the presence, evolution or risk of clinically objective cognitive impairment.

7

## Alfa Cognition



**Alfa Cognition** is an observational and prospective study that **analyzes the relationship between the subjective perception of cognitive decline** and the presence, evolution or risk of clinically objective cognitive impairment.

It also analyzes the relationship between these parameters and the brain changes associated with Alzheimer's disease.

**200 people** participated in the study, performing neurological, neuroimaging, cognitive and lifestyle tests, and a blood draw. In 2020 there were 75 visits to this study.

8

## Clinical Research Unit in Dementia Prevention



The **Clinical Research Unit in Dementia Prevention** is a project that studies the risk and biological bases of developing dementia five years from now. The study offers participants a personalized action plan to try to reduce their risk.

The study incorporates a total of about **300 participants** between the ages of 60 and 80 who are experiencing a decline in their cognitive abilities.

In 2020, a total of **608 visits** were made to study participants and, of these, 13 completed the program, which consists of a follow-up of approximately one year.



**300**  
Participants

# 2.04

9

## PENSA Study



**The PENSA Study is part of the international consortium World Wide FINGERS, an initiative dedicated to promoting projects for the primary prevention of cognitive impairment and dementia.**

**The project is funded with a million dollars by the Alzheimer's Association of the United States.**



The **PENSA** study is a clinical trial that aims to study whether it is possible to slow down cognitive deterioration in stages prior to the onset of dementia through the promotion of healthy lifestyle habits and the intake of epigallocatechin gallate (EGCG), a component natural green tea.

The project is led by the BBRC and the Hospital del Mar Medical Research Institute (IMIM), and was launched in December 2019 with an expected duration of 17 months. In 2020, a total of **358 participants** were recruited, of which about 50 began visits at the BBRC.

The participants are people between 60 and 80 years old who are experiencing a decline in memory or other cognitive abilities such as attention, planning capacity or orientation, among others.

Through a personalized action plan based on lifestyle habits and health indicators, during the course of the study, participants will be helped to carry out appropriate changes to try to reduce the risk of cognitive impairment.



# 2.05

## International consortia



**The program is funded by the Alzheimer's Drug Discovery Foundation.**



1

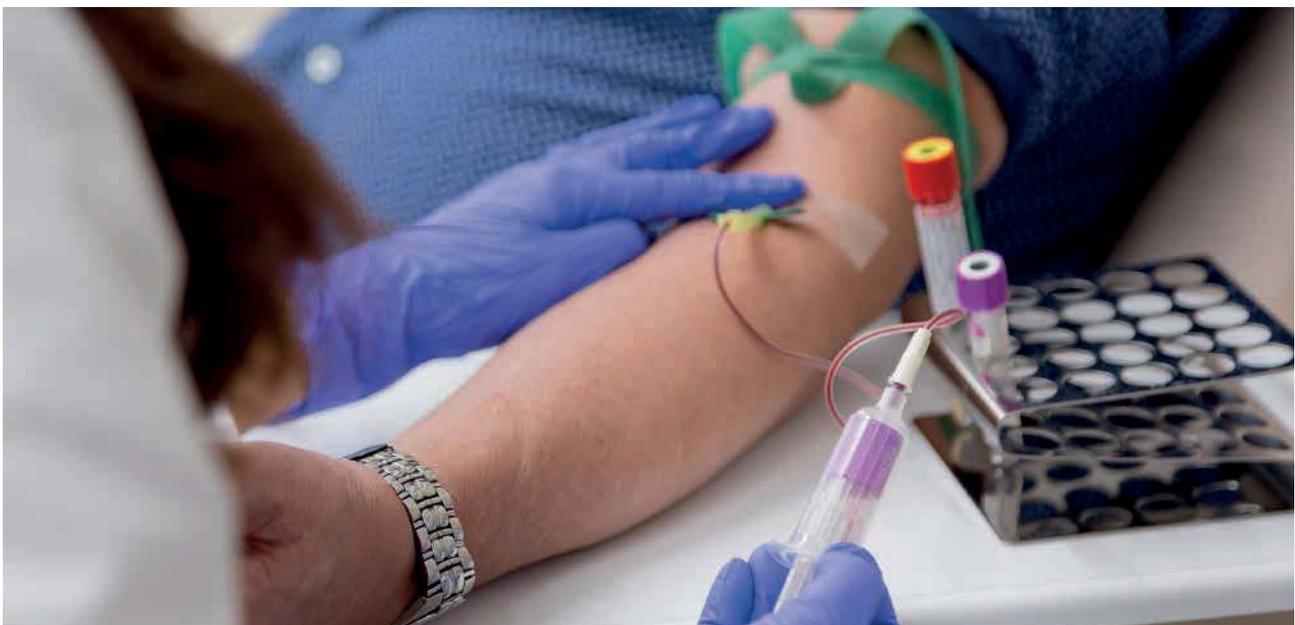
### Blood tests to detect amyloid pathology



Researchers from the University of Göteborg, the University of Lund, Roche Diagnostics International and the BBRC launched the project 'Fully automated plasma assays as screening tests for Alzheimer-related amyloid beta (A $\beta$ ) pathology' in March. Its objective is **to develop a detection and triage** algorithm based on blood biomarker analysis to detect amyloid pathology.

The new system will be designed so that it can be implemented in primary care centers, and to identify individuals with brain amyloid pathology.

Their method will be tested in cohort study participants from BBRC, the Swedish BIOFINDER cohort, and 15 healthcare centers in Sweden.



# 2.05



**EPAD was funded by Grant Number 115736 from the Innovative Medicines Initiative, which is a joint initiative of the European Commission Horizon 2020 research and innovation program and the European Federation of Pharmaceutical Industries and Associations (EFPIA).**



## 2

### EPAD



2020 was the closing year of one of **the most ambitious and funded projects in the field of Alzheimer's prevention research in the world:** the European Prevention of Alzheimer's Dementia Consortium (EPAD).

After 5 years, the consortium has managed to make available to the scientific community a set of carefully characterized data to expand the knowledge of the earliest stages of Alzheimer's disease.

The EPAD database contains clinical, cognitive, neuroimaging and biomarker information on 2,096 participants

from various centers across Europe, including 205 non-cognitively impaired individuals from the BBRC Alfa Study.

The Barcelonaβeta Brain Research Center has served as Iberian Lead and has managed to be the number one country in recruitment capacity. Thanks to the collaboration of BBRC, Hospital Clínic de Barcelona, Fundación CITA and Fundación ACE, almost 25% of the participants in the EPAD study have been recruited.

The consortium has been made up of 38 European institutions, coming from research centers, universities, European pharmaceutical laboratories and patient associations.

**More information: [www.ep-ad.org](http://www.ep-ad.org)**

# 2.05



**AMYPAD is funded by grant number 115952 from program 2 of the Innovative Medicines Initiative, which is a joint initiative of the European Commission Horizon 2020 research and innovation program and the European Federation of Pharmaceutical Industries and Associations (EFPIA).**



3

## AMYPAD



The **Amyloid Imaging to Prevent Alzheimer's Disease (AMYPAD)** project is a European collaboration to improve the understanding, diagnosis and treatment of Alzheimer's through the use of brain amyloid PET. The consortium is made up of 17 European institutions, including the BBRC and other research centers, industry, and associations of people and their families with Alzheimer's.

AMYPAD closed the recruitment of its diagnostic study in October, which aims to determine the value of amyloid PET as a diagnostic and therapeutic marker. 844 people from all over Europe participated in this study, of which 101 are BBRC participants.

On the other hand, the consortium also has a prognostic study underway to better understand the natural history of the disease, which had **754 participants** at the close of 2020, of which 176 are from the BBRC.

Overall, in 2020, 219 visits for the diagnostic study and 67 for the prognostic study were carried out in Barcelona.

**More information:**  
<https://amypad.eu/>

4

## TRIBEKA



**TRIBEKA** is an initiative of the Barcelonaβeta Brain Research Center and the University of Edinburgh, promoted to identify brain alterations prior to the onset of symptoms of Alzheimer's disease and other neurodegenerative diseases.

The platform has made available to the scientific community a neuroimaging database with widely characterized information on healthy middle-aged people, with the aim of advancing in the design of treatments against the disease. The information is accessible through the website of the Global Alzheimer's Association Interactive Network (GAAIN).

**TRIBEKA is funded by the Alzheimer's Association and an international charitable foundation.**



# 2.06

## Clinical trials



**In 2020 there were also follow-up visits to the Novartis and Amgen Generation I and Generation II clinical trials, discontinued in 2019.**

**1**

### AB1601



The objective of **AB1601**, led by the pharmaceutical company of Grifols Araclon Biotech, is to evaluate the efficacy, safety, tolerability and immune response of the drug ABvac40 in people between 55 and 80 years of age with mild amnesic cognitive impairment or in very early stages of the disease.

The **200 study participants** will undergo tests such as Positron Emission Tomography (PET), brain MRI and cognitive tests, among others, in mostly Spanish centers, but also in France, Italy and Sweden.

**200**  
Participants



# 2.07

## Publications



In 2020, BBRC researchers published 66 articles, mainly in prestigious leading scientific journals in the field of Alzheimer's and neurodegenerative diseases.



93.9%  
Q1

85.5%  
D1

### Most outstanding publications:

Grau-Rivera O, Operto G, Falcón C, Sánchez-Benavides G, Cacciaglia R, Brugulat-Serrat A, Gramunt N, Salvadó G, Suárez-Calvet M, Mingui-lon C, Iranzo Á, Gispert JD, Molinuevo JL; ALFA Study. **Association between insomnia and cognitive performance, gray matter volume, and white matter microstructure in cognitively unimpaired adults.** *Alzheimers Res Ther.* 2020 Jan 7;12(1):4.

Wang H, Li T, Barbarino P, Gauthier S, Brodaty H, Molinuevo JL, Xie H, Sun Y, Yu E, Tang Y, Weidner W, Yu X. **Dementia care during COVID-19.** *Lancet.* 2020 Apr 11;395(10231):1190-1191.

Crous-Bou M, Gascon M, Gispert JD, Cirach M, Sánchez-Benavides G, Falcon C, Arenaza-Urquijo EM, Gotsens X, Fauria K, Sunyer J, Nieuwenhuijsen MJ, Luis Molinuevo J; ALFA Study. **Impact of urban environmental exposures on cognitive performance and brain structure of healthy individuals at risk for Alzheimer's dementia.** *Environ Int.* 2020 May;138:105546.

Schindler SE, Jicha GA, Nelson PT, Keene CD, Blennow K, Molinuevo JL, Masters CL, Hansson O, Teunissen CE, Galasko D, Shaw LM, Levey AI, Silverberg N. **Maximizing Safety in the Conduct of Alzheimer's Disease Fluid Biomarker Research in the Era of COVID-19.** *J Alzheimers Dis.* 2020;76(1):27-31.

# 2.07

## Publications

Cacciaglia R, Molinuevo JL, Falcón C, Arenaza-Urquijo EM, Sánchez-Benavides G, Brugulat-Serrat A, Blennow K, Zetterberg H, Gispert JD; ALFA study. **APOE- $\epsilon$ 4 Shapes the Cerebral Organization in Cognitively Intact Individuals as Reflected by Structural Gray Matter Networks.** *Cereb Cortex*. 2020 Jun 1;30(7):4110-4120.

Milà-Alomà M, Salvadó G, Gispert JD, Vilor-Tejedor N, Grau-Rivera O, Sala-Vila A, Sánchez-Benavides G, Arenaza-Urquijo EM, Crous-Bou M, González-de-Echávarri JM, Minguillon C, Fauria K, Simon M, Kollmorgen G, Zetterberg H, Blennow K, Suárez-Calvet M, Molinuevo JL; ALFA study. **Amyloid beta, tau, synaptic, neurodegeneration, and glial biomarkers in the preclinical stage of the Alzheimer's continuum.** *Alzheimers Dement*. 2020 Oct;16(10):1358-1371.

Arenaza-Urquijo EM, Salvadó G, Operto G, Minguillón C, Sánchez-Benavides G, Crous-Bou M, Grau-Rivera O, Sala-Vila A, Falcón C, Suárez-Calvet M, Zetterberg H, Blennow K, Gispert JD, Molinuevo JL; ALFA Study. **Association of years to parent's sporadic onset and risk factors with neural integrity and Alzheimer biomarkers.** *Neurology*. 2020 Oct 13;95(15):e2065-e2074.

Sánchez-Benavides G, Salvadó G, Arenaza-Urquijo EM, Grau-Rivera O, Suárez-Calvet M, Milà-Alomà M, González-de-Echávarri JM, Minguillon C, Crous-Bou M, Niñerola-Baizán A, Perissinotti A, Gispert JD, Molinuevo

JL; ALFA Study. **Quantitative informant and self-reports of subjective cognitive decline predict amyloid beta PET outcomes in cognitively unimpaired individuals independently of age and APOE $\epsilon$ 4.** *Alzheimers Dement (Amst)*. 2020 Nov 11;12(1):e12127.

Suárez-Calvet M, Karikari TK, Ashton NJ, Lantero Rodríguez J, Milà-Alomà M, Gispert JD, Salvadó G, Minguillon C, Fauria K, Shekari M, Grau-Rivera O, Arenaza-Urquijo EM, Sala-Vila A, Sánchez-Benavides G, González-de-Echávarri JM, Kollmorgen G, Stoops E, Vanmechelen E, Zetterberg H, Blennow K, Molinuevo JL; ALFA Study. **Novel tau biomarkers phosphorylated at T181, T217 or T231 rise in the initial stages of the preclinical Alzheimer's continuum when only subtle changes in AB pathology are detected.** *EMBO Mol Med*. 2020 Dec 7;12(12):e12921.

Skouras S, Torner J, Andersson P, Koush Y, Falcon C, Minguillon C, Fauria K, Alpiste F, Blennow K, Zetterberg H, Gispert JD, Molinuevo JL; ALFA Study. **Earliest amyloid and tau deposition modulate the influence of limbic networks during closed-loop hippocampal downregulation.** *Brain*. 2020 Mar 1;143(3):976-992.

# 2.08

## Dissemination of results

1

### Relationship between insomnia and changes in brain structure and cognition



In January 2020 we published the results of a study that indicates that people with insomnia have poorer cognitive performance and lower volume in brain regions affected in the early stages of Alzheimer's.

The research, involving **1,683 cognitively healthy adults** from the Alpha Study, opens the door to comprehensively analyze the relationship between sleep quality and Alzheimer's risk.

► Changes in brain structure in people with insomnia.

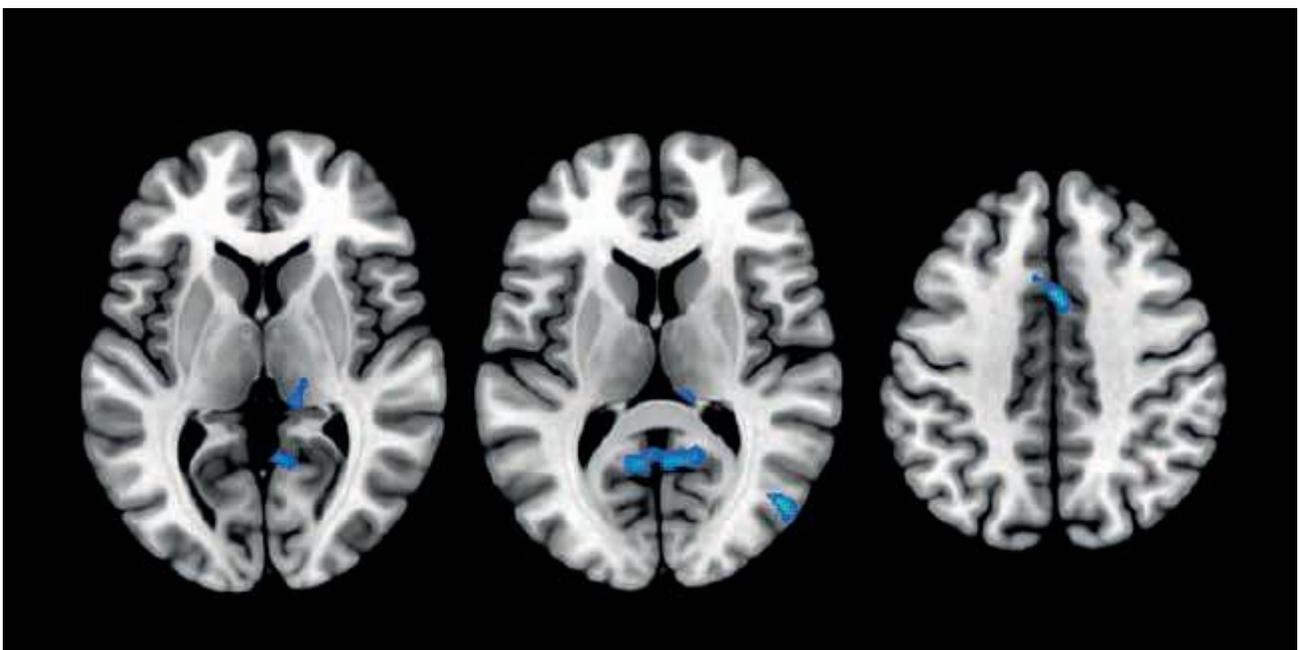
2

### Air pollution causes damage to brain areas linked to Alzheimer's



In May 2020 we established, in collaboration with the Barcelona Institute for Global Health, that people most exposed to environmental pollution have brain alterations in regions affected by Alzheimer's disease.

On the other hand, we also detected that a greater exposure to green areas is beneficial, since it helps to generate more resilience to the disease. We carried out the research with **958 participants** from the Alfa Study.



# 2.08

► Main researchers of the study about the proximity to parental age at onset of Alzheimer's as a risk of developing the disease.



**290**  
Participants

3

## Proximity to parental age at the onset of Alzheimer's as a risk factor



In August 2020 we detected that the proximity to the parental age of onset of Alzheimer's symptoms is related, in women, to a greater accumulation of beta-amyloid protein, responsible for the characteristic lesions of the disease. The research results also pointed out that people who have suffered episodes of anxiety or depression in the past have greater atrophy of the hippocampus, a brain structure that is affected by Alzheimer's in the early stages of the disease.

The study, carried out on **290 participants** in the Alfa Study, will improve the selection of participants in prevention clinical trials in the future.

4

## New biomarkers to detect the preclinical phase of Alzheimer's



In November 2020, we announced the results of a new international study led by the BBRC in which we revealed that a series of biomarkers, both from cerebrospinal fluid and blood, previously described to detect the most advanced stage of Alzheimer's, can also detect the stage preclinical disease.

The results point to the potential role of tau protein as a therapeutic target for the prevention of dementia associated with Alzheimer's, and will also allow to improve the selection of participants in clinical trials of the disease. The research was conducted on **381 participants** in the Alfa+ Study.

# 2.09

## Scholarships and competitive grants

The BBRC obtained in 2020 a total of **6 grants to carry out scientific projects**. Obtaining these funds guarantees the rigor, excellence, competitiveness and innovative nature of the center's research, and allows us to advance in the prevention of Alzheimer's disease.



### List of grants awarded:

- 1. ERC Starting Grant. European Research Council.**  
**Dr. Marc Suárez-Calvet.**

The European Research Council (ERC) awarded an ERC Starting Grant to Dr. Marc Suárez-Calvet, a neurologist and researcher at the BBRC, to lead the HeBe project. The grant is endowed with **1,498,915 euros** for the next five years.

The ERC Starting Grants are highly competitive and are aimed at researchers of excellence with postdoctoral experience of between 2 and 7 years, so that they can create their own research group and carry out cutting-edge research.



European Research Council

# 2.09

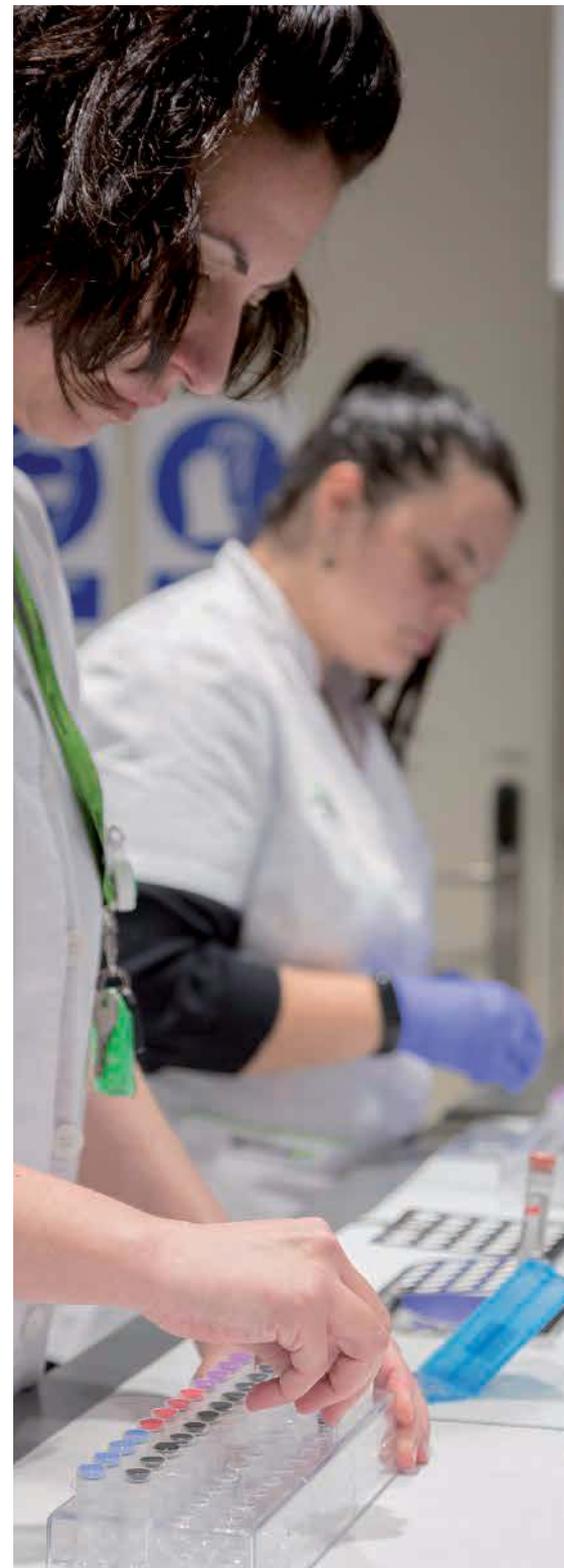


**Obtaining these funds guarantees the rigor, excellence, competitiveness and innovative nature of the center's research.**

## 6

Grants

2. **Diagnostics Accelerator - Digital Biomarkers. Alzheimer's Drug Discovery Foundation.**  
Dr. José Luis Molinuevo.
3. **EIT Digital 2021. EIT Digital.**  
Dr. Juan Domingo Gispert.
4. **R + D + I Projects 2019 - Modalities "Research Challenges". Ministry of Science and Innovation, Government of Spain**  
Dra. Eider M. Arenaza-Urquijo.
5. **Covid-19 Cohort in Spain: Social dynamics, mental health and inequalities. Fundación "la Caixa".**  
Dra. Eider M. Arenaza-Urquijo.
6. **Call for health promotion and support for patients and families: Beta-AARC project. Department of Health of the Generalitat de Catalunya.**



# 2.10

## Conferences

The COVID-19 pandemic also hit hard at the Alzheimer's disease scientific conferences, which each year bring together thousands of expert researchers in this field from around the world.

Although several conferences were canceled or postponed, many others quickly adapted to the situation and were held online.

### February 12 Madrid (Spain)

Participation of Dr. José Luis Molinuevo in the conference "Biomarkers in neurodegenerative diseases: present and future" at the Quirónsalud Madrid University Hospital.

### April 2 - 5

#### On line

Participación del Dr. Juan Domingo Gispert y el Dr. José Luis Molinuevo en el Congreso Internacional en Alzheimer y Parkinson (AD/PD).

### June 4

#### On line

Participation of Dr. José Luis Molinuevo in the webinar "Alzheimer al día" of the Spanish Society of Neurology.

### From June 23 to July 3

#### On line

Participation of Dr. José Luis Molinuevo in the conference "Brain Health Services" organized by the Hôpitaux Universitaires Genève and CHUV.

### June 26

#### On line

Participation of Dr. Juan Domingo Gispert in an update session of the Alfa Study in *Prevent Dementia*.

### January 15 - 17

#### Miami (United States)

Participation of Gemma Salvadó in the congress Human Amyloid Imaging

### January 30

#### Valencia (Spain)

Participation of Dr. José Luis Molinuevo in the 'Neuroimaging Update Day' of the Valencian Society of Neurology.



# 2.10



## The BBRC team of researchers presented more than twenty studies at the Alzheimer's Association International Conference 2020 .

### Congress of the Alzheimer's Association

The BBRC team of researchers presented more than twenty studies at the Alzheimer's Association International Conference 2020 between **2 outstanding research sessions, 4 oral presentations and 16 scientific posters**. The reference congress for Alzheimer's research was held for the first time virtually and free of charge, from **July 27 to 31, 2020**.

#### October 21 - 30

##### On line

Participation of Dr. Natàlia Vilor and Dr. Marta Crous in the annual congress of the Spanish Epidemiology Society.

#### October 22 - 30

##### On line

Participation of Dr. Juan Domingo Gispert and Mahnaz Shekari at the annual congress of the European Association of Nuclear Medicine (EANM).

#### October 26

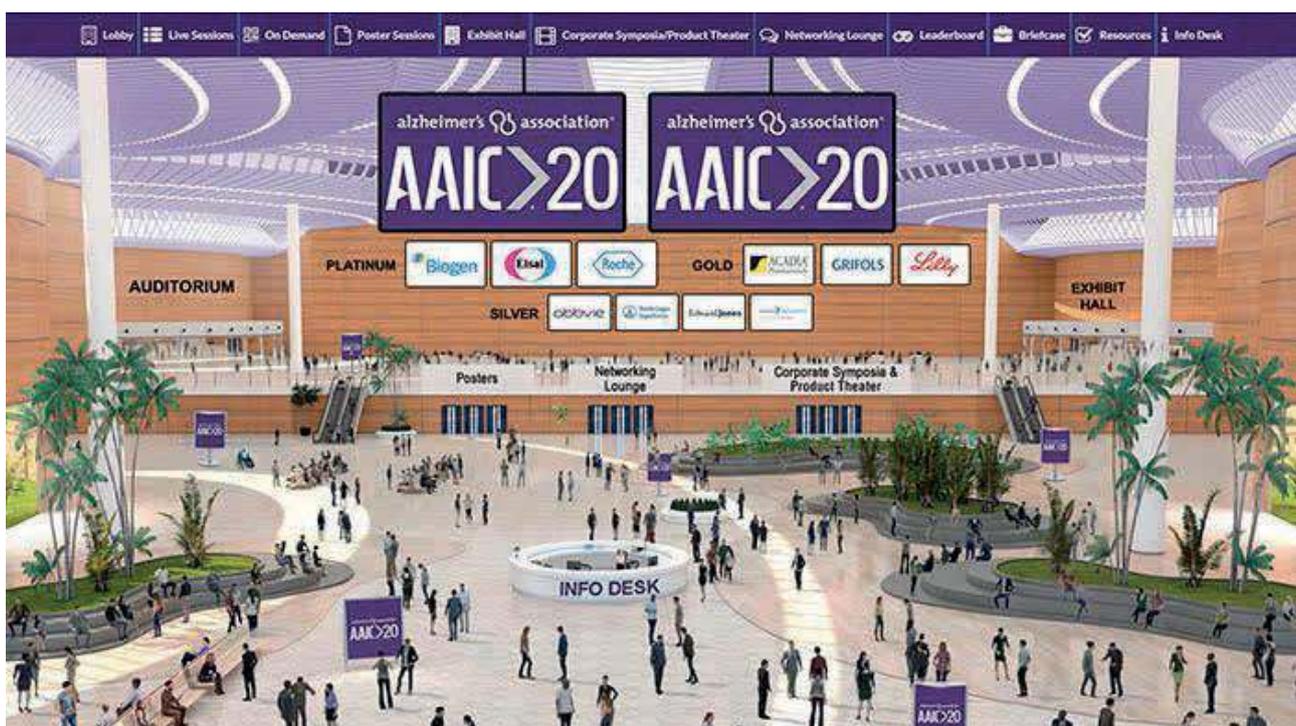
##### On line

Participation of Dr. Juan Domingo Gispert in the XXIV Annual Meeting of the Catalan Neurology Society.

#### November 17

##### On line

Participation of Dr. Juan Domingo Gispert in the XIV CIBER-BBN Annual Conference.





# trans forma tion.

**We seek solutions and explore new ways to create relevant results.**

We work to support families living with Alzheimer's through the therapeutic group program for caregivers. In 2020, despite the pandemic situation, the project continued to be adapted to the online format, and we offered caregivers an individual emotional support intervention service during the months of confinement.

In our blog we publish numerous articles with advice to face confinement and restrictions derived from COVID-19 with people with Alzheimer's. Likewise, we continue with our objective of changing the social perception of Alzheimer's through dissemination and awareness and by organizing talks, trainings and awareness actions.

# 03.

# 3.01

## Therapeutic groups



**Since the beginning of the program in 2013, 1,051 caregivers have participated in the 111 free therapeutic groups that have been carried out in centers throughout the Spanish geography.**

In 2020, the therapeutic groups program launched **19 new groups** with the participation of **158 caregivers** of people with Alzheimer's in Barcelona, Girona, Lleida, Tenerife, Seville, Alcalá de Henares, Madrid, Vigo and Valencia.

As a result of the health situation caused by Covid-19, the therapeutic groups were moved online in May. Likewise, during the period of home confinement, between March and June, **207 individual emotional support interventions** were carried out to caregivers electronically through phone calls, email and WhatsApp.

The program counted on the subsidy granted by the Ministry of Health, Social Services and Equality, charged to the income tax allocation, from the support of the Department of Labor, Social Affairs and Families of the Generalitat of Catalonia, charged to the allocation of 0,7% of personal income tax and financing from the Barcelona City Council, the Girona Provincial Council, "la Caixa" Foundation, Santalucía, the Adey Foundation and the Agbar Foundation.

**19**

**Therapeutic groups**



**158**

**Caregivers**

# 3.01

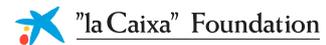


**The therapy sessions aim to improve the quality of life of caregivers, a fact that has a direct impact on the quality of care they provide and the well-being of the people with Alzheimer's in their care.**

Concerned about the possible worsening of dementia symptoms in those with Alzheimer's and about the well-being of their caregivers during confinement, in July we conducted a survey of caregivers in our therapy groups.

The results of the study indicate that the caregivers dedicated **4 more hours a day** to their relatives, with **18 hours a day** being the average time of their work, and 67% perceived a worsening of the general health of their relative with Alzheimer's during confinement.

The objective of therapeutic groups is to offer caregivers **a space in which to share experiences and acquire knowledge** and tools to improve the quality of care and the general well-being of caregivers.



With the support of:



# 3.02

## Awareness and outreach activities

1

### Attitudes and perceptions of the Spanish population about Alzheimer's



In September, the data from the survey “Attitudes and perceptions of the Spanish population about Alzheimer's disease”, carried out by the Pasqual Maragall Foundation, were published. The results reveal that 2 out of 3 Spaniards have or have had in their environment a person with Alzheimer's, and that this is the health condition that, along with cancer, worries the population the most.

This is the first state representative survey that offers a detailed view of the perceptions, knowledge and attitudes of the Spanish population regarding Alzheimer's and its research.

2

### September 21: a day to forget



On September 21, 2020, the Pasqual Maragall Foundation issued a position so that World Alzheimer's Day is **#undíaparaolvidar** (*a day to forget*). Only thanks to scientific research, such as that carried out by the BBRC, will we be able to find a cure for the disease.

21 DE SEPTIEMBRE  
**DÍA MUNDIAL  
 DEL ALZHEIMER**

#undíaparaolvidar



# 3.02

3

## We urge the Government to prioritize the protection of people in situations of dependency or fragility



In July, the Pasqual Maragall Foundation presented a proposal to the non-permanent Commission for Social and Economic Reconstruction of the Congress of Deputies to put at the center the protection and care of people in situations of fragility or dependency, who suffered the impact of the Covid-19 in an accused way.

It demanded the development of a new model of long-term care, at the residential and home level, and the provision of sufficient resources to research diseases such as Alzheimer's.

4

## We request that Alzheimer's and dementias be included in the new Euthanasia Law



Together with entities such as the Barcelona Association of Relatives of People with Alzheimer's (AFAB) or the Spanish Alzheimer's Confederation (CEAFA), the Pasqual Maragall Foundation presented in the Congress of Deputies the document "**On Alzheimer's disease and other dementias and the new euthanasia law**".

Before the beginning of the processing of the Proposal of the Organic Law for the Regulation of Euthanasia, entities and professionals related to Alzheimer's and dementias asked that Alzheimer's and other neurodegenerative diseases be considered in the new law, in addition to proposing various proposals for improvement.



# 3.02

5

## Blog “Let’s talk about Alzheimer’s”



The Pasqual Maragall Foundation wants to answer the questions about Alzheimer's that affected people, their caregivers, family members and the general public may ask. For this reason, in June 2017, he launched the blog “Let’s talk about Alzheimer’s”, with rigorous, accurate and updated information on Alzheimer's. The **medical website certification granted by the Barcelona College of Physicians** guarantees the quality of its contents. In 2020, **48 new articles** were published, reaching a total of **201**.

With the emergence of Covid-19, starting in March a series of **14 articles was launched with tips** for managing the health crisis situation with people with Alzheimer's.

Throughout the year there were nearly **1.4 million visits** to the blog.

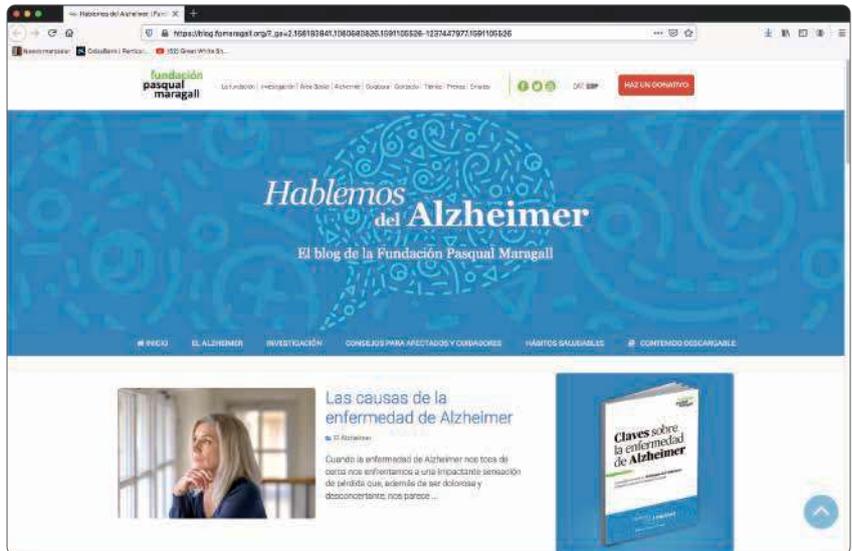
<https://blog.fpmaragall.org/>



**1.4 million visits**



**48 New articles**



# 3.02

## 6

### Project “Life Soundtrack”



In 2020 the Pasqual Maragall Foundation promoted a new edition of the “Life Sound-track” project.



Fourth-year ESO students (*end of Secondary*) participated who, after a training period, made personalized playlists with older people affected with cognitive impairment.

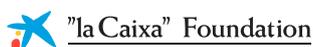
Despite the pandemic situation, the participants remained in contact during the confinement through an exchange of videos with messages of encouragement and video calls, and the project continued until October, when the young people delivered the playlists to each one of the older people.

The objective of the project is to value the **beneficial effects of music for emotional well-being**, promote knowledge and awareness of Alzheimer’s disease and work on intergenerational relationships.

Check the video about the project:



With the support of:



# 3.02



own channel, and four streaming sessions were broadcast. More than **250 short films** from all over the world participated in the contest for the IX Solé Tura Prize, finally awarded to the film *"The sense of cocoa"*. About 1,000 people registered for the sessions, which consisted of 34 screenings, post-screenings with directors and creators -with the intervention of the actor Viggo Mortensen-, round tables, conferences, workshops and a parallel exhibition.

7

## Third edition of the Brain Film Fest



From October 1 to 3, the Center for Contemporary Culture of Barcelona (CCCB) hosted the third edition of the **Brain Film Fest, of which the Pasqual Maragall Foundation is the promoter and co-organizer**. It is the only international film festival dedicated to showing and promoting the creation and dissemination of short films about any aspect of the brain, its incredible capacities or also its diseases.

In 2020, a new digital platform for the festival was launched, with a selection of 10 recommended films on Filmin's

8

## Cycle of talks "Remember"



On Thursday 5, 12 and 19 November, the cycle of online talks on Alzheimer's **"Remember"** took place, dedicated to the latest scientific advances in the field of prevention, as well as offering advice and recommendations for people living with it disease up close.

The meetings, which had **more than 1,800 registered and more than 600 live interactions**, had the participation of experts from the Pasqual Maragall Foundation and the BBRC, as well as voices from other organizations linked to the well-being of the elderly and Alzheimer's.



**In 2020, a new digital platform for the festival was launched, with a selection of 10 recommended films on Filmin's own channel, and four streaming sessions were broadcast.**

# 3.02



► The Foundation's director, Arcadi Navarro, with the Minister of Science and Innovation, Pedro Duque, at the official presentation of the Pact.

## 10

### Pact for Science and Innovation



In November 2020, the Pasqual Maragall Foundation joined the **Pact for Science and Innovation** promoted by the Government of Spain.

The document represents an agreement between civil society and the government to increase resources, strengthen the role of financial agencies, and attract and retain talent.

Taking advantage of the occasion that the pact offered, the Foundation urged the Ministry of Science and Innovation to develop concrete actions and to effectively promote a more efficient public-private collaboration.

## 9

### State Board for the Rights of the Elderly



In December 2020, the Pasqual Maragall Foundation joined the **State Table for the Rights of Older Persons to defend the dignity and rights of this group**. The Table, made up of the main third sector entities related to older people, was created in 2013 to join the movement in 57 countries to demand a United Nations Convention for the Human Rights of Older People. The incorporation involved holding about twenty meetings with entities in the field of older people and with political representatives.



**The Table was created in 2013 to join the movement in 57 countries to demand a United Nations Convention for the Human Rights of Older People.**

# 3.02



## 54.000

conversations  
at street level



### 11

## Signature campaign “Sign for a future without Alzheimer’s”



The Pasqual Maragall Foundation continued to promote the campaign “Sign for a future without Alzheimer’s disease”, during 2020. The initiative, which has been in operation since 2017, aims to involve society in the search for solutions to Alzheimer’s disease and to raise awareness in the competent institutions make disease investigation a priority.

Throughout the year about **100,000 people** joined the initiative, adding a total of more than **470,000 signatures** since the beginning of the campaign.

### 12

## The Last Mission of the Peseta



It is estimated that in Spanish households there are still 1,600 million euros in pesetas without exchange. In 2020, the deadline to change them to euros was expected to end and, for this reason, the Pasqual Maragall Foundation gave the peseta a Last Mission: to contribute to Alzheimer’s research.

The campaign “The last mission of the peseta” was launched in July with the aim of collecting these coins from Spanish households to use them for research projects against Alzheimer’s at the BBRC.

### 13

## Awareness at street level



In 2020, informants from the Pasqual Maragall Foundation held conversations with a total of **54,000 people** on the streets of various cities in Spain about the Foundation’s projects to promote research on the disease.



# 3.02

14

## Talks, seminars and conferences



### January 14

Talk “Can Alzheimer’s be prevented?” by Dr. Nina Gramunt at the Sant Climent de Llobregat Town Hall.

### February 12

Talk “When you take care of yourself, Alzheimer’s takes a step back” by Dr. Nina Gramunt at La Mútua de Granollers.

### February 19

Informative talk about Alzheimer’s disease to high school students at the Biomedical Research Park (BBRC).

### April 30

Online talk about Alzheimer’s and its prevention by Dr. Nina Gramunt in the framework of “The Safety and Health Week” of Cementos Molins.

### June 15

“Online meeting for caregivers of relatives with Alzheimer’s” by Dr. Sandra Poudevida and Glòria Mas.

### July 8

Online talk “Alzheimer’s in times of pandemic: scientific news and social action” by Dr. Nina Gramunt and Dr. Gonzalo Sánchez-Benavides at the Catalan Neurology Society.

### September 16

Online talk “Legal tools in Alzheimer’s disease” co-organized with the College of Notaries of Catalonia by Dr. Sandra Poudevida and the notary Albert Domingo.

### September 21

Online talk by Dr. Nina Gramunt about Alzheimer’s prevention at the Work Café Santander in Bilbao, within the framework of World Alzheimer’s Day and within the Smart Talks in Open cycle of Banco Santander.

### October 2

Conversations “Alzheimer’s and caregivers: challenges and perceptions” and “The strength of optimism”, with the participation of Dr. Nina Gramunt, and round table “The value of caring”, by Dr. Sandra Poudevida, in the context of the Brain Film Fest.



# 3.02

**October 14**

Training for high school students on Alzheimer's by Dr. Nina Gramunt.

**November 5, 12 and 19**

The cycle of talks "Remember": three meetings in which we talk about the latest scientific advances in the field of prevention, as well as advice and recommendations for people living with Alzheimer's, with the collaboration of Dr. Sandra Poudevida, Albert Quiles from Amics de la Gent Gran, Fuensanta Gil from AFAB, Dr. Marc Suárez-Calvet and Dr. Eider Arenaza Urquijo.

**November 5 and 11**

Training "Cognitive aging", within the framework of the "Always Accompanied" program of the "la Caixa" Foundation, and "Aging, what are they and how to act in the face of cognitive difficulties?" by Dr. Nina Gramunt for a course for CaixaBank delegates.

**November 19**

Informative talk on neuroimaging at the Virolai School by Dr. Carles Falcón within the framework of Science Week.

**December 4**

Webinar "Towards new ways of aging and taking care of ourselves" with the participation of Dr. Nina Gramunt in the framework of the Santalucía Commitment Month.

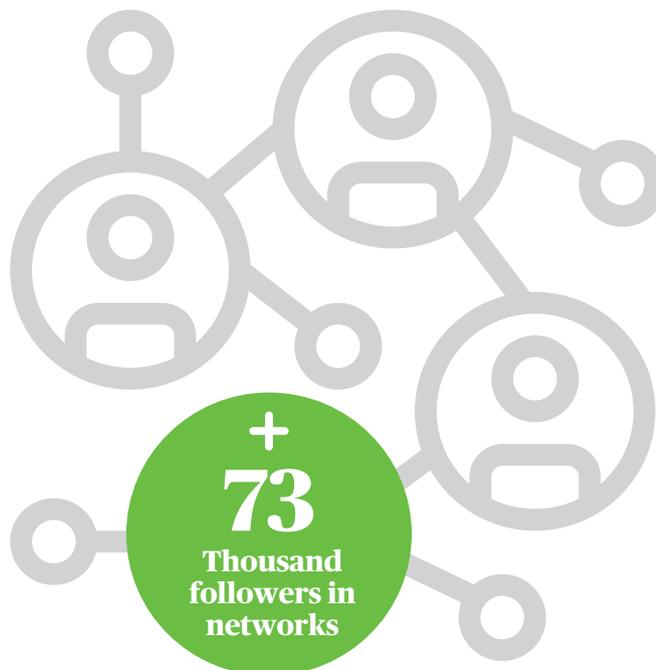
**December 10**

Webinar "Human rights in the context of dementias" with the participation of Cristina Maragall and Dr. Nina Gramunt, organized by the Pasqual Maragall Foundation, HelpAge International Spain and the Pílares Foundation within the framework of the International Human Rights Day.

# 3.02

15

## Social media in 2020



Facebook



Twitter



LinkedIn



Youtube

**56,077**

Followers

**10,190**

Followers

**4,522**

Followers

**2,214**

Subscribers

**26,604**

Reactions

**4,036**

Retweets

**2,330**

Recommendations

**527,720**

Views

**2,424**

Comments

**8,760**

Likes

**964**

Shares

**8,275**

Shares

**7,565**

Mentions

# 3.02

16

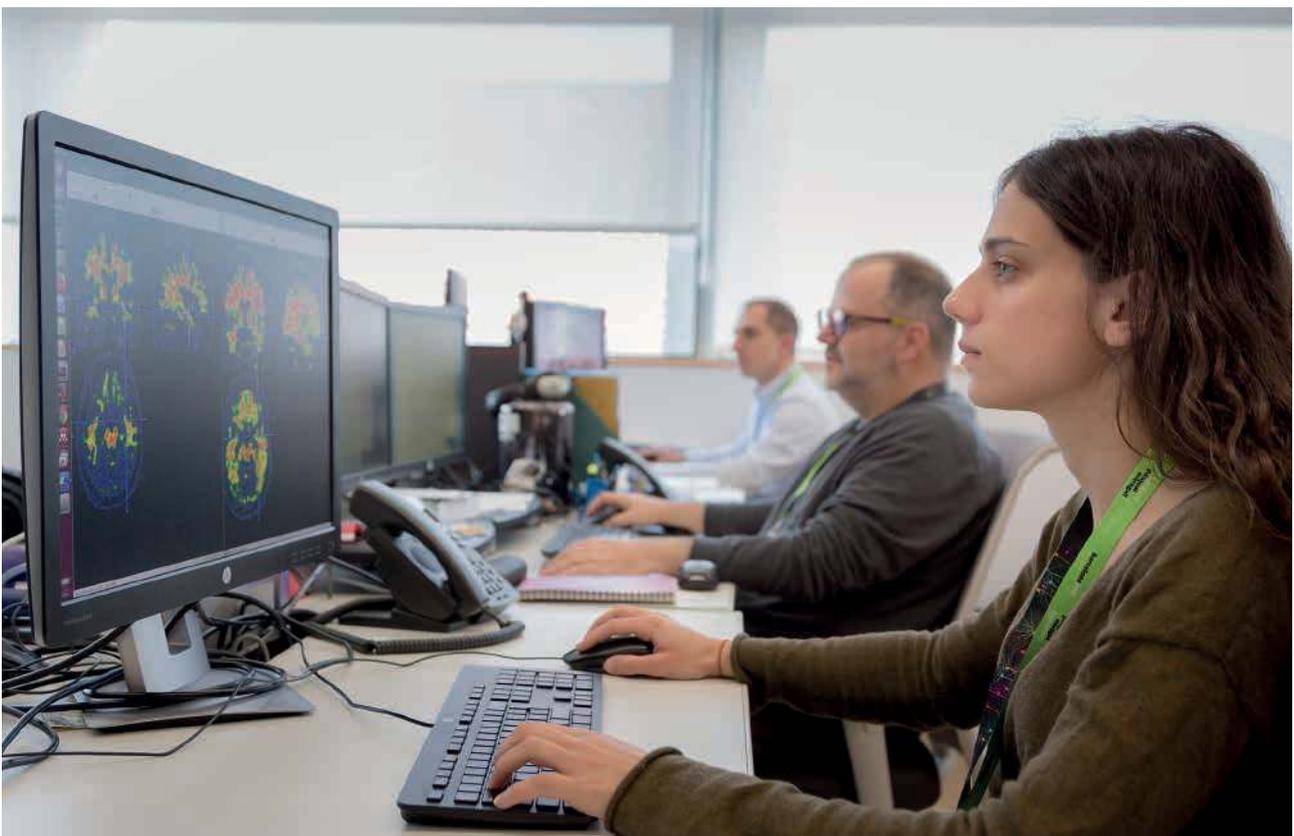
## Awards and distinctions



### HR Excellence in Research' Award

The European Commission honored the **BBRC with the HR Excellence in Research Award - HRS4R**.

With this recognition, the center can use the HR Excellence in Research seal as a center that offers a stimulating and favorable work environment in accordance with the European Charter for Researchers and the Code of Conduct for the Recruitment of research personnel.





# con nec tion.

**We work in a network and with a global vision; cooperating will make us go further.**

Solidarity in 2020 did not stop. More than 7,000 people joined our project, propelling us with their commitment to a future without Alzheimer's. With them, there are already 45,000 partners, donors, patrons, initiatives and solidarity legacies willing to make it happen. Originality and reinvention prevailed in this unusual year as well, and individuals and organizations across the country came forward with unforgettable new fundraising ideas to beat Alzheimer's.

# 04.

# 4.01

## Partner and donor team



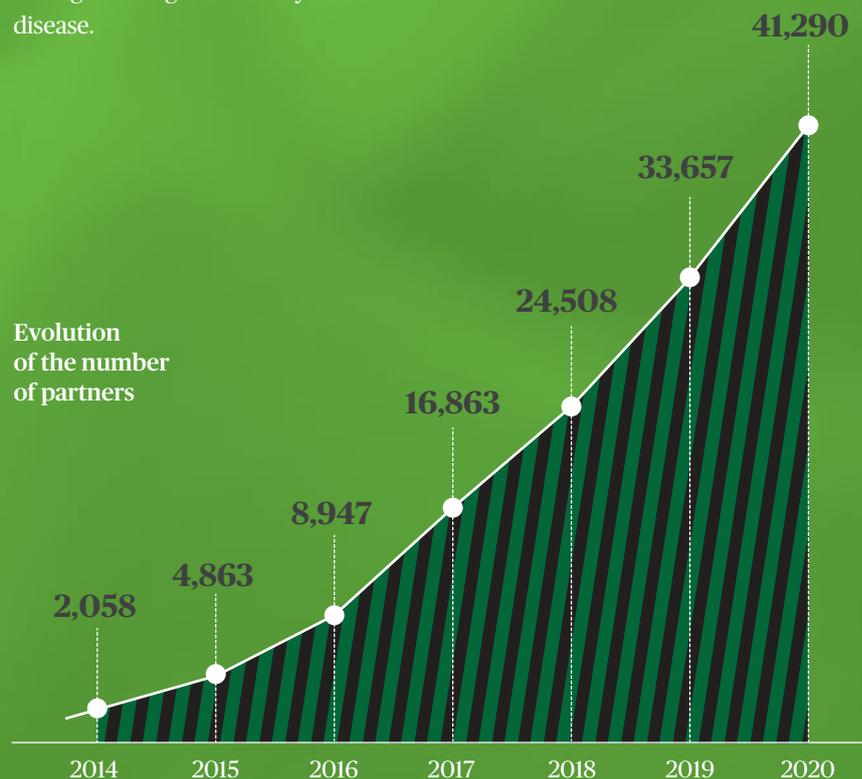
In 2020, we welcomed **7,633 new partners and associates**, who with their regular contributions help finance research and social projects, giving them stability and path.

Donations were also increased by injecting nearly **200,000 euros** into the Pasqual Maragall Foundation project.

In short, in 2020, the Foundation had the support of a social base of **45,000** partners, partners, donors, patrons, initiatives and solidarity legacies willing to change the history of this disease.

**7,633**  
New partners

Evolution of the number of partners



# 4.01

## Thanks for keep looking.



Every **3 seconds** a new case of dementia is diagnosed in the world. But more and more people like Salvador, Jordi, Meritxell and Mercè do not look away.

Their conviction gives us strength to continue moving forward. With your help, one day we will be able to explain how we all beat this disease together.



**At the Pasqual Maragall Foundation and the Barcelonaβeta Brain Research Center we want to thank all the partners, donors, patrons, initiatives and solidarity legacies for their support during 2020.**



### Salvador

Partner and participant of the Alfa Study

*“Alzheimer’s took my mother away little by little, almost without realizing it, one day she was gone and we couldn’t say goodbye. That is why I am a member and participant of the Alfa Study, because I want to help end this disease”.*



### Jordi

Partner and collaborating entrepreneur

*“Alzheimer’s ran in our family through my sister, when she was only 58 years old. The impotence in the face of this disease gave me strength to collaborate with the Foundation”.*



### Meritxell

Partner

*“I have lived this disease very closely and I do not want that neither I nor my people have to go through the same thing again”.*



### Mercè

Partner and participant of the Alfa Study

*“I will continue to contribute, I want to help break this stigma that surrounds the disease, speak more and together to find a solution”.*

Listen to their testimony in this video:



# 4.02

## Unforgettable actions and entities

### 1

#### Empresas solidarias



##### • Santalucía with Therapeutic Groups.

Santalucía supported in 2020 the organization and development of therapeutic groups for caregivers that the Foundation organizes in the Community of Madrid.

A group therapy that quickly adapted to the digital environment in times of pandemic. In the words of Emma Marín, Corporate Director of Communication and CSR of Santalucía:

*“We are highly committed to the elderly and their needs, and we believe that it is essential to also attend to the family members who care for them. That is why we want to take care of those who care through this type of program, which we are convinced will help them in their day-to-day life”.*



**The pandemic forced the cancellation in 2020 of many of the charity events and solidarity initiatives that are organized to collect funds against Alzheimer’s.**

**However, thanks to 82 unforgettable ideas, we managed to raise 64,392 euros for research.**

**These are some of the unforgettable stories made in 2020.**



**82**  
Unforgettable ideas

# 4.02

## • Tablets to contact family members.

The **Ricoh** company delivered **10 tablets and 5 routers** to the Sophos residence, a participant in the “Life Soundtrack” project of the Pasqual Maragall Foundation, so that residents with Alzheimer’s could contact their families during confinement.



## • The Solidarity Calendar of the MGS Foundation.

The **Mutua General de Seguros Foundation** managed, with the participation of its employees and mediators, to raise **10,000 euros** within the framework of the “Solidarity Calendar” initiative for Alzheimer’s research.

## • Payroll against Alzheimer’s

For the second consecutive year, more than **1,000 Óptica & Audiología Universitaria** workers donated a small part of their payroll, managing to allocate **3,800 euros** to the Pasqual Maragall Foundation.

## • End of the “Smiles that heal” campaign

**Mútua Granollers** managed to raise **12,135 euros** for Alzheimer’s research with its annual “Smiles that cure” campaign, through various initiatives such as lottery sales or solidarity sports days.

A campaign poster with a pink and white background. The text reads: 'APORTACIÓ!!! A LA CAMPANYA SOMRIURES QUE CUREN' in large, bold letters. Below this, the amount '12.135€' is displayed in a very large font. At the bottom, it says 'EN BENEFICI DE LA FUNDACIÓ PASQUAL MARAGALL'. There are logos for 'LA MÚTUA' and 'SOMRIURES QUE CUREN' (which includes a brain graphic with musical notes).

# 4.02

2

## Solidarity celebrations



### • 150 km non-stop for a future without Alzheimer's.

On December 4, 2020, Jaume Rigo undertook the challenge of running 150 kms without stopping to raise awareness about Alzheimer's in his entire town, Son Servera (Mallorca). In addition, he proposed to join efforts to defeat the disease and obtained more than **6,000 euros** for his research.



Discover his challenge here:



*“The entrance to the goal that I received from the townspeople, colleagues, volunteers and relatives, together with the great visibility that we managed to give to Alzheimer's disease and the 6,618 € raised, was the best award I could receive”* Jaume Rigo.

### • Solidarity pedaling

A group of **Cementos Molins** workers who are fond of mountain biking decided to link their sporting challenge to the solidarity challenge of raising funds for Alzheimer's research, and managed to raise a total of **1,154 euros**.



3

## Solidarity celebrations



2020 was also the year of cancellations. Weddings and celebrations were postponed overnight. Even so, some people adapted their celebrations to the situation and they managed to raise **15,000 euros** thanks to them for the investigation.

# 4.02



*“At the pharmacy we are very aware of the special needs of families who are closely affected by Alzheimer’s. For this reason, when we learned about the Foundation’s caregiver programs, we did not hesitate to become partners. Helping these people is as important as investigating the disease. In addition, with the Foundation we also learn to be better prepared to care for family members and caregivers”.*

Carme Mestres  
Head of Pharmacy Mestres

## 4

### Unforgettable Shops and Pharmacies



In 2020 we started a new project: **unforgettable shops and pharmacies**. The pandemic came to halt its progress, but despite this, **93 solidarity establishments** joined the project.

Thanks to the solidarity of these entrepreneurs and small freelancers, their businesses are unforgettable, and they wear a seal that identifies them as such to their customers and users.

## 5

### Christmas solidarity lottery



For the first time, we promoted the sale of numbers from the **National Lottery Christmas Draw** with a donation to benefit research projects to defeat Alzheimer’s. In this first year we raised **5,649 euros**.

# 4.03

## Solidarity wills



**María José Cortina**  
Legatee of the Pasqual Maragall Foundation

*"I decided to write a will before a notary in favor of the Pasqual Maragall Foundation. I did it for several reasons: the first, because with my legacy I would help future generations not suffer from this terrible disease. The second, because I thought that my mother, who had had Alzheimer's, would be happy and proud of my decision. I thought it would be a tribute, a posthumous gift".*

In 2020, more than a hundred people were interested in bequeathing to the next generations a future where they can grow old with dignity, fully enjoying this stage of life. A future without Alzheimer's, where no family has to suffer the consequences of this disease.

At the Pasqual Maragall Foundation we have already entered more than **260,000 euros** thanks to the solidarity will. Solidarity wills are an increasingly popular way of collaborating, in 2019 in Spain **205 million euros** were collected in this way that were allocated to the projects of various solidarity organizations<sup>1</sup>.

To do so, it is not necessary to have a great fortune or numerous properties. The contribution, whatever the amount, is decisive to continue investigating.



For more information on how to make bequests, donations, become a member or organize solidarity actions, call

900 545 545

or send your query or proposal to:

[legados@fpmaragall.org](mailto:legados@fpmaragall.org)

## How can you include Fundación Pasqual Maragall in the last will and testament?



You can donate a part of your estate to the Foundation through a legacy gift. It could be a specific amount of money, a percentage of the value of your estate, property, jewellery, work of art, stock, etc.



If you have no heirs, you can designate Fundación Pasqual Maragall as universal heir, bequeathing all of your estate, rights and/or stock to the Foundation.



If you wish to donate to more than one person and/or institution, you can designate Fundación Pasqual Maragall as coheir, indicating the percentage assigned to each party.



Joint liability carries tax benefits, since the part of the inheritance granted to the Foundation is not taxed with the inheritance tax.

<sup>1</sup> Source: Notaries Association of Catalonia (2020). 60 million € in solidarity arrivals to Catalonia in 2019

# trust.

A woman in a long coat and hat carries a young child on her back. They are walking on a dirt path on a grassy hillside. In the background, a town is visible, nestled in a valley with hills in the distance. The entire image has a green tint.

**We build long-term projects  
and relationships based on trust.**

We work with a policy of transparency,  
good practices and accountability.

# 05.

# 5.01

## About us



### Transparency and good practices:

**At the Pasqual Maragall Foundation and the Barcelonaβeta Brain Research Center we have a policy and a code of good practices in transparency and accountability, and we adhere to the code of good scientific practices of the Biomedical Research Park of Barcelona (PRBB).**

### 1

#### The Pasqual Maragall Foundation



The **Pasqual Maragall Foundation** is a private non-profit organization that was born in April 2008, as a response to the commitment made by Pasqual Maragall (former mayor of Barcelona and former president of the Generalitat of Catalonia) when he publicly announced that he had been diagnosed with Alzheimer's.

The purpose of the Foundation is to **achieve a future without Alzheimer's** and, therefore, its mission is to face the challenges posed by this and other neurodegenerative diseases through scientific solutions, promoting and structuring the support of society to achieve it.

Likewise, it has worked from the beginning to change the social consideration of the disease and **raise awareness about its effects through dissemination.**

### 2

#### The Barcelonaβeta Brain Research Center



The **Barcelonaβeta Brain Research Center** is the research center of the Pasqual Maragall Foundation. It was launched in 2012 linked to the Pompeu Fabra University, and with the participation of the "la Caixa" Foundation, and today it is an international center of reference in the prevention of Alzheimer's.

Its mission is to provide innovative solutions to **decipher and prevent biological changes and cognitive dysfunction associated with neurodegenerative diseases.** His research team develops projects on neuroimaging and primary and secondary prevention of Alzheimer's, and actively participates in studies and international work groups focused on the prevention of the disease.

In the last 5 years, its researchers have published more than **200 articles** in prestigious international journals.

# 5.02

## Origin and destination of resources

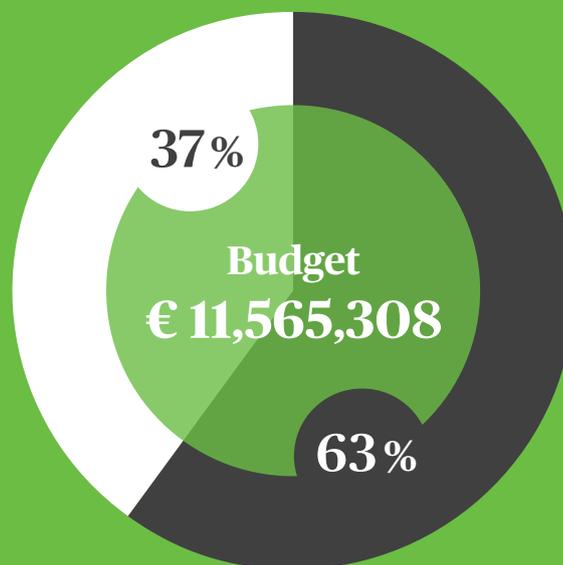


At the Pasqual Maragall Foundation we work to achieve a future without Alzheimer's through biomedical research.

To achieve this, we invest most of the resources obtained in research programs and communication and outreach actions to increase social support for our cause.

We also allocate a portion of the resources to attracting new funds to ensure the long-term sustainability of ongoing scientific programs.

- Pasqual Maragall Foundation  
**€ 7,241,947**
- BBRC Research Center  
**€ 4,323,361**



# 5.02



## Total revenues € 11,565,308

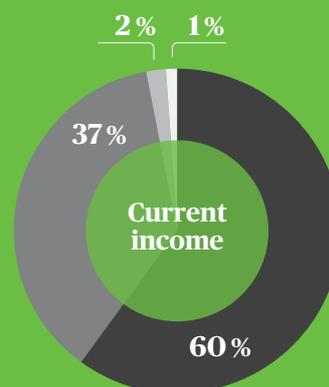
### Current income € 11,449,856

● Patrons, partners and donors (60%)	€ 6,861,005
● Research project (37%)	€ 4,184,075
● Clinical trials (2%)	€ 233,168
● Social area, public outreach and institutional relations (1%)	€ 171,608

### Adjustments for capital subsidies\* € 113,108

### Financial income\* € 2,344

\*Not included in the graphic



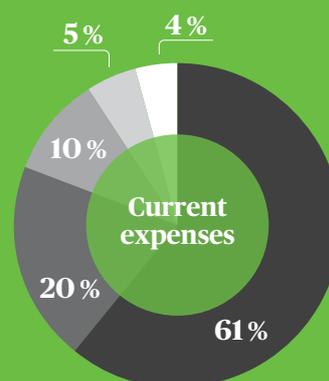
## Total expenditures € 11,271,219

### Current expenses € 11,171,219

● Research program (61%)	€ 6,868,291
● Investment on the network of partners and donors (20%)	€ 2,207,093
● Communication and sensitivity (10%)	€ 1,126,316
● Social area, public outreach and institutional relations (5%)	€ 502,541
● Administration (4%)	€ 466,978

### Financial expenses\* € 65,320

\*Not included in the graphic



# 5.03

## Collaborators



**Our most sincere thanks to the network of partners and donors, and to the entities, companies and professionals that have supported our research through their contributions and collaborations.**

**Our recognition also to all the volunteers who dedicate their time to us and help us in the organization of actions and events.**

See the full list of collaborators here:

<http://fpmaragall.org/memoria2020>

### Consejo de mecenazgo

#### Strategic Partners



#### Special Partners



#### Partners



#### Associated companies



#### Academic and scientific partners



### Collaborating entities

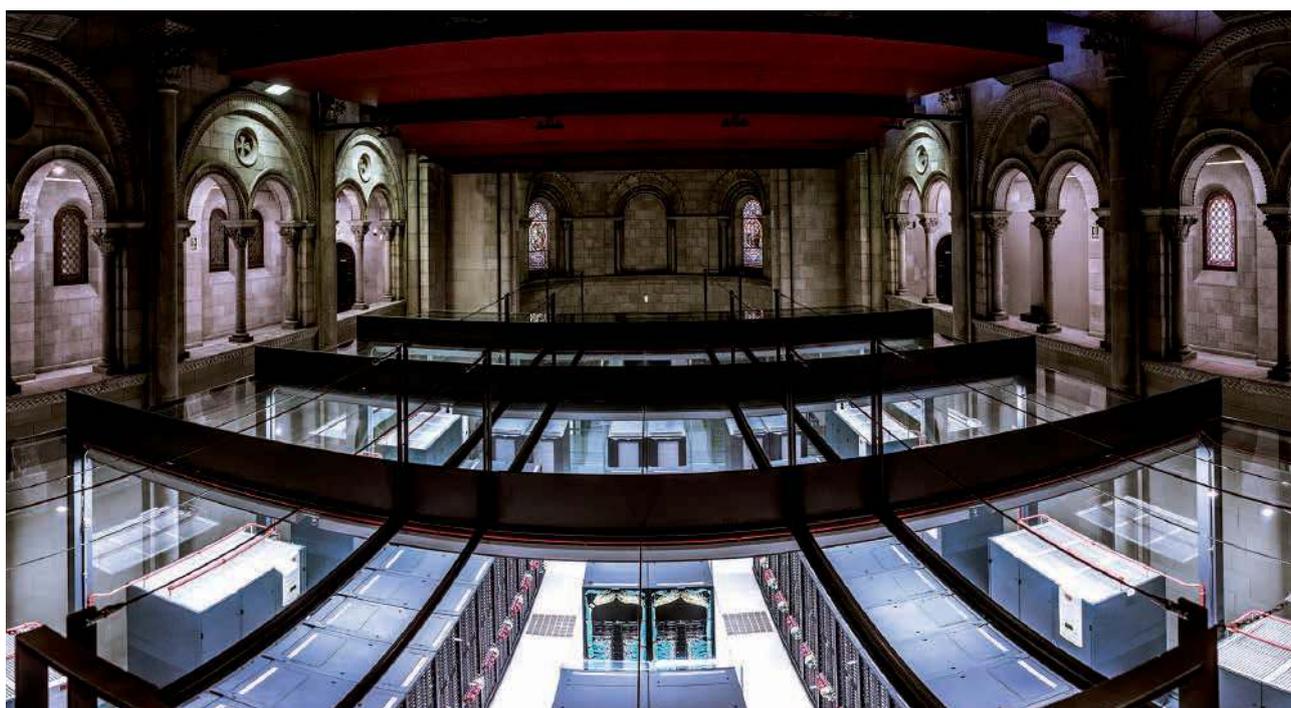
- > Fundación Adey
- > Santalucía Seguros
- > La Mutua
- > Fundación MGS
- > Ricoh
- > Óptica Universitaria
- > Llúria
- > Caprabo

# 5.04

## Academic collaborators

- Amsterdam University Medical Centers
- Barcelona Supercomputing Center
- Centro de Regulación Genómica
- Centro Nacional de Investigaciones Cardiovasculares
- CIBER-BBN
- CIBERFES
- Consorcio AMYPAD
- Consorcio EPAD
- Consorcio EUFINGERS
- Erasmus MC University Medical Center Rotterdam
- F. Hoffmann-La Roche Ltd.
- GE Healthcare
- Hospital Clínic de Barcelona
- Hospital Universitario Vall d'Hebron
- Instituto de Investigaciones Biomédicas August Pi i Sunyer
- Instituto Hospital del Mar de Investigaciones Médicas
- ISGlobal
- Karolinska Institute
- Leiden University Medical Center
- Philips
- Roche Diagnostics
- Universitat Autònoma de Barcelona
- University of Edinburgh
- University of Gothenburg
- Universidad de Lund
- University of Wisconsin-Madison
- Universitat Politècnica de Catalunya
- Universitat Pompeu Fabra
- University College of London

► Barcelona Supercomputing Center.



# 5.05

**pasqual  
maragall  
foundation**



**Configuration  
from February  
2021**

## Board

### Honorary President

**Pasqual Maragall Mira**

### President

**Cristina Maragall Garrigosa**  
Lifetime chairperson

### 1st Vice President

**Santiago de Torres Sanahuja**  
Lifetime chairperson

### 2nd Vice President

**Montserrat Vendrell Rius**

### 3rd Vice President

**Jordi Camí Morell**  
Lifetime chairperson

### Other lifetime chairpersons

**Guillem Maragall Garrigosa**  
**Narcís Serra Serra**  
**Airy Maragall Garrigosa**

### Board members

**Nuria Basi Moré**  
**Joaquim Coello Brufau**  
**Joaquim Boixareu Antolí**  
**María Carmen Garmendia Lasa**  
**Marta Grabulosa Areny**  
**Arcadi Navarro Cuartiellas**  
**Bancària Caixa d'Estalvis i Pensions  
de Barcelona Foundation, "la Caixa"**  
*(representing Antonio Vila Bertrán,  
substitute: Àngel Font Vidal)*  
**Jordi Mercader Miró**  
**Pura Muñoz-Cánoves**  
**Marcel Prunera Colomer**  
**David Vegara Figueras**

### On behalf of the Patronage Council

**Fundación ACS**  
*(representing Antonio García Ferrer)*  
**Fundación Privada Banco Sabadell**  
*(representing Miquel Molins Nubiola)*

### Secretary and Deputy Secretary (not trustees)

**Ignasi Costas Ruiz del Portal**  
**Alberto Ouro Fuente**

## Executive commission

### President

**Montserrat Vendrell Rius**

### Board members

**Jordi Camí Morell**  
**Joaquim Coello Brufau**  
**Marcel Prunera Colomer**  
**Arcadi Navarro Cuartiellas**

### Secretary and Deputy Secretary (not trustees)

**Ignasi Costas Ruiz del Portal**  
*(DWF-RCD)*  
**Alberto Ouro Fuente** *(DWF-RCD)*

# 5.05

**barcelona**βeta  
BRAIN RESEARCH CENTER



**Configuration  
from February  
2021**

## Board

**President**

**Montserrat Vendrell Rius**

**Director**

**Arcadi Navarro Cuartiellas**

**Members**

**Arcadi Navarro Cuartiellas**

**Jordi Camí Morell**

**Joaquim Coello Brufau**

**Universitat Pompeu Fabra**

*(José Garcia Montalbo)*

**Josep Martorell Rodon**

**Francesc Posas Garriga**

**Marcel Prunera i Colomer**

**"la Caixa" Foundation**

*(Antonio Vila Bertrán / Àngel Font Vidal)*

**Secretary and Deputy Secretary**

*(not trustees)*

**Ignasi Costas Ruiz del Portal**

*(DWF-RCD)*

**Alberto Ouro Fuente** *(DWF-RCD)*

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**Arcadi Navarro Cuartiellas**

**Marcel Prunera i Colomer**

**"la Caixa" Foundation**

*(Antonio Vila Bertrán / Àngel Font Vidal)*





20  
**20** **A key  
year for  
science**



# 20 20

**Annual  
report**

**"Nowhere is it written  
that Alzheimer's is invincible"**

**Pasqual Maragall**  
October, 2007

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**pasqual  
maragall  
foundation**

**barcelona $\beta$ eta**  
BRAIN RESEARCH CENTER