



ACTIVITY REPORT 2023

Institute of Neurosciences of the University of Barcelona (UBneuro)

During 2023, UBneuro has kept implementing strategic actions in line with the objectives of the Institute thanks to the second **Maria de Maeztu Excellence seal** (MdM, 1,740,000.-€ on direct cost for 4 years and 6 PhD fellowships) and the “**Contracte programa**” funding (138,508.-€).

Below you will find the list of the different actions continued and/or implemented during 2023 according to the outlined strategy.

Strategy

- **Scientific Advisory Board (SAB) meeting:** was held the 9-10th of February at Faculty of Medicine and Health Sciences, Clinic Campus. This time we counted with Cristina Espa, Head of Severo Ochoa/María de Maeztu Management Team (AEI), and four of the SAB members: Kimmo Alho, University of Helsinki, Mercedes Atienza, Universidad Pablo de Olavide, Frederic Saudou, Institute of Neuroscience, University Grenoble-Alps and Ernest Arenas, Karolinska Institute (online). Carmen Sandi, Ecole Polytechnique Federale de Lausanne, relinquished her position in favor of new candidate. As a result of the meeting the SAB submitted a scientific assessment and recommendation report (Annex 1). In this report the SAB congratulated the results obtained by UBneuro and the impressive strategic program. Some of the suggestions were in line with:

- Improve the interaction between researchers from different areas.
- Improve the interaction with national and international groups in quantity and quality.
- Include the UBneuro affiliation in publications.
- Estimate the impact of the technological platforms.
- Promote gender training of supervisors to fight against the gender imbalance at PI level.
- Include inclusion plans.
- Promote attraction programs for top foreign candidates.

Research specialization /promotion

- **Reinforcement of the research promotion strategy:** this strategy consists in supporting researchers with a personalized approach during the whole application process. The support is given from the identification of relevant international calls to the submission, to the support on grant writing or the creation of consortiums. We count with the support of UBneuro's research developer (Cristina Pulido), UBneuro researchers (mentoring), international project office from UB (OPIR) and external consultancy firms (such as Hezelburcht, Modus, Inveniam).

- **New! Personalized mentoring in person:** Naomi de Haas, Senior Grant Consultant, From Hezelburcht visited us on the 27-28th of April. She explained how UBneuro and Hezelburcht can support researchers through the grant application process, an overview of current funding opportunities, and she gave tips and tricks for preparing applications and finding partners. She did two oral presentation and a dozen of personal interviews.





Some of the achievements of this year have been:

- **Individual international grants:** during 2023, 3 MSC IF, 1 ERC Consolidator, and 1 ERC Proof of Concept have been granted. Moreover, we have presented 3 MSC IF, and 1 ERC starting, 1 ERC consolidator and 1 ERC synergy. We will have to wait until 2024 to know the results. However, it is a fact that, the success ratio for MSC IF is very high, the number of ERC application have increased and researchers feel supported during the process.

- **International Partnership grants:** Two HORIZON-EIC-2023-PATHFINDEROPEN-01, and 1 HORIZON-CL4-2023-HUMAN-01-CNECT project and 1 Wellcome Trust Discovery Award have been awarded in 2023. We are aware that we need to improve the results.

- **Technical and Scientific platform program:** Six specialized technological platforms have been funded.

- Clinical and experimental neurology and neuropathology (PI: Yaroslau Compta)
- Animal Core Facility (PI: Silvia Ginés)
- Neuroimaging - MRI (PI: David Bartrés)
- Magnetic Resonance Imaging applications (PI: Barbara Segura)
- Neurophysiological recording platform (PI: Xavier Gasull)
- Neurohistology and Advanced Microscopy Platform (PI: Carme Auladell)

The aim of the platform is to provide the institute with cutting edge technology that make it advance at the frontiers of science and promote internal synergies.

- **Invited Key Expert:** To promote the internationalization of UBneuro and increase the participation in international consortiums this call permits to invite international experts from academy or from the private sector who actively participate in international consortiums. Those researchers have to, at least, give a talk in the framework of the Neuroscience Conference Series or similar, but they are welcome to offer workshops, showrooms and other activities that will promote collaborations. In relation to this action 8 grants have been given (see outreach section for further information).

Human resources

- **Attraction of talent:**

- **Visibility:** 30 **vacancies** have been posted at strategic websites (i.e. Euraxess, SOMMa, UBneuro) and social networks (LinkedIn, Twitter, Instagram).
- **NEW! Welcome information:** to help foreigners deal with bureaucracy a couple of guides are published at the intranet. 1) How to get your VISA; 2) UBneuro relevant info. However, we are working on a better protocol.
- **NEW! International talent attraction grant (IMAN):** to promote the recruitment of International Research personnel this grant covers the cost of short visits of highly potential PhD and Postdoctoral candidates.

- **Support on Human Resources fellowships:** the mentoring program keeps working properly (<https://www.neurociencies.ub.edu/vacancies/ubneuro-mentors/>)





- **PhD fellowships:** 6 PhD fellowships have been granted associated to María de Maeztu grant (Ministerio de Ciencia e Innovación). 4 of the fellows will be supervised by 2 researchers.
- **Master-PhD bridge:** Thanks to an INVESTIGO grant UBneuro could offer one year master-bridge contracted. The selected person was Bianca Franzoia supervised by Ruth de Diego. After her contract Bianca Franzoia started an InPHinit incoming fellowship from Fundació La Caixa.

Training

- **PhD activities:** The PhD committee formed by Siham Ijjou, Clara Romera, Raquel Alsina, Pol Garcia and Irene Rodríguez were in charge of the organization of the PhD activities. Among them we highlight:
 - **The satellite PhD workshop:** 10th of February was held a PhD workshop focused on the promotion of oral presentation skills and the mentoring of SAB members and alumni, about 80 PhD students attended the event. (further information <http://www.neurociencias.ub.edu/vi-phd-workshop/>).
 - **NEW! Neurobrews:** During this event held on the 8th of June, neuroscience researchers could meet in an informal setting, where they could discuss and explore the wonders of the brain while enjoying a pint of their favorite beverage.
 - **The VI PhD Workshop:** 9th of November was celebrated the VI PhD workshop at the Faculty of Pharmacy and Food Sciences. A total of 110 people attended and could enjoy 6 oral presentations and 51 poster presentations. The plenary lecture was given by Dr. Lauren M. Hablitz, Assistant Professor at the Center for Translational Neuromedicine in the Department of Neurology at the University of Rochester Medical Center. The event also held 3 workshop on transferable skills i.e. Mental Health, Use of Chat GPT and Gender in research. Further information: <https://www.neurociencias.ub.edu/vi-phd-workshop-2/>).
- **Training grants:** 9 grants have been granted.
- **NEW! Hands-on course:** Two new hands on course composed of talks from renowned experts in the fields and sessions including both theoretical background and hands on practice have been held during 2023:
 - **BRAIN ORGANOIDS - ADVANCED HANDS-ON COURSE:** 01-06 July. Practical sessions took place in the CRG training facilities. Organized by Sandra Acosta (UBneuro) and Laura Batlle Centre for Genomic Regulation (CRG). One fellowship was given to a person working in an [EU Widening country](#) to cover the travelling and the accommodation.
 - **NEUROPSYCHOLOGICAL ASSISTANCE HAND- ON COURSE:** Held on 22-24 November under the framework of the 6th mapping course. Practical sessions took place in the University Hospital of Bellvitge. Organized by Joanna Sierpowska.

Internationalization & Synergies

- **Multi-brain Barcelona International Congress:** will be held in 2024. During 2023 the Scientific Committee had been working on the definition of the program chaired by Ruth de Diego and formed by Joanna Sierpowska, Merce Masana, Cristina Malagelada, Guadalupe Soria and Alberto Ortega.
- **Neuroscience Conference Series; Barcelona Lecture Series; Medicine and Pharmacy Seminars:** 9 talks from renowned scientist.





- **Mobility grants (Neuroestades):** 10 Mobility grants have been awarded.
- **Congress grants:** 35 congress grants have been awarded to register to congresses.
- **Support of national and international meetings (sponsoring):** the institute has supported international courses and symposiums offered by our researchers as the XX Jornades Tècniques sobre la Malaltia de Huntington: April 28, 2023.
- **Human Brain Project/EBRAINS:** The Institute collaborates with the organization of the event "Towards a Collaborative Neuroscience". 20th of June 2023. Faculty of Medicine and Health Sciences. During the event scientists and technologists from the Human Brain Project presented their collaborative research. They also introduced EBRAINS, an open research infrastructure created by the Human Brain Project, which brings together data, tools, and computing facilities for brain-related research. On the other hand, Roser Sala as representative of UBneuro assisted at the event "Adquisición y uso de datos en Neurociencia e Inteligencia Artificial a través de la infraestructura europea EBRAINS" on the 25th of September, Madrid.
- **SOMMa membership:** On 23-24th of October in Granada was held the General Assembly of the SOMM Alliance and the 100xCiencia 7th edition dissemination event.

Knowledge transfer, Scientific communication & Outreach activities

- **Innovation manager:** Katia Verger was in charge of the knowledge transfer programme of the Institute until March. From July to November, Lucila Kargieman was in charge of this programme while the new vacancy was arranged.
- **Transfer Knowledge achievements:**
 - Projects:** Although we will not have the exact numbers from GREC until April, we can highlight some remarkable achievements: 1 ERC Proof of Concept, 3 Llabor (ACCIO), 1 Producte (ACCIO), 1 Business enterprise R&D nuclei have been awarded during 2023, 1 intramural project has been signed with Google
 - Patents:** 17 patents are active in 2023. Three patents were lost during 2023 and 5 of them have been newly obtained.
 - Spin off:** there are six spin-offs: Cytes Biotecnologies, Virtual bodyworks, Neurekalab, AIGecko Technologies, and Mind & Identity.

- **NEW! Patient Advocacies** UBneuro organised several events to integrate patient associations:

- XX Jornades Tècniques sobre la Malaltia de Huntington, addressed the Huntington's disease, intertwining scientific understanding with the human perspective.
- Parkinson's disease: Amb dues cares de la malaltia: focused specifically on Parkinson's disease, delving into its complexities from different viewpoints (patient, medical doctor and researcher).





- Document de pla de voluntats avançades mental Health: addressed advance care planning in mental health, advocating for proactive decision-making to uphold autonomy and dignity in care.

Scientific communication and outreach activities

- **Communication channels**: During 2023, our online presence has shown significant growth across various platforms. We will keep curating the website, LinkedIn, Twitter and YouTube channels with new relevant content as the hub of all information related to the Institute (including research groups, news, events...). LinkedIn will be further pushed since it has been such a useful tool to attract talent, boasting 1233 followers and showcasing job postings that have made a considerable impact, with an impressive average engagement rate of 14.94% so far.

- **Annual report**: our 2022 annual report reflects this year's progress with a refined design, despite the absence of envisioned digital visualization.

- **Communication campaigns**:

- Job opportunities and grants: we kept promoting job opportunities and grants.
- News: we collaborate with Premsa UB to make sure all research results reach society.
- "Meet the brains": we have added some new videos (recorded during 2022) to this very successful multimedia campaign, with 8.875 views so far, that facilitates connections between researchers and boosts synergies.

- **Outreach activities**: Our involvement extended to events like Setmana del Cervell, Biennal Ciutat i Ciència, Referents femenins, 6^a sLHam de dones científiques, Dia Internacional de la Dona i la Nena en la Ciència, Pint of Science...

- **NeuroArt, 3 pilars del Cervell and Cerebrotos**: citizens have been at the center of the project. We are applying to the "Ajuntament de Barcelona" Grant to keep supporting this science communication multimedia campaign that aims to answer and disseminate materials about the mysteries of the brain.

- **NEW! Neurohumanities actions: Creativity: What Makes Us Human**, three established professionals with very different backgrounds: Pep Gatell, artistic director of La Fura dels Baus, Carme Ruscaldà, a chef with 7 Michelin stars, and Idan Segev, Neuroscientist at the Hebrew University. The three of them debated about the concept of creativity, an aspect inherent to humanity.

- **NEW! Cajal: Science and Art**: we placed at the Faculty of Medicine and Health Sciences (Campus Clínic) an exhibition presenting facsimiles of Cajal's masterpieces – preserved and lent by Legado Cajal, Instituto Cajal (CSIC) –to acknowledge and disseminate the figure of Ramón y Cajal. The exposition was inaugurated by Ester Gratacós, who shared a speech that highlighted the impact he had while living in Barcelona. The exhibition was open from 20th september to 15th of october.

- **Neuroscience Conference Series (NCS)**: we hosted 15 speakers that shared their insights:

1. **Joaquim Egea, PhD**: Associate Professor del Institut de Recerca Biomèdica de la Universitat de Lleida.





2. **Andrew Delamater, PhD:** Professor and Editor of the Journal of Experimental Psychology: Animal Learning & Cognition.
3. **Mathieu Roy, PhD:** Associate Professor, dept. of Psychology, McGill University.
4. **Ángeles Rabadán, PhD:** Senior Associated Scientist and Head of ZeNeuroid (ZeClinics)
5. **Naomi de Haas, PhD:** Senior Grant Consultant, Hezelburcht B.V.
6. **Jesse Rissman, PhD:** Dept of Psychology. University of California, Los Angeles.
7. **Ulrike M. Krämer, PhD:** University of Lübeck.
8. **Serena Sabatini, PhD:** Institute of Mental Health, School of Medicine, University of Nottingham.
9. **Fiona Rupprecht, PhD:** Department of Developmental and Educational Psychology, University of Vienna.
10. **Edgar T. Walters, PhD:** The University of Texas Health Science Center at Houston, McGovern Medical School, Department of Integrative Biology and Pharmacology.
11. **Cristina Fornanguera, PhD:** Principal investigator at IQS School of Engineering.
12. **Derek Bowie, PhD:** Department of Pharmacology & Therapeutics, McGill University.
13. **Costanza Papagno, PhD:** Researcher at CIMeC Center for Mind/Brain Sciences, University of Trento.
14. **Emma Puighermanal, PhD:** Ramon y Cajal Researcher, Neurosciences Institute (UAB).
15. **Ariel Valiente Gabioud, PhD:** Scientist at Max Planck Institute for Biological Intelligence.

- **External collaborations:** we kept nurturing and growing our network of collaborators making sure that we are a valuable player in the science dissemination ecosystem, together with cultural institutions, research centres and other relevant organizations.

EQUALITY (GENDER)

Hiring a gender and equality officer: Julia Peral is contracted under the INVESTIGO program together with three María de Maeztu Institutes (Institut del Cosmos, Institut de Química Computacional, UBneuro). This has allowed the designing of specific long-term actions that can be implemented during the following years such as:

- Design and beginning of the Equality Plan.
- Representation of the Institutes at the Equality commissions.
- Texts about equality at proposals.
- Equality workshop.

100tífiques: Researchers Ruth de Diego-Balaguer and Joanna Sierpowska explained their research at primary schools.

11F actions:

- International Day of Girls and Women in Science. The Faculty of Pharmacy organized an activity divided into two parts: an exposition and debate of the academic career with Marta Riba (UBneuro). Also, a short theatre play called "Nèbula", is based on Caroline Herschel's life and discoveries.
- **6º sLHam de dones científiques:** a stand-up comedy activity where researchers can share their experiences and share a laugh. The institute was represented by Sandra Acosta.





- **Round table:** Tiana's scientists. The 11F Can Baratau library wanted to commemorate the day by organizing a round table about women and STEM careers. In this activity, the Institute was represented by Agnès Pérez Millan and Cristina Pulido.
- **Female role models:** the Ruben Dario Primary School organized an activity where Laura Celina replied to some of the students' questions about the research career and what she does.

MDM-Audit for end of project final justification:

At the end of 2022 the María de Maeztu grant finished its execution period. During 2023 we had to prepare the audit, compulsory to do the final justification, and finalize the justification process with the validation of the audit company.

This has been a very long and tedious process as the audit requires a lot of documentation and prove of payment of every single expense.

Management team

Until the end of 2023 the management team was formed by:

- Administration (Marta Turró, full time).
- Research development (Cristina Pulido, full time, co-founded with PROFOR).
- Scientific communication (Marta Rubio, full time, co-founded with INVESTIGO).
- Gender and Equality officer (Julia Peral, full time, co-founded with INVESTIGO).
- Innovation management (Katia Verger, part time until March 17th 2023, Lucila Kargierman from June to November 2023).





NEW PROJECT OF BARCELONA CENTER FOR APPLIED NEUROSCIENCE

During the last 3 years, UBneuro has been fighting to host a new Institute in Neuroscience. To make the story short, find enclosed some brief comments:

This proposal started in 2021, when we presented the project Neurohub to the Next Generation program of the Generalitat de Catalunya. In 2022, the Generalitat de Catalunya asked UBneuro to lead the big project to the “competitive” call of the Ministerio para la Transformación Digital y de la Función Pública to host the new Spain Neurotech Institute. These projects were presented by the autonomous communities. Of course, this call was not competitive at all, and the Institute went to Madrid in UAM without any peer-review. However, the Generalitat still believes in our project, and asked us to present the project that will lead the Generalitat and will be placed in the Theatre building in campus Mundet. So, the new project is the Barcelona Center for Applied Neurosciences (BCAN-Universitat de Barcelona).

Scientific infrastructure: In the proposal, there are two technological units

- RMN.
- Non-invasive transcranial stimulation.

Nowadays, the results are that:

- 1) The Diputació de Barcelona has agreed on the rehabilitation of the Theatre building of campus Mundet where BCAN will be located.
- 2) The Generalitat de Catalunya has funded a new scientific-technological unit “Unitat d’Estimulació Transcranial No Invasiva” with 1,000,000.-€ to be created before the end of 2024. The new unit is a great opportunity to show our potential and to convince the Generalitat to support the creation of the new centre. During 2023 we started with the acquisition of the equipment and the arrangement of the spaces. The unit will be hosted at the 1st floor of the 3rd block of the Psychology Faculty Building. The Unit will count with:
 - Transcranial magnetic stimulation (TMS) equipment.
 - Neuronavigation system.
 - Electroencephalogram (EEG) system compatible with TMS.
 - High resolution electrical stimulation systems.
 - Functional infrared spectroscopy equipment (fNIRS) combined with EEG.
 - Virtual Reality equipment.
 - Staff: 2 senior technicians for 1 year.
- 3) The management of this Unit will be done by the CCiTUB. The CCiTUB already applied for a technician at the call “Ayudas para contratos de Personal técnico de Apoyo (PTA)” from Agencia Estatal de Investigación. This will guarantee at least the contract of a technician during 3 years.

TO BE CONTINUED





FINANTIAL REPORT 2023

Strategy

- SAB meeting _____ 7,006.-

Research specialization

- Reinforcement of the research promotion strategy & ERC strategy _____ 17,622.-

- Technical and Scientific platform program _____ 236,057.-

Human resources

- Master-PhD bridge program Investigo (1 position of 1 year) _____ 5,000.-

Training

- Training grants _____ 3,281.-

- PhD activities _____ 10,386.-

Internationalization & Synergies promotion

- Mobility grants (Neuroestades) _____ 18,413.-

- Congress grants _____ 8,756.-

- Invited Key Experts / Neuroscience Conference Series / Talent attraction _____ 5,588.-

- Promotion for international meetings _____ 248.-

- SOMM Alliance membership and meeting participation _____ 4,481.-

Knowledge transfer, Scientific communication & Outreach activities

- Knowledge transfer strategy _____ 3,000.-

- Annual Report _____ 1,792.-

- NeuroArt _____ 1,644.-

- Patient Advocacy _____ 2,111.-

- Other outreach activities _____ 5,339.-

Organization and management aspect

- Administrative (Marta Turró, full time) _____ 48,932.-

- Research developer (Cristina Pulido, full time, PROFOR) 35% of total cost _____ 13,695.-

- Scientific communicator (Marta Rubio – Investigo contract) _____ 5,000.-

- Innovation manager (Katia Verger, until March 17, 2023) _____ 4,618.-

- Gender specialist (Julia Peral – Investigo contract) _____ 3,750.-

Other expenses

- Functioning _____ 4,663.-

TOTAL _____ **411,382.-**

