BRIEF CURRICULUM VITAE

Part A. PERSONAL INFORMATION

Name: Jordi

Last Name: Matías-Guiu Antem

Gender:

Date of Birth:

ID/Residence Permit/Passport:

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Open Researcher and Contributor ID (ORCID): 0000-0001-5520-2708

Scopus Author ID: 35584677700

A.1. Current Professional Situation

Position: Neurologist

Start Date: 2014

Organization/Institution: Hospital Clínico San Carlos

Department/Center: Neurology/Institute of Neuroscience

Country: Spain

A.3. Academic Education

Degree/Master/Thesis University/Country Year

Official Doctoral Program in Biomedical Sciences Complutense University of Madrid 2013

Bachelor's Degree in Medicine and Surgery Complutense University of Madrid 2008

A.4. General Indicators of Scientific Production Quality

Author or co-author of 185 articles in indexed scientific journals (67 as the first author, 37 as the last author, and 10 as corresponding author in other positions), 2 books, and 10 book chapters. In the period from January 2018 to October 2023, author of 115 articles. 3396 citations (Google Scholar, last checked on 10/17/2023). H-Index: 36 (considering

citations since 2018: 33), i10-Index: 87 (Google Scholar). Supervisor of 4 doctoral theses; 11 others in progress.

Part B. CURRICULUM SUMMARY

I obtained a Bachelor's degree in Medicine from the Autonomous University of Barcelona (2002-2004) and the Complutense University of Madrid (2005-2008). I completed my Neurology residency through the MIR specialized training program in Neurology at the Hospital Clínico San Carlos (2009-2013). I earned my Ph.D. in Biomedical Sciences (2013) with an Extraordinary Ph.D. Award and the San Nicolás Foundation Ph.D. Award from the Royal National Academy of Medicine, with a thesis titled "Clinical and Functional Neuroimaging Study in Primary Progressive Aphasia and other Focal-Onset Dementias," using positron emission tomography (PET). I work as Neurologist in the Neurology Department of the Hospital Clínico San Carlos since August 21, 2013 (permanent civil servant since May 2018 through public employment competition in the 2015 call). I lead the Cognitive Neurology Unit from Hospital Clinico San Carlos since October 2020. I have been appointed a Distinguished Faculty Member at the University of Miami (Center for Cognitive Neuroscience and Aging). I have served as a speaker/instructor in more than 30 scientific conferences. My research areas fall within cognitive and behavioral neurology. Primarily, I have focused on the following lines of research:

1. Development and validation of new cognitive assessment tools (PI/19/0126; ACE-III, LASSI-L, Hayling Test, LARS scale, Mini-Linguistic State Examination, etc.) to enhance the diagnosis and assessment of neurological diseases with cognitive repercussions, particularly dementias (primary progressive aphasia, frontotemporal dementia, and Alzheimer's disease).
2. Characterization of linguistic impairments in primary progressive aphasia and other neurodegenerative communication disorders.
3. Application of neuroimaging using PET and magnetic resonance in neurodegenerative diseases, including the use of machine learning techniques for diagnosis and classification.
4. Translating cognitive neurology to other areas of clinical neurology (such as multiple sclerosis) and other medical conditions (such as coronary microcirculation and post-COVID condition).
5. The use of non-invasive neuromodulation through transcranial magnetic stimulation (TMS) and transcranial electrical stimulation (tDCS) in neurodegenerative diseases (academic trial NCT03580954 of personalized TMS in primary progressive aphasia and PI22/00677), multiple sclerosis (ICI 20/00074), and post-COVID (G63-HEALTHSTARPLUS-HSP4).

I am Tutor of Neurology Residents since 2016. I am member of the Spanish Society of Neurology and the Coordinator of the Neuroimaging Group since 2019, and member of the Neuroimaging Panel of the European Academy of Neurology since 2021. I have participated in drafting the last Clinical Practice Guidelines for Dementias of the Spanish Society of Neurology (chapter: Primary Progressive Aphasia).

On the editorial side, I have served as a Senior Editor of "Journal of Alzheimer's Disease" and I am currently an Associate Editor of the journals "BMC Neurology,"

"Neurología," "Journal of Alzheimer's Disease," "Frontiers in Human Neuroscience," "Frontiers in Neurology" and "Neurology Perspectives."

Part C. PUBLICATIONS AND RESEARCH PROJECTS

Selected publications (last 5 years):

- Delgado-Alonso C, Díez-Cirarda M, Pagán J, Pérez-Izquierdo C, Oliver-Mas S, Fernández-Romero L, Martínez-Petit A, Valles-Salgado M, Gil-Moreno MJ, Yus M, Matías-Guiu J, Ayala JL, **Matias-Guiu JA***. Unraveling brain fog in the post-COVID syndrome: relationship between subjective cognitive complaints and cognitive function, fatigue, and neuropsychiatric symptoms. *Eur J Neurol* 2023. DOI: 10.1111/ene.16084

- Hernández-Lorenzo L, Gil-Moreno MJ, Ortega-Madueño I, Cárdenas MC, Díez-Cirarda M, Delgado-Álvarez A, Palacios-Sarmiento M, Matias-Guiu J, Corrochano S, Ayala JL, **Matias-Guiu JA***. A data-driven approach to complement the A/T/(N) classification system using CSF biomarkers. *CNS Neurosci Ther* 2023. Doi:10.1111/cns.14382.

-Díez-Cirarda M, Yus-Fuertes M, Sánchez-Sánchez R, González-Rosa JJ, González-Escamilla G, Gil-Martínez L, Delgado-Alonso C, Gil-Moreno MJ, Valles-Salgado M, Cano-Cano F, Ojeda-Hernández D, Gómez-Ruiz N, Oliver-Mas S, Benito-Martin MS, Jorquera M, de la Fuente S, Polidura C, Selma-Calvo B, Arrazola J, Matias-Guiu J, Gómez-Pinedo U, **Matias-Guiu JA***. Hippocampal subfield abnormalities and biomarkers of pathologic brain changes: from SARS-CoV-2 acute infection to post-COVID syndrome. *EBioMedicine* 2023;94:104711. DOI: 10.1016/j.ebiom.2023.104711

-Delgado-Álvarez A, Nielsen TR, Delgado-Alonso C, Valles-Salgado M, López-Carbonero JI, García-Ramos R, Gil-Moreno MJ, Díez-Cirarda M, Matias-Guiu J, **Matias-Guiu JA***. Validation of the European Cross-Cultural Neuropsychological Test Battery (CNTB) for the assessment of mild cognitive impairment due to Alzheimer's disease and Parkinson's disease. *Front Aging Neurosci* 2023;15:1134111. DOI: 10.3389/fnagi.2023.1134111

-Oliver-Mas S, Delgado-Alonso C, Delgado-Álvarez A, Díez-Cirarda M, Cuevas C, Fernández-Romero L, Matías-Guiu A, Valles-Salgado M, Gil-Martínez L, Gil-Moreno MJ, Yus M, Matias-Guiu J, **Matias-Guiu JA***. Transcranial current stimulation (tDCS) for post-COVID fatigue: a randomized, double-blind, controlled pilot study. *Brain Communications* 2023;5:fcad117. DOI: 10.1093/braincomms/fcad117

- Delgado-Álvarez A, Delgado-Alonso C, Goudsmit M, García-Ramos R, Gil-Moreno MJ, Valles-Salgado M, Díez-Cirarda M, Zamarrón-Cassinello MD, Matías-Guiu J, **Matías-Guiu JA***. Validation of the Cross-Cultural Dementia Screening test in Alzheimer's disease and Parkinson's disease. *Front Psychol* 2023;13:1043721. DOI: 10.3389/fpsyg.2022.1043721

-**Matias-Guiu JA***, Herrera E, González-Nosti M, Krishnan K, Delgado-Alonso C, Díez-Cirarda M, Yus M, Martínez-Petit A, Pagán J, Matías-Guiu J, Ayala JL, Busch R, Hermann BP. Development of criteria for cognitive dysfunction in post-COVID syndrome: the IC-CoDI-COVID approach. *Psychiatry Research* 2023;319:115006. DOI: 10.1016/j.psychres.2022.115006

- Díez-Cirarda M, Yus M, Gómez-Ruiz N, Polidura C, Gil-Martínez L, Delgado-Alonso C, Jorquera M, Gómez-Pinedo U, Matías-Guiu J, Arrazola J, **Matías-Guiu JA***. Multimodal neuroimaging in post-COVID syndrome and correlation with cognition. *Brain* 2023;146:2142-2152. DOI: 10.1093/brain/awac384

- Hancock L, Galioto R, Samsonov A, Busch R, Hermann B, **Matias-Guiu JA**. A proposed new taxonomy of cognitive phenotypes in Multiple Sclerosis: the International Classification of Cognitive Disorders in MS (IC-CoDiMS). *Mult Scler* 2023;29:615-627 10.1177/13524585221127941

- Valles-Salgado M, Cabrera-Martin MN, Curiel-Cid RE, Delgado-Álvarez A, Delgado-Alonso C, Gil MJ, Matías-Guiu J, Loewenstein DA, **Matías-Guiu JA***. Neuropsychological, metabolic, and connectivity underpinnings of semantic interference deficits using the LASSI-L. *J Alzheimers Dis* 2022;90:823-840. DOI: 10.3233/JAD-220754

- Mejía-Rentería H, Travieso A, **Matias-Guiu JA**, Yus M, Espejo C, Finocchiaro F, Fernández S, Gómez-Escalonilla C, Reneses B, Gómez-Garré D, Delgado-Álvarez A, Bustos A, Pérez de Isla L, Gómez de Diego JJ, Modrego-Martín J, Ortega-Hernández A, Papadopoulos P, Arrazola J, Matías-Guiu J, Escaned J. Coronary microvascular dysfunction in ischaemic heart disease is associated with brain changes and impaired cognitive function: the Coronary Cerebral Connection Study (C3 Study). *Eur Heart J* 2023;44:113-125. DOI: 10.1093/eurheartj/ehac521

- Delgado-Álvarez A, Cabrera-Martín MN, Valles-Salgado M, Delgado-Alonso C, Gil MJ, Díez-Cirarda M, Matias-Guiu J, **Matias-Guiu JA*.** Neural basis of visuospatial tests in behavioral variant frontotemporal dementia. *Front Aging Neurosci* 2022;14:963751. DOI: 10.3389/fnagi.2022.963751

- Delgado-Alonso C, Valles-Salgado M, Delgado-Álvarez A, Yus M, Gómez-Ruiz N, Jorquera M, Polidura C, Gil MJ, Marcos A, Matías-Guiu J, **Matías-Guiu JA***. Cognitive dysfunction associated with COVID-19: a comprehensive neuropsychological study. *Journal of Psychiatric Research* 2022;150:40-46. DOI: 10.1016/j.jpsychires.2022.03.033

- Díaz-Álvarez J, **Matías-Guiu JA***, Cabrera-Martín MN, Pytel V, Segovia-Ríos I, García-Gutiérrez F, Hernández-Lorenzo L, Matías-Guiu J, Carreras JL, Ayala JL. Genetic algorithms for optimized diagnosis of Alzheimer's disease and frontotemporal dementia using fluorodeoxyglucose positron emission tomography imaging. *Front Aging Neurosci* 2022;13:708932. DOI: 10.3389/fnagi.2021.708932

- **Matías-Guiu JA***, Suárez-Coalla P, Yus M, Pytel V, Hernández-Lorenzo L, Delgado-Alonso C, Delgado-Álvarez A, Gómez-Ruiz N, Polidura C, Cabrera-Martín MN, Matías-Guiu J, Cuetos F. Identification of the main components of spontaneous speech in primary

progressive aphasia and their neural underpinnings using multimodal MRI and FDG-PET imaging. *Cortex* 2022;146:141-160. DOI: 10.1016/j.cortex.2021.10.010

- Delgado-Álvarez A, Cabrera-Martín MN, Pytel V, Delgado-Alonso C, Matías-Guiu J, **Matías-Guiu JA*.** Design and verbal fluency in Alzheimer's disease and frontotemporal dementia: clinical and metabolic correlates. *Journal of International Neuropsychological Society* 2022;28:947-962. DOI: 10.1017/S1355617721001144

- Pytel V, Cabrera-Martín MN, Delgado-Álvarez A, Ayala JL, Balugo P, Delgado-Alonso C, Yus M, Carreras MT, Carreras JL, Matías-Guiu J, **Matías-Guiu JA***. Personalized repetitive transcranial magnetic stimulation for primary progressive aphasia. *J Alzheimers Dis* 2021;84:151-167. DOI: 10.3233/JAD-210566

- **Matías-Guiu JA***, Suárez-Coalla P, Pytel V, Cabrera-Martín MN, Moreno-Ramos T, Delgado-Alonso C, Delgado-Álvarez A, Matías-Guiu J, Cuetos F. Reading prosody in the non-fluent and logopenic variants of primary progressive aphasia. *Cortex* 2020;132:63-78. DOI: 10.1016/j.cortex.2020.08.013

- Porta-Etessam J, **Matías-Guiu JA**, González-García N, Gómez-Iglesias P, Santos-Bueso E, Arriola-Villalobos P, García-Azorín D, Matías-Guiu J. Spectrum of headaches associated with SARS-CoV-2 infection. Study of healthcare professionals. *Headache* 2020;60:1697-1704. DOI: 10.1111/head.13902

-Matías-Guiu JA*, Díaz-Álvarez J, Cuetos F, Cabrera-Martín MN, Segovia-Ríos I, Pytel V, Moreno-Ramos T, Carreras JL, Matías-Guiu J, Ayala JL. Machine learning in the clinical and language characterisation of primary progressive aphasia variants. *Cortex* 2019;119:312-323. DOI: 10.1016/j.cortex.2019.05.007

Competitive Research Projects (last 5 years):

1. Project: CD22/00043 Sara Borrell Contract. Instituto de Salud Carlos III (HOSPITAL CLINICO SAN CARLOS RESEARCH FOUNDATION). 01/01/2023-12/31/2025. Principal Investigator.
2. Project: Randomized and Double-Blind Clinical Trial of Long-Term Transcranial Magnetic Stimulation in Primary Progressive Aphasia (RECONNECT-PPA). Instituto de Salud Carlos III (HOSPITAL CLINICO SAN CARLOS RESEARCH FOUNDATION). 01/01/2023-12/31/2025. Principal Investigator. €123,420.
3. Project: FI20/00145 PFIS Contract. Instituto de Salud Carlos III (HOSPITAL CLINICO SAN CARLOS RESEARCH FOUNDATION). 01/01/2021-12/31/2024. €82,400. Principal Investigator.
4. Project: ICI20/00074 Amantadine and Transcranial Magnetic Stimulation for Fatigue in Multiple Sclerosis: Phase III, Controlled, Randomized, Crossover, Double-Blind Trial. Instituto de Salud Carlos III (HOSPITAL CLINICO SAN CARLOS RESEARCH FOUNDATION). 01/01/2021-12/31/2024. €999,680. Coordinator.
5. Project: G63-HEALTHSTARPLUS-HSP4, G63-HEALTHSTARPLUS-HSP4 Transcranial Direct Current Stimulation for Fatigue Originating from COVID Infection. Direct transcranial stimulation for the treatment of post-COVID-19 persistent fatigue. MADRIMASD FOUNDATION FOR KNOWLEDGE.

(HOSPITAL CLINICO SAN CARLOS RESEARCH FOUNDATION). 03/01/2022-12/31/2022. €78,946. Principal Investigator.

6. Project: INT20/00079 Contract for the Intensification of Research Activity in the National Health System. Instituto de Salud Carlos III (HOSPITAL CLINICO SAN CARLOS RESEARCH FOUNDATION). 01/01/2021-12/31/2022. €60,000. Principal Investigator.
7. Project: PI19/01260 Cross-Cultural Neuropsychological Assessment. (HOSPITAL CLINICO SAN CARLOS RESEARCH FOUNDATION). 01/01/2020-12/31/2022. €49,610. Principal Investigator.
8. Project: PTA.17/13618 Technical Support Staff Grants. Ministry of Economy and Finance. (HOSPITAL CLINICO SAN CARLOS RESEARCH FOUNDATION). 05/22/2018-05/19/2022. Principal Investigator.
9. Project: Cognitive Post-COVID Symptoms: Early Detection of Neurodegenerative Diseases. Ministry of Health and Consumer Affairs. (HOSPITAL CLINICO SAN CARLOS RESEARCH FOUNDATION). 01/01/2022-03/01/2022. €10,000. Principal Investigator.
10. Project: RED2018-102677-T. Translational Research on Pharmacological Regulation of NRF2 in Non-Communicable Diseases. (Autonomous University of Madrid). 01/01/2020-12/31/2021. €20,000. Team Member.
11. Project: PIE16/00043. Coronary Microcirculation Dysfunction, Small Vessel Brain Disease, and Depression in Patients with Ischemic Heart Disease. Instituto de Salud Carlos III (HOSPITAL CLINICO SAN CARLOS RESEARCH FOUNDATION). 2017-2021. €376,200.
12. Project: B2017/BMD-3760. Neurocentro-CM. (HOSPITAL CLINICO SAN CARLOS RESEARCH FOUNDATION). 2018-2019.
13. Project: PI16/01976. Preoperative Plasticity Induction in Eloquent Brain Tumors. Instituto de Salud Carlos III. (HOSPITAL CLINICO SAN CARLOS RESEARCH FOUNDATION). 2017-2019. €272,552.5. Team Member.
14. Project: ERAPERMED2021-127 Personalized aging pattern for early risk detection and prevention of cognitive impairment and dementia in cognitively healthy individuals (Pattern-Cog). European Commission. Since 01/01/2022. Team Member.