Ana Luísa Pinho

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Twitter: @ALuisaPinho
LinkedIn: linkedin.com/in/analuisapinho
ResearchGate: https://www.researchgate.net/profile/Ana-Pinho-25
Academia.edu: https://uwontario.academia.edu/AnaLuisaPinho

Research Interests

Cognitive&Systems Neuroscience and Music Cognition

- Development of deep-behavioral-phenotyping strategies, namely data-driven approaches in large task-fMRI datasets, to inspect cognitive components of the phenotype and their network consistency/variability across individuals
- Investigation of high-order neurocognitive mechanisms involved in both musical performance and perception

Neuroimaging

- Focus in Functional Magnetic Resonance Imaging (fMRI)

Functional Brain Atlasing

- Development of encoding models, leveraging machine-learning techniques, to perform functional mapping of cognition in the human brain
- Development of a common framework of psycho-physiological constructs

Data Science and Neuroinformatics

- Development of big-data and data-sharing frameworks to facilitate mega-analyses and reproducibility in systems neuroscience and neuroimaging.
- Revision of large-scale cognitive ontologies

Current position

2021 – Present Tier I *BrainsCAN Postdoctoral Fellow*, University of Western Ontario, London ON, Canada
Faculty Advisor and Collaborator: Jessica Grahn and Jörn Diedrichsen

Appointments held

2015 – 2020 *Postdoctoral Researcher*, Parietal Team, Inria Saclay Centre, Paris-Saclay University, France
Advisor: Bertrand Thirion

Education

2009 – 2015 PhD in Health Sciences (branch: Biomedical Sciences)
Institutions: Karolinska Institutet (Stockholm, Sweden) and
Faculty of Medicine of the University of Coimbra (Coimbra, Portugal)
Thesis title: *Inside of the Creative Mind: Unravelling the Neurocognitive Mechanisms of Musical Creativity* (http://hdl.handle.net/10316/27005)
Faculty Advisors: Fredrik Ullén, Örjan de Manzano, Peter Fransson, Miguel Castelo-Branco

1999 – 2008 MSc + Licentiate Degrees (Integrated Master) in Engineering Physics
Institution: Instituto Superior Técnico (IST), University of Lisbon (Lisbon, Portugal)
Thesis Title: *Probabilistic non-linear earthquake location in a 3–D velocity model* (https://fenix.tecnico.ulisboa.pt/cursos/meft/dissertacao/2353642196027)
Faculty Advisor: João Fonseca

Fellowships, Grants & Awards

2021 – Present Tier I BrainsCAN Postdoctoral Fellowship Canada First Research Excellence Fund (CFREF), Canada
Amount (5y): ∼**389.000 CAD**

2013 – 2014 Research Fellowship, Sven and Dagmar Saléns Foundation (Stockholm, Sweden)
Amount: ∼**144.000 SEK**

2013 Prize of *The Best Poster Communication* in the Symposium "Music, Poetry & The Brain - Celebrating Wagner's Bicentennial", Rectory of NOVA University Lisbon (Lisbon, Portugal)

2009 – 2013 PhD Studentship from Foundation for Science and Technology (FCT) (SFRH/BD/33895/2009) under the PHD Programme in Experimental Biology and Biomedicine of Center for Neuroscience and Cell Biology, University of Coimbra (Coimbra, Portugal)
Amount: ∼**80.153 €**

2006 – 2007 Scientific Initiation Grant in Seismology from FCT, Instituto Superior Técnico (Lisbon, Portugal)
Amount: ∼**3.600 €**

Research

Research Experience

2021 – Present *Postdoctoral Fellow*: *(1)* application of brain-atlasing techniques and musical tasks to chart the cortico-basal ganglia-cerebellar circuitry involved in the cognitive ability of forming temporal predictions during rhythmic and non-rhythmic sequences of events; *(2)* development of individualized encoding models suitable to be used in an ensemble of fMRI datasets, wherein individual parcellations on functional maps of the human brain can be extracted through integration of group-level parcels with individual data and using a hierarchical Bayesian parcellation scheme.

2015 – 2020 *Postdoctoral Researcher*: *(1)* development of a multimodal neuroimaging dataset for large-scale functional atlasing and cognitive mapping of the human brain; *(2)* application of mega-analytic encoding models to fMRI data for brain atlasing, namely for the improvement of functional specificity in neuroimaging relative to elementary cognitive components that modulate behavior.

2010 – 2014 *Graduate Researcher*: investigation of the neural correlates of musical creativity, using fMRI as neuroimaging technique and musical improvisation as model behavior.

2005 – 2006 *Undergraduate Research Assistant*: process and analysis of seismic data and maintenance of the IST seismic stations.

Main Scientific Projects

2022 – Present *NeuroCausal* / Main Investigators: Valentina Borghesani, Sladjana Lukic, Pedro Pinheiro-Chagas, Isil Bilgin

2021 – Present BrainsCAN Postdoctoral-Fellowship Project: *Novel brain atlasing techniques to reveal the cerebellar role in music cognition* / Main Investigator: **Ana Luísa Pinho** (with supervision from Faculty Advisors)

2021 – Present Canadian Institutes Health Research (CIHR) Project: *Mapping the Human Cerebellum* / Principal Investigator: Jörn Diedrichsen

2020 – Present *WHATNET* / Principal Investigators: Lucina Uddin, Nathan Spreng, Thomas Yeo

2015 – 2020 *Individual Brain Charting* (IBC): SP2 Human Brain Organization – Work Package 2.1 "Multimodal whole mapping" of the *Human Brain Project* (HBP) / Principal Investigator: Bertrand Thirion

2011 – 2014 *Kartläggning av hjärnområden involverade i hierarkisk kontroll av långa motoriska sekvenser hos musiker och icke-musicker* ("Mapping of brain areas involved in the hierarchical control of long motor sequences of musicians and non-musicians") – *Swedish Research Council* (Grant: `521-2010-3195`) / Principal Investigator: Fredrik Ullén

News&Views

2023 (preprint) Zhi, D., Shahshahani, L., Nettekoven, C., **Pinho, A. L.**, Bzdok, D., & Diedrichsen, J. A hierarchical Bayesian brain parcellation framework for fusion of functional imaging datasets. (*journal article accepted in Imaging Neuroscience.*) doi: 10.1101/2023.05.24.542121

2023 (preprint) Kong, R., Uddin, L. Q., Betzel, R., Cohen, J. R., Damoiseaux, J. S., De Brigard, F., Eickhoff, S. B., Fornito, A., Gratton, C., Holmes, A., Laird, A. R., Larson-Prior, L., Nickerson, L. D., **Pinho, A. L.**, Razi, A., Sadaghiani, S., Yendiki, A., Yeo, B. T. T., & Spreng, R. N. Consensus, convergence, and correspondence among functional brain network atlases. (*journal article under review.*) doi: 10.1101/2024.06.17.599426

2024 Aggarwal, H., Ponce, A. F., Shankar, S., Mzayek, Y., Pérez-Millan, A., **Pinho, A. L.**, Thual, A., & Thirion, B. Subject fingerprinting and task classification rely on distinct functional connectivity features (*journal article under review.*)

2024 Aggarwal, H., Ponce, A. F., Shankar, S., Torre, J. J., Thual, A., **Pinho, A. L.**, Ginisty, C., Lecomte, Y., Berland, V., Beriot, L., Laurier, L., Joly-Testault, V., Médiouni-Cloarec, G., Hertz-Pannier, L., Doublé, C., Martins, B., Dehaene, S., Wolbers, T., Shafto, M. A., Dolan, R. J., Schonberg, T., Poldrack, R. A., Grill-Spector, K., Lee, A. C. H., Potkin, S. G., Chang, D. H. F., Astle, D. E., & Thirion, B. Individual Brain Charting dataset extension, fifth release of high-resolution fMRI data for cognitive mapping. (*journal article in preparation.*)

2024 Ponce, A. F., Aggarwal, H., **Pinho, A. L.**, Thual, A., Shankar, S., Torre, J. J., Ginisty, C., Lecomte, Y., Berland, V., Beriot, L., Laurier, L., Joly-Testault, V., Médiouni-Cloarec, G., Hertz-Pannier, L., Doublé, C., Martins, B., & Thirion, B. Individual Brain Charting: final release of high-resolution fMRI data for precision neuroimaging. (*journal article in preparation.*)

Publications

h-index: 10
i10-index: 11

Journal articles

2024 Nettekoven, C., Zhi, D., Shahshahani, L., **Pinho, A. L.**, Saadon-Grosman, N., Buckner, R. L., & Diedrichsen, J. A hierarchical atlas of functional regions in the cerebellum. *Nature Communications.* 15, 8376. doi: 10.1038/s41467-024-52371-w

2024 **Pinho, A. L.**, Richard, H., Ponce, A. F., Eickenberg, M., Amadon, A., Dohmatob, E., Denghien, I., Torre, J. J., Shankar, S., Aggarwala, H., Thual, A., Chapalain, T., Ginisty, C., Becuwe-Desmidt, S., Roger, S., Lecomte, Y., Berland, V., Laurier, L., Joly-Testault, V., Médiouni-Cloarec, G., Doublé, C., Martins, B., Varoquaux, G., Dehaene, S., Hertz-Pannier, L., & Thirion, B. Individual Brain Charting third release, probing brain activity during Movie Watching and Retinotopic Mapping. *Scientific Data* 11(1):590. doi: 10.1038/s41597-024-03390-1

2024 Thirion, B., Aggarwal, H., Ponce, A. F., **Pinho, A. L.**, & Thual A. Should one go for individual or group-level brain parcellations? A deep-phenotyping benchmark. *Brain Structure and Function*; 229(1):161-181. doi: 10.1007/s00429-023-02723-x

2023 Uddin, L. Q., Betzel, R. F., Cohen, J. R., Damoiseaux, J. S., De Brigard, F., Eickoff, S. B., Fornito, A., Gratton, C., Gordon, E. V., Laird, A., Larson-Prior, L. J., McIntosh, A. R., Nickerson, L. D., **Pinho, A. L.**, Poldrack, R., Razi, A., Sadaghiani, S., Shine, J. M., Yendiki, A., Yeo, B. T. T., & Spreng, R. N. Controversies and progress on standardization of large-scale brain network nomenclature. *Network Neuroscience*; 7(3):864-905. doi: 10.1162/netn_a_00323

2021 Levitis, E., Gould van Praag, C. D., Gau, R., Heunis, S., DuPre, E., (…), **Pinho, A. L.**, (…), & Maumet, C. Centering inclusivity in the design of online conferences—An OHBM–Open Science perspective. *GigaScience*; 10(8):giab051. doi: 10.1093/gigascience/giab051

2021 Thirion, B., Thual, A., & **Pinho, A. L.** From deep brain phenotyping to functional atlasing. *Current Opinion in Behavioral Sciences*; 40:201-202. doi: 10.1016/j.cobeha.2021.05.004

2021 Dohmatob, E., Richard, H., **Pinho, A. L.**, & Thirion, B. Brain topography beyond parcellations: local gradients of functional maps. *NeuroImage*; 229:117706. doi: 10.1016/j.neuroimage.2020.117706

2021 **Pinho, A. L.**, Amadon, A., Fabre, M., Dohmatob, E., Denghien, I., Torre, J. J., Ginisty, C., Becuwe-Desmidt, S., Roger, S., Laurier, L., Joly-Testault, V., Médiouni-Cloarec, G., Doublé C., Martins, B., Pinel, P., Eger, E., Varoquaux, G., Pallier, C., Dehaene, S., Hertz-Pannier, L., & Thirion, B. Subject-specific segregation of functional territories based on deep phenotyping. *Human Brain Mapping*; 42(4):841-870. doi: 10.1002/hbm.25189

2021 (preprint) Torre, J. J., **Pinho, A. L.**, Shankar, S., Amadon, A., Saignavongs, M., Perrone-Bertolotti, M., Bazeille, T., Dohmatob, E., Denghien, I., Ginisty, C., Becuwe-Desmidt, S., Roger, S., Lecomte, Y., Berland, V., Laurier, L., Médiouni-Cloarec, G., Doublé, C., Martins, B., Lachaux, J.-P., Bissett, P. G., Enkavi, A. Z., Eisenberg, I., Poldrack, R., Santoro, R., Formisano, E., Varoquaux, G., Dehaene, S., Hertz-Pannier, L., & Thirion, B. Individual Brain Charting dataset extension, fourth release of high-resolution fMRI data for cognitive mapping. (*updated version in preparation and to be submitted soon.*) HAL Id: hal-04668980, version 1

2020 **Pinho, A. L.**, Amadon, A., Ruest, T., Fabre, M., Gauthier, B., Clairis, N., Knops, A., Genon, S., Dohmatob, E., Denghien, I., Torre, J. J., Ginisty, C., Becuwe-Desmidt, S., Roger, S., Lecomte, Y., Berland, V., Laurier, L., Joly-Testault, V., Médiouni-Cloarec, G., Doublé, C., Martins, B., Salmon, E., Piazza, M., Melcher, D., Pessiglione, M., van Wassenhove, V., Pinel, P., Eger, E., Varoquaux, G., Pallier, C., Dehaene, S., Hertz-Pannier, L., & Thirion, B. Individual Brain Charting dataset extension, second release of high-resolution fMRI data for cognitive mapping. *Scientific Data*; 7(1): 353. 10.1038/s41597-020-00670-4

2019 (preprint) Richard, H., Martin, L., **Pinho, A. L.**, Pillow, J., & Thirion, B. Fast shared response model for fMRI data. arXiv: 1909.12537

2019 Schrouff, J., Pischedda, D., Genon, S., Fryns, G., **Pinho, A. L.**, Vassena, E., Liuzzi, A. G., & Ferreira, F. S. - Gender bias in (neuro)science: Facts, consequences, and solutions - *European Journal of Neuroscience*; 50(7):3094-3100. doi: 10.1111/ejn.14397

2018 **Pinho, A. L.**, Amadon, A., Ruest, T., Fabre, M., Dohmatob, E., Denghien, I., Ginisty, C., Becuwe-Desmidt, S., Roger, S., Laurier, L., Joly-Testault, V., Médiouni-Cloarec, G., Doublé, C., Martins, B., Pinel, P., Eger, E., Varoquaux, G., Pallier, C., Dehaene, S., Hertz-Pannier, L., & Thirion, B. - Individual Brain Charting, a high-resolution fMRI dataset for cognitive mapping - *Scientific Data*; 5:180105. doi: 10.1038/sdata.2018.105.

2016 **Pinho, A. L.**, Ullén, F., Castelo-Branco, M., Fransson, P., & de Manzano, Ö. - Addressing a Paradox: Dual Strategies for Creative Performance in Introspective and Extrospective Networks - *Cerebral Cortex*; 26(7):3052-63. doi: 10.1093/cercor/bhv130.

2014 **Pinho, A. L.**, de Manzano, Ö, Fransson, P., Eriksson, H, & Ullén, F. - Connecting to Create: Expertise in Musical Improvisation Is Associated with Increased Functional Connectivity between Premotor and Prefrontal Areas - *The Journal of Neuroscience*; 34(18):6156-63.
doi: 10.1523/JNEUROSCI.4769-13.2014

Conference Papers

2024 **Pinho, A. L.**, Yoon, J., & Diedrichsen, J. - Individual brain parcellations for cognitive mapping obtained from a hierarchical Bayesian framework. CCN2024 - Conference on Cognitive Computational Neuroscience, August 2024, Boston, United States. https://2024.ccneuro.org/poster/?id=265 (*DOI will become available soon.*)

2024 Bilgin, I. P., Paugam, F., Huang, R., **Pinho, A. L.**, Zhou, Y., Lukic, S., Pinheiro-Chagas, P., & Borghesani, V. NeuroCausal: Development of an Open Source Platform for the Storage, Sharing, Synthesis, and Meta-Analysis of Neuropsychological Data. In Moia, S. *et al.* Proceedings of the OHBM Brainhack 2022. *Aperture Neuro*; 4:12-13. doi: 10.52294/001c.92760

2018 Richard, H., **Pinho, A. L.**, Thirion, B., & Charpiat, G. - Optimizing deep video representation to match brain activity. CCN2018 - Conference on Cognitive Computational Neuroscience, September 2018, Philadelphia, United States. hal id: hal-01868735

Books

2018 **Pinho, A. L.**, The Neuropsychological Aspects of Musical Creativity. (2018) In Kapoula, Z., Volle, E., Renoult, J., Andreatta, M. (Eds.), *Exploring Transdisciplinarity in Art and Sciences* (pp 77-103) Springer. doi: 10.1007/978-3-319-76054-4_4

Non-Refereed contributions

2020 **Pinho, A. L.**, Torre, J. J., Shankar, S., & Thirion, B. Individual Brain Charting: Dataset Documentation. Available on: https://project.inria.fr/IBC/

Datasets

2021b **Pinho, A. L.** et al. Individual Brain Charting (IBC). *EBRAINS*, v3.0 DOI: 10.25493/SM37-TS4

2021a **Pinho, A. L.**, Hertz-Pannier, L., Thirion, B. IBC. *OpenNeuro*, ds002685 v1.3.1.
DOI: 10.18112/openneuro.ds002685.v1.3.1

2020 **Pinho, A. L.** et al. Individual Brain Charting dataset extension, second release of high-resolution fMRI data for cognitive mapping. *NeuroVault*, id collection=6618.
Persistent Identifier: https://identifiers.org/neurovault.collection:6618

Software

2024 – Present Contributer to *HierarchBayesParcel*: "A Hierarchical Bayesian Brain Parcellation Framework for fusion of functional imaging datasets.",
URL: https://github.com/DiedrichsenLab/HierarchBayesParcel

2023 – Present Contributer to *SUITPy*: "Analysis and visualization of cerebellar imaging data.", URL: https://github.com/DiedrichsenLab/SUITPy

2022 – Present Contributer to *Functional_Fusion*: "Fusion framework for management of functional imaging datasets", URL: https://github.com/DiedrichsenLab/Functional_Fusion

2022 – Present Contributer to *NeuroCausal*: "An open data sharing and metadata synthesis platform for clinical data", URL: https://neurocausal.github.io

2021 – Present Contributer to *WiNRepo*: "Women in Neuroscience Repository" URL: https://github.com/WomenInNeuroscience/winrepo

2017 – Present Contributer to *Nilearn*: "Statistics and Machine Learning for NeuroImaging in Python" URL: https://github.com/nilearn/nilearn

2015 – Present Contributer to *public_analysis_code*: "Repository of Public Analysis Code for the IBC Project" URL: https://github.com/individual-brain-charting/public_analysis_code

2015 – 2020 Contributer to *public_protocols*: "This repository hosts public protocols for the IBC project." URL: https://github.com/individual-brain-charting/public_protocols

Blog Posts

2020 "The Individual Brain Charting project, a high-resolution, task-fMRI dataset for a comprehensive cognitive mapping of the human brain.", Behind the Paper, Springer Nature - Research Data Community. URL: https://researchdata.springernature.com/posts/the-individual-brain-charting-project

Review Assignments

Ad hoc reviewer for: *Cerebral Cortex*, *NeuroImage*, *Scientific Data*, *Scientific Reports*, *Brain Structure and Function*, *Brain Imaging and Behavior*, *Frontiers in Psychology* and *PeerJ Computer Science*.

Conferences and Seminars

Talks

Note: Slides of my latest talks can be found on SlideShare.

2024 "Deep Behavioral Phenotyping in Systems Neuroscience for Functional Atlasing and Cognitive Mapping of the Human Brain", Talk at the Department of Psychology, University of Alberta, Edmonton, Alberta, Canada

2023 "Deep behavioral phenotyping in functional MRI for cognitive mapping of the human brain", Seminar at MNI Feindel Brain and Mind Lecture Series organized by The McConnell Brain Imaging Centre (BIC) and Montreal Neurological Institute (The Neuro), McGill University, Montreal, Quebec, Canada

2023 "Deep behavioral phenotyping in functional MRI for cognitive mapping of the human brain", Online Seminar at Cognitive Science Lab, International Institute of Information Technology in Hyderabad (IIIT-H)

2022 "Deep behavioral phenotyping in functional MRI for cognitive mapping of the human brain", Seminar at SIMEXP Lab, Institut universitaire de gériatrie de Montréal (IUGM), University of Montreal, Montreal, Quebec, Canada

2021c "The Women in Neuroscience Repository (WiNRepo)", BrainHack Western Fall 2021

2021b "Individual functional atlasing of the human brain with multitask fMRI data: leveraging the IBC dataset", Online Seminar for the Stockholm University Brain Imaging Centre

2021a "Individual functional atlasing of the human brain with multitask fMRI data: leveraging the IBC dataset", Online Seminar for the Diedrichsen Lab – Western University

2020e "Individual functional atlasing of the human brain with multitask fMRI data: leveraging the IBC dataset", Online Seminar for the Poldrack Lab – Stanford University

2020d "Individual functional atlasing of the human brain with multitask fMRI data: leveraging the IBC dataset", Online Seminar for the Institute of Neuroscience and Medicine, Brain and Behaviour (INM-7) – Jülich Research Center

2020c "The Women in Neuroscience Repository (WiNRepo): improving the visibility of women neuroscientists", Open Theatre Sessions, Federation of European Neuroscience Societies (FENS) 2020 Virtual Forum

2020b "Segregation of functional territories in individual brains", Oral presentation in Session *Modeling and Analysis: Variability in Brain Activation*, Organization for Human Brain Mapping (OHBM) Annual (Virtual) Meeting 2020

2020a "Individual Brain Charting dataset extension: second and third releases", Open Science Room (session: *Open Data 2.0*), OHBM Annual (Virtual) Meeting 2020

2019d "Individual Brain Charting, a high-resolution fMRI dataset for cognitive mapping of the human brain", Open Science Room (session: *From statistical to biological validity*), OHBM Annual Meeting 2019, Rome, Italy

2019c "Individual Brain Charting, a high-resolution fMRI dataset for cognitive mapping of the human brain.", Science Pizza event, Institute for Brain and Spinal Cord (ICM), Paris, France

2019b "Individual Brain Charting, a high-resolution fMRI dataset for cognitive mapping of the human brain.", The 5th CiNet Conference, Center for Information and Neural Networks (CiNet), Osaka, Japan

2019a "Individual Brain Charting, a high-resolution fMRI dataset for cognitive mapping of the human brain", 3rd HBP Student Conference, Ghent, Belgium

2018 "Individual Brain Charting highlights", Physical HBP-SP2 Meeting, Florence, Italy

2014 "Mecanismos Neurocognitivos associados à Criatividade Musical" ("Neurocognitive Mechanisms of Musical Creativity"), Scientific Congress organized by Núcleo de Estudantes de Farmácia da Associação Académica de Coimbra (NEF/AAC), Coimbra, Portugal

2013a "Neural Basis of Expertise in Musical Creativity", Neuroscience 2013 (Annual Meeting of SfN), San Diego, USA

2012 "Anatomical and Functional Brain Reorganizations Associated with Expertise in Musical Creativity" (PhD Half-Time Seminar), Annual Meeting of Centre for Neuroscience and Cell Biology (CNC), BIOCANT Park, Cantanhede, Portugal

Panel Discussions

2023 Panel Member at OHBM2023 podcast "Neurosalience", Montreal, Canada (see Section Media)

2021 "Deep neuroimaging data - a community perspective", OHBM 2021 Brainhack

Poster Presentations

2024 "Individual brain parcellations for cognitive mapping obtained from a hierarchical Bayesian framework", Cognitive Computational Neuroscience 2024 (CCN2024), Boston, Massachusetts, USA

2024 "The Cortico-Basal Ganglia-Cerebellar pathways of forming beat- and interval-based temporal predictions", The Neurosciences and Music – VIII: Wiring, re-wiring, and well-being, Helsinki, Finland

2024 "The Cortico-Basal Ganglia-Cerebellar pathways of forming beat- and interval-based temporal predictions", Cognitive Neuroscience Society (CNS), Toronto, Canada

2024 "The Cortico-Basal Ganglia-Cerebellar pathways of forming beat- and interval-based temporal predictions", L.O.V.E. Conference 2024, Niagara Falls, Canada

2023 "The Cortico-Basal Ganglia-Cerebellar pathways of forming beat- and interval-based temporal predictions", 19th Annual NeuroMusic Conference, MacMaster Institute for Music *&* The Mind, Hamilton, Canada

2023 "The Cortico-Basal Ganglia-Cerebellar pathways of forming beat- and interval-based temporal predictions", Timing Research Forum 3, Lisbon, Portugal

2023 "Assessing stability of individual brain parcellations through a deep-phenotyping, functional-fusion framework", 2023 Big Data Neuroscience Workshop, Columbus, Ohio, USA

2023 "Individual Brain Charting dataset: probing large-scale functional networks with naturalistic stimuli", OHBM Annual Meeting 2023, Montreal, Canada

2023 "The Cortico-Basal Ganglia-Cerebellar pathways of forming beat- and interval-based temporal predictions", L.O.V.E. Conference 2023, Niagara Falls, Canada

2020c "Individual functional atlasing for cognitive mapping of the human brain", FENS 2020 Virtual Forum

2020b "Segregation of functional territories in individual brains", OHBM Annual (Virtual) Meeting 2020

2020a "WP2.1 Multimodal whole-brain mapping", annual HBP Summit, Athens, Greece

2019b "Functional specialization in human cognition: a large-scale neuroimaging initiative", OHBM Annual Meeting 2019, Rome, Italy

2019a "Individual Brain Charting, a high-resolution fMRI dataset for cognitive mapping of the human brain" (Electronic Poster), Neuroscience 2018 (Annual Meeting of SfN), San Diego, USA

2018b "Individual Brain Charting, a high-resolution fMRI dataset for cognitive mapping" (Electronic Poster), Open Day of the 6th annual HBP Summit, Maastricht, Netherlands

2018a "Mapping human cognition at high spatial resolution with a task-rich fMRI dataset", OHBM Annual Meeting 2018, Singapore

2017c "Individual Brain Charting: a task-fMRI dataset for cognitive mapping", 5th annual HBP Summit, Glasgow, Scotland

2017b "Mapping cognitive concepts to brain activity with a high-resolution individual data and a cognitive ontology", OHBM Annual Meeting 2017, Vancouver, Canada

2017a "Individual Brain Charting: Mapping cognitive concepts to brain activity with a high-resolution individual data and a cognitive ontology", New Concepts in Neural Pattern Encoding, Neuroscience Workshop Saclay (NeWS), Gif-sur-Yvette, France

2016e "Individual Brain Charting: a neuroimaging database featuring the first functional atlas of the human brain" (Electronic Poster), Neuroscience 2016 (Annual Meeting of SfN), San Diego, USA

2016d "Individual Brain Charting: a comprehensive neuroimaging database towards a macroscopic representation of the human brain", 4th annual HBP Summit, Florence, Italy

2016c "Individual Brain Charting: a comprehensive neuroimaging database towards a macroscopic representation of the human brain", FENS, Copenhagen, Denmark

2016b "Individual Brain Charting: high-resolution normative fMRI database", OHBM Annual Meeting 2016, Geneva, Switzerland

2016a "High resolution encoding of cognitive information within the IBC project", New Concepts in Neural Pattern Encoding, NeWS, Gif-sur-Yvette, France

2014 "Feeling and structure - neural correlates of musical improvisation under different constraints", The Neurosciences and Music - V: Cognitive Stimulation and Rehabilitation, Dijon, France

2013 "Functional Brain Reorganizations Associated with Expertise in Musical Creativity", Music, Poetry & The Brain - Celebrating Wagner's Bicentennial, Lisboa, Portugal

2012 "Sex Differences in Training Effects - an fMRI study on Musical Improvisation", Workshop on Music in Neuroscience, Monte Verità, Ascona, Switzerland

2011 "Selection and Generation in Musical Creativity - an fMRI study", The Neurosciences and Music - IV: Learning and Memory, Edinburgh, UK

Collaborative-project Presentations

2017 Nilearn development - OHBM hackathon 2017, Vancouver, Canada

2016 Nistats development - Brainhack, Paris, France

Media

2023 OHBM Neurosalience Live Podcast S04E02 — *Mapping Individual Differences in the Human Brain*

2016 Communications Human Brain Project: *HBP Video Selfie Campaign - Ana Luisa*

2014 Interview *Inside Neuroscience - Tuning the Brain to Music: Creativity and Connetivity*, Neuroscience Quarterly (newsletter produced by Society for Neuroscience), Spring 2014

2014 Interview to American Association for the Advancement of Science (AAAS) - *Musical Creativity* - Science Update

2013 Participation in the Press Conference of Neuroscience 2013, SfN Conference - *Musical training shapes brain anatomy and affects function*, November 2013

2013 Interventions in the portuguese media with interviews to the radio TSF and the tv-channel ETV, November 2013

Pedagogical Skills

Teaching Interests

- Methods in Cognitive Neuroscience
- Principles of fMRI
- Analysis Methods for fMRI data
- Biostatistics
- Meta-Analysis in Human Neuroimaging
- Systems Neuroscience
- Cognitive Computational Neuroscience
- Data Science for Neuroscientists
- Machine Learning for Biomedical Data
- Neuroscience of Music

Co-Supervision and Mentoring

2021 – Present Tutor of several Research Assistants affiliated to the Music and Neuroscience Lab at Western University, London Ontario, Canada

2023 – 2024 Co-supervisor of Honours Thesis' Student, **Jennifer Yoon**, from the Department of Computer Science at Western University.
Title of the thesis: *Improving individual brain parcellations for cognitive mapping through a hierarchical Bayesian framework.* — Final Grade: 88% (UWO's grading scale: A)

2023 – 2024 Co-supervisor of Honours Thesis' Student, **Velda Addo**, from the Department of Psychology at Western University.
Title of the thesis: *The Effect of Music-Induced Mood and Arousal on Creative Cognition.* — Final Grade: 89% (UWO's grading scale: A)

2018 – 2020 Tutor of Technician on protocol implementation and MRI data collection for the IBC project.

Teaching Activity and Pedagogical Projects

2023 – 2024 Enrolment in the Western Certificate in University Teaching and Learning (WCUTL)

- Certificate of completion of WCUTL
- Letter of Accomplishment of WCUTL with detailed description of the modules covered in the program
- Certificate of completion of the *Microteaching* module, a curricular component of the WCUTL program.

2023 "Neurological Basis of Musical Performance: Musical Improvisation", Invited Lecture for the Postgraduate Program of "Neuroscience of Music" at Catholic University of Portugal, Lisbon, Portugal

Pedagogical Materials Produced

The following materials refer to two teaching lessons delivered for completion of the aforementioned *The Teaching Assistant Training Program* and *Teaching Mentor Program* modules.

- Microteaching Lesson 1: access to slides here.
- Microteaching Lesson 2: access to slides here.
- Teaching and Mentor Program lecture on the *Neurobiological Basis of Musical Performance: Musical Improvisation.* Access to slides here.

Competences

Computer skills

- Good command in *Unix* operating systems (e.g. *Ubuntu: Linux Distribution*) and *Windows* operating system
- **Programming**: Python (venv, pytest, Joblib), Bash, C, SQL, Lisp

- **Scientific Computing**: IPython, NumPy, SciPy, pingouin, MATLAB, GNU Octave, Jupyter Notebook, R, Wolfram Mathematica
- **Machine-Learning Frameworks**: scikit-learn, PyTorch, Google AI&MachineLearning Transformers
- **Data Maniputation&Visualization**: pandas, Matplotlib, Seaborn
- **Typesetting**: LaTeX(Document Classes: article, beamer, book and letter)
- **Software for Neuroimaging**: Nilearn, NiBabel, SPM - Statistical Parametric Mapping, FMRIB Software Library (FSL), FreeSurfer, Papaya, Connectome Workbench, MRIcron, MRIcroGL, BrainVoyager
- **Tools for designing and conducting multimodal-stimuli experiments in cognitive neuroscience**: Expyriment, pliers, Psychtoolbox, E-Prime&E-Basic, PsychoPy, Presentation
- **Software Engineering**: Git protocol (Platforms: GitHub and GitLab), Conda
- **Web/Databases**: HTML&CSS, Django
- **Miscellaneous**: GNU Emacs, gnuplot, Visual Studio Code, Office productivity softwares, GIMP - GNU Image Manipulation Program, Inkscape, darktable, Unison File Synchronizer, VeraCrypt, FFmpeg, Kdenlive, Statistica (by StatSoft and TIBCO Software)

Language Skills

- **Portuguese** – native speaker
- **English** – bilingual proficiency
- **French** – professional-working proficiency

Other Information

Independent Scientific Research

2022 – Present Member of the NeuroCausal Team
2020 – Present Member of the *WHATNET: Workgroup for HArmonized Taxonomy of NETworks*

Equity, Diversity & Inclusion (EDI)

2018 – Present Affirmative action in gender equity:
board member of the *Women in Neuroscience Repository* (WiNRepo). https://www.winrepo.org.

Memberships

2023 – Present Member of the *Cognitive Neuroscience Society*
2024 Member of the *Portuguese Society for Neuroscience*

Outreach and Communication Activities

2022 Promoting OurBrainsCAN to the London ON community at the TD Sunfest

2021 "Multilingual kids review – Portuguese session", OHBM Annual (Virtual) Meeting 2021

2013 "Neural Basis of Expertise in Musical Creativity", 3rd European Professional Women's Network (EPWN) Lisbon Annual Meeting - Creativity&Innovation - new economic models to overcome the crisis, Lisbon, Portugal