





Ana Luísa Pinho


BrainsCAN Postdoctoral Fellow

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About Me



I am a Neuroscientist with a background in Engineering Physics. My research focuses on the application of functional Magnetic Resonance Imaging (fMRI) and statistical techniques to map neurocognitive mechanisms in the human brain.



Expertise

-  Plan&Organize Multistep Projects
-  Analysis of High-Dimensional Data
-  Scientific Writing


Languages


 Portuguese 

 English 

 French 

Social Network


 @alpinho


 @ALuisaPinho@fediscience.org

 @ALuisaPinho

 linkedin.com/in/analuisapinho

Memberships

 Member of the Organization for Human Brain Mapping

 Member of the Portuguese Society for Neuroscience

Professional Experience

2021 – Present **Tier I BrainsCAN Postdoctoral Fellow**

Western University, CA

- Functional mapping of the cortico-striatal-cerebellar circuitry involved in the cognitive ability of forming temporal predictions during rhythmic and non-rhythmic sequences of events.
- Development of encoding models to improve functional specificity in neuroimaging relative to elementary cognitive components that modulate behavior.

2015 – 2020 **Postdoctoral Researcher**

Parietal Team – Inria Saclay, FR

- Development of the Individual Brain Charting (IBC) dataset, an open-access, multi-task fMRI-data initiative.
- Development of an individual-functional-atlasing approach to link functional segregation of specialized brain regions to elementary mental functions, by leveraging the IBC dataset.

Education

Postgraduate

2009 – 2015 **PhD**

Biomedical Sciences

Karolinska Institutet, SE and University of Coimbra, PT

Thesis: *Inside of the Creative Mind: Unravelling the Neurocognitive Mechanisms of Musical Creativity*

Undergraduate

1999 – 2008 **MSc + Licentiate Degrees**
Engineering Physics

Instituto Superior Técnico – ULisboa, PT

Thesis: *Probabilistic non-linear earthquake location in a 3-D velocity model*

Fellowships, Grants & Awards

2010 – Present **BrainsCAN Postdoc. Fellowship**
Amount (2y): **150K CAD**

Canada First Research Excellence Fund, CA

2013 – 2014 **Research Fellowship**
Amount: ~**144K SEK**

Sven and Dagmar Saléns Foundation, SE

2013 Prize of **The Best Poster Communication**
Symposium “Music, Poetry & The Brain - Celebrating Wagner’s Bicentennial”

Rectory of NOVA ULisboa, PT

2009 – 2013 **PhD Studentship**
SFRH/BD/33895/2009
Amount: ~**80K €**

Foundation for Science and Technology, PT

2006 – 2007 **Scientific Initiation Grant**
Seismology
Amount: ~**3.600 €**

Foundation for Science and Technology, PT

Ad Hoc Reviewer

Journals

Cerebral Cortex, NeuroImage, Scientific Data, Scientific Reports, Brain Structure and Function, Brain Imaging and Behavior and Frontiers in Psychology

Advocay

Gender Equity

Board member of the *Women in Neuroscience Repository* (WiNRepo)

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Computer Skills —

Programming

Python (venv, pytest, Joblib), Bash, C, SQL, Lisp, Assembly (Harvard Architecture)

Scientific Computing

IPython, NumPy, SciPy, pingouin, MATLAB, GNU Octave, Jupyter Notebook, R, Wolfram Mathematica

Machine-Learning Frameworks

scikit-learn, Google AI&ML Transformers

Data Manipulation&Visualization

pandas, Matplotlib, Seaborn

Typesetting

L^AT_EX (Document Classes: article, beamer, book and letter)

Software for Neuroimaging

Nilearn, NiBabel, SPM, FSL, FreeSurfer, Papaya, Connectome Workbench, MRICron, MRICroGL, BrainVoyager

Software for Psychophysics

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, Visual Studio Code, Office productivity softwares, GIMP, Inkscape, darktable, Unison File Synchronizer, VeraCrypt, FFmpeg, Kdenlive, Statistica (by StatSoft and TIBCO Software)

Selected Publications

- 2021 **From deep brain phenotyping to functional atlasng.**
Bertrand Thirion, Alexis Thual, and Ana Luísa Pinho
Curr Opin Behav Sci. 40:201-202
- 2021 **Subject-specific segregation of functional territories based on deep phenotyping**
Ana Luísa Pinho et al.
Hum Brain Mapp. 42(4):841– 870
- 2020 **Individual Brain Charting dataset extension, second release of high-resolution fMRI data for cognitive mapping.**
Ana Luísa Pinho et al.
Sci Data. 7(1):353
- 2018 **Individual Brain Charting, a high-resolution fMRI dataset for cognitive mapping**
Ana Luísa Pinho et al.
Sci Data. 5:180105
- 2015 **Addressing a Paradox: Dual Strategies for Creative Performance in Introspective and Extrospective Networks**
Ana Luísa Pinho, Fredrik Ullén, Miguel Castelo-Branco, Peter Fransson, and Örjan Manzano
Cereb Cortex. 26(7):3052-63
- 2014 **Connecting to Create: Expertise in Musical Improvisation Is Associated with Increased Functional Connectivity between Premotor and Prefrontal Areas**
Ana Luísa Pinho, Örjan Manzano, Peter Fransson, Helene Eriks-son, and Fredrik Ullén
J Neurosci. 34(18):6156-63

Selected Dataset Publications

- 2020 **IBC**
Ana Luísa Pinho, Lucie Hertz-Pannier, Bertrand Thirion
OpenNeuro. ds002685
- 2020 **Individual Brain Charting dataset extension, second release of high-resolution fMRI data for cognitive mapping**
Ana Luísa Pinho et al.
NeuroVault. id collection=6618

Selected Software Contributions

- 2021 – Present Contributor to **WiNRepo**: “Women in Neuroscience Repository”
- 2017 – Present Contributor to **Nilearn**: Stats&ML for NeuroImaging in Python
- 2015 – Present Contributor to **Public Analysis Code for the IBC Project**
- 2015 – 2020 Contributor to **Public Protocols for the IBC Project**

Selected Talks

- 2023 **Deep behavioral phenotyping in functional MRI for cognitive mapping of the human brain**
Seminar at the MNI Feindel Brain and Mind Lecture Series, BIC and MNI, McGill University, Montreal, Canada
- 2020 **Segregation of functional territories in individual brains**
Oral presentation in Session Modeling and Analysis: Variability in Brain Activation, OHBM Annual (Virtual) Meeting
- 2020 **Individual Brain Charting dataset extension: second and third releases**
Open Science Room, OHBM Annual (Virtual) Meeting
- 2019 **Individual Brain Charting, a high-resolution fMRI dataset for cognitive mapping of the human brain**
The 5th CiNet Conference, Osaka, Japan
- 2013 **Neural Basis of Expertise in Musical Creativity**
Neuroscience 2013 (Annual Meeting of SfN), San Diego, USA

April 23, 2023

Ana Luísa Pinho