

SCIENTIFIC ACTIVITY

- The Inverse Problem in MagnetoEncephaloGraphy (MEG), ElectroEncephaloGraphy (EEG) and ElectroCOrticoGraphy (ECoG)
- Bayesian tracking, Hierarchical Bayesian Model
- Development of an open source python based software package for an efficient and multi-threading analysis of neuroimaging data (fMRI, MEG, EEG, iEEG)
- Mathematical model for fetal circulation
- The study of techniques to reduce the geometric distortion of the Magnetic resonance (MR) images due to the field's inhomogeneity

PUBLICATIONS

1. Meunier D, Pascarella A, Altukhov D, Jas M, Combrisson E, Lajnef T, ... and Jerbi K, *NeuroPycon: An open-source Python toolbox for fast multi-modal and reproducible brain connectivity pipelines*, NeuroImage, 117020, doi.org/10.1016/j.neuroimage.2020.117020, 2020
2. Alamian G, Pascarella A, Lajnef T, Knight L, Walters J, Singh KD and Jerbi K *Patient, interrupted: MEG oscillation dynamics reveal temporal dysconnectivity in schizophrenia*, NeuroImage: Clinical, 28, 102485 <https://doi.org/10.1016/j.nicl.2020.102485>, 2020
3. Campi C, Pascarella A and Pitolli F *Less Is Enough: Assessment of the Random Sampling Method for the Analysis of Magnetoencephalography (MEG) Data*, Mathematical and Computational Applications, 24(4), 98, 2019
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5. Combrisson E, Vallat R, O'Reilly C, Jas M, Pascarella A, Saive A L, Thiery T, Meunier D, Altukhov D, Lajnef T, Ruby P, Guillot A and Jerbi K *Visbrain: A multi-purpose GPU-accelerated open-source suite for multimodal brain data visualization*, Frontiers in Neuroinformatics, 13, 14, 2019
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8. Alamian G, Hincapiè A S, Pascarella A, Thiery T, Combrisson E, Saive A L, Martel V, Altukhov D, Haesebaert F and Jerbi K, *Measuring alterations in oscillatory brain networks in Schizophrenia with resting-state MEG: State-of-the-art and methodological challenges*, Clinical Neurophysiology, 128(9), 1719-1736, 2017

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14. Pascarella A and Sorrentino A, *Statistical Approaches to the Inverse Problem*, *Magnetoencephalography*, Elizabeth W. Pang (Ed.), ISBN: 978-953-307-255-5, InTech, 2011
15. Campi C, Pascarella A, Sorrentino A and Piana M, *Highly Automated Dipole EStimation*, *Computational Intelligence and Neuroscience*, 982185, 2011
16. Pascarella A, Sorrentino A, Campi C and Piana M, *Particle filtering, beamforming and multiple signal classification for the analysis of magnetoencephalography time series: a comparison of algorithms*, *Inverse Problems and Imaging*, 4.1: 169-190, 2010
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PROCEEDINGS

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3. Fabbri-Destro M, Avanzini P, Pascarella A, Cattaneo L and Rizzolatti G, *Action perception: top-down effects*, *International Journal of Psychophysiology* , 85.3: 370-371, 2012
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4. Combrisson E, Vallat R, OâReilly C, Jas M, Pascarella A, Saive AL, Thierry T, Meunier D, Altukhov D, Lajnef T, Ruby P, Guillot A, Jerbi K *Visbrain: A multi-purpose GPU-accelerated open-source suite for multimodal brain data visualization*, Human Brain Mapping 2019, Roma, June 9-13, 2019
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