**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**


**PROCEEDINGS**


REFEREED ABSTRACTS


8. T Lajnef, Pascarella A, Combrisson E, Dubè, Jerbi K, Carrier J, and Lina JM, Thalamo-cortical coupling during N2 sleep spindles: Combining MEG and machine learning, INCF Neuroinformatics 2018, Montreal, Canada, August 9-10, 2018


12. Bertrand-Dubois D, Meunier D, Pascarella A, Pizzella V, Marzetti L, and Jerbi K, Large-scale brain integration patterns differ in focused-attention and open-monitoring meditation, International Conference on Basic and Clinical Multimodal Imaging (BACI), Bern, Switzerland, August 29 - September 2, 2017


15. Meunier D, Pascarella A, Bertrand-Dubois D, Tarek L, Combrisson E, Altukhov D, and Jerbi K, Welcome to NeuroPype: A Python-based pipeline for advanced MEG and EEG connectivity analyses, 20th International Conference on Biomagnetism, Seoul (South Korea), October 1-6, 2016


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47. Pascarella A, Sorrentino A, Campi C, Piana M *A Grid-Based Particle Filter for Solving Non-Linear Problems with Linear Computational Cost*, Bayesian Inference in Stochastic Process (BISP5), Valencia (Spain), June 14-16, 2007

