Human Brain Project

WP2.1 Multimodal whole-brain mapping

Ana Luísa Pinho† [1,2,3], **Juan Jesús Torre**[1,2,3], **Swetha Shankar**[1,2,3] **Bertrand Thirion**[1,2,3]

[1]Parietal team; [2]NeuroSpin; [3]Paris-Saclay University, France

Data-quality assessment of the next releases of the Individual Brain Charting (IBC) dataset

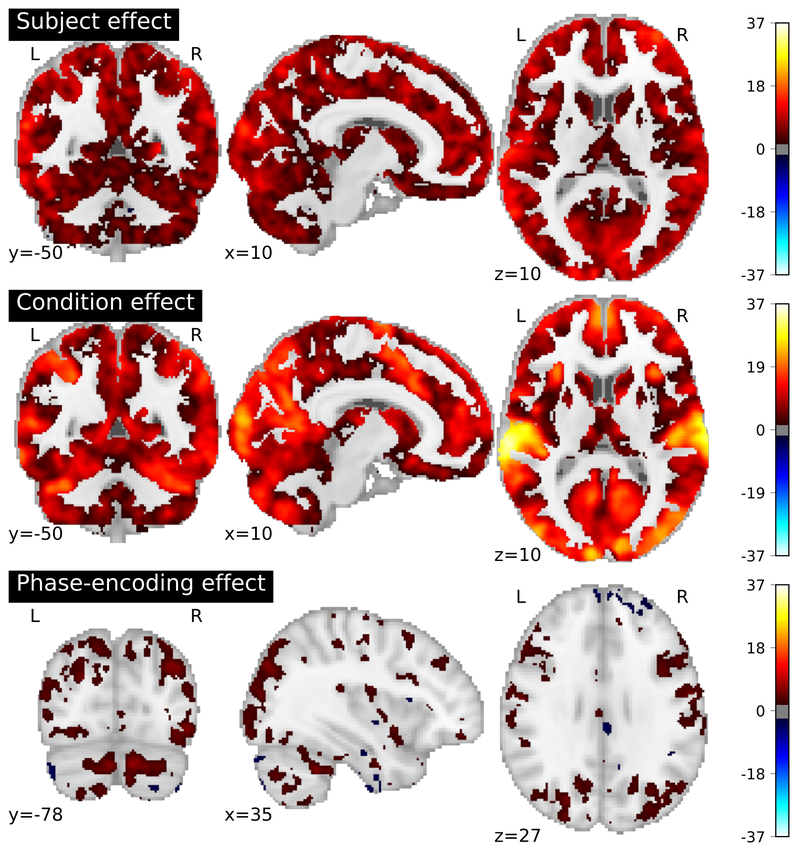
2nd Release:

$n = 11$

Tasks:

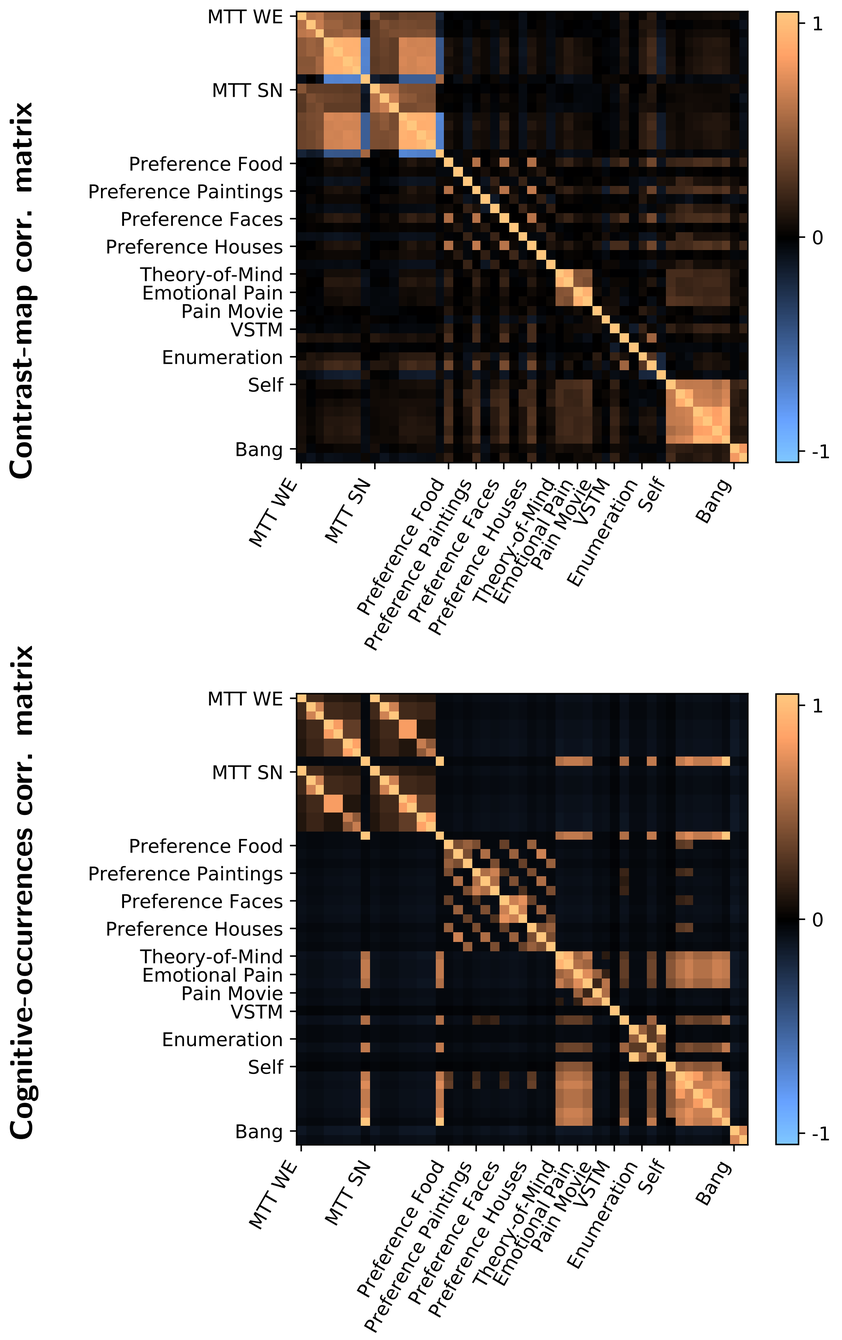
- Mental-Time Travel
- Positive-Incentive Value
  - food
  - paintings
  - faces
  - houses
- Theory-of-Mind
- Emotional&Physical Pain
- Visual Short-Term Memory
- Enumeration
- Self-Reference Effect
- Speech Recognition

One-way ANOVA z-values, $p_{FDR} \leq 0.05$



Similarity between matrices:

Spearman c. $= 0.23\,(p \leq 10^{-12})$

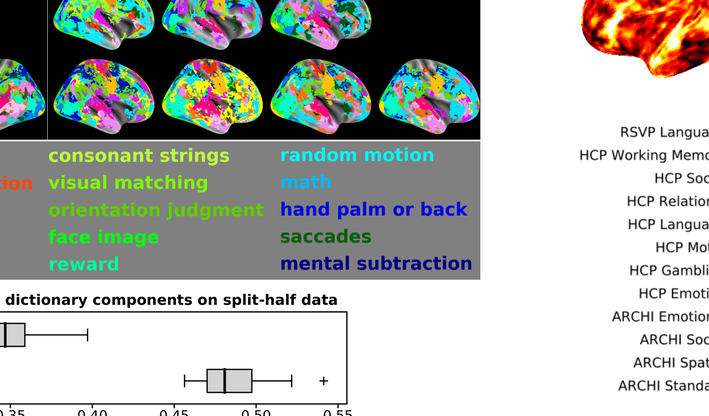


3rd Release

Tasks:

- Visualization of Naturalistic Scenes
- Movie Watching
- Retinotopy

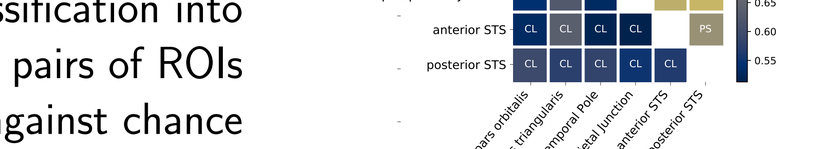
FastSRM decomposition of "Movie Watching": three first components



4th Release - Tasks:

- Risk-associated Decision Making
- Auditory-Language Comprehension
- Listening of Naturalistic Sounds
- Tonotopy
- Motor Inhibition
- Planning and Vigilance

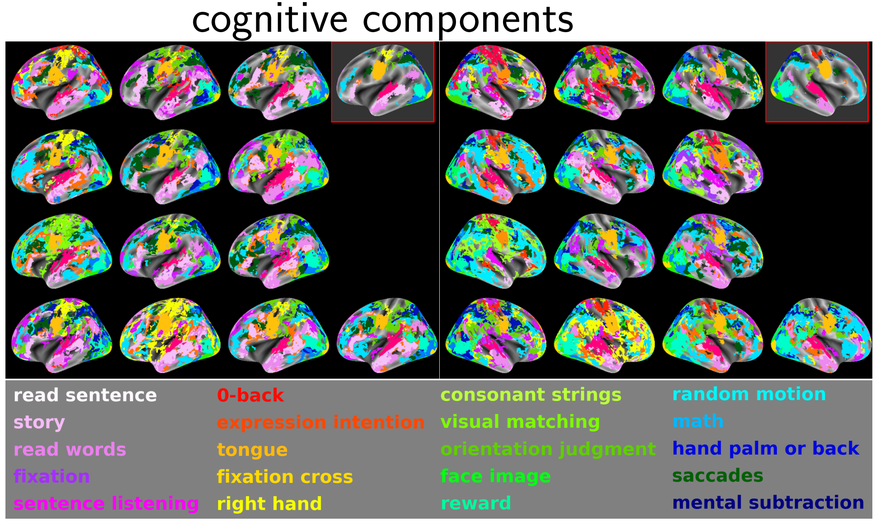
Brain Coverage of tasks from 4th release: F-map

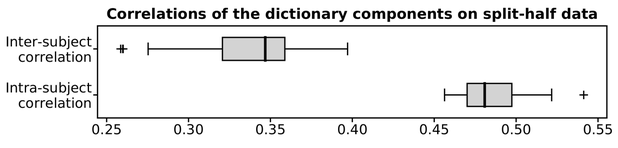


Individual Functional Atlasing

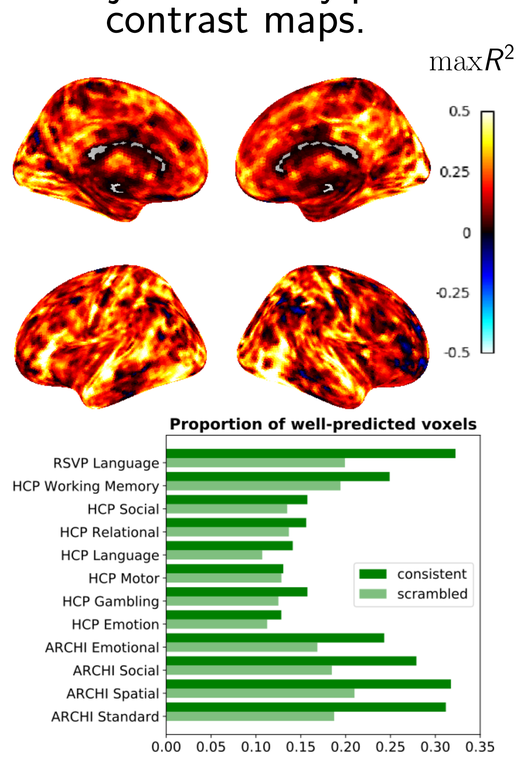
Data: IBC first-release collection, $n = 13$

Individual brain topographies of cognitive components

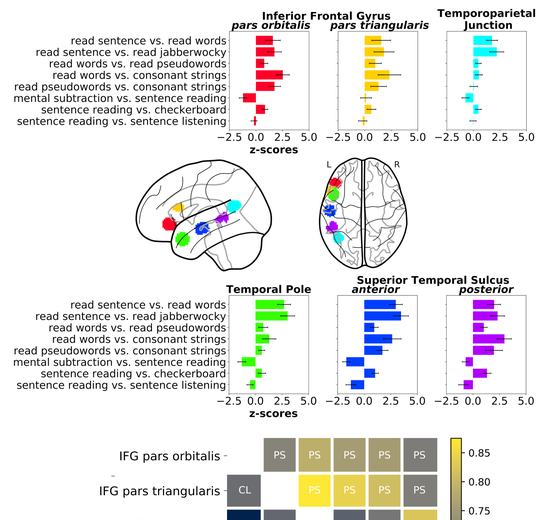




Within-subject accuracy prediction of contrast maps.



Cognitive profile using IBC contrasts of 6 ROIs from the language network



Prediction accuracy of voxel classification into pairs of ROIs against chance level

@ALuisaPinho †ana.pinho@inria.fr

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