

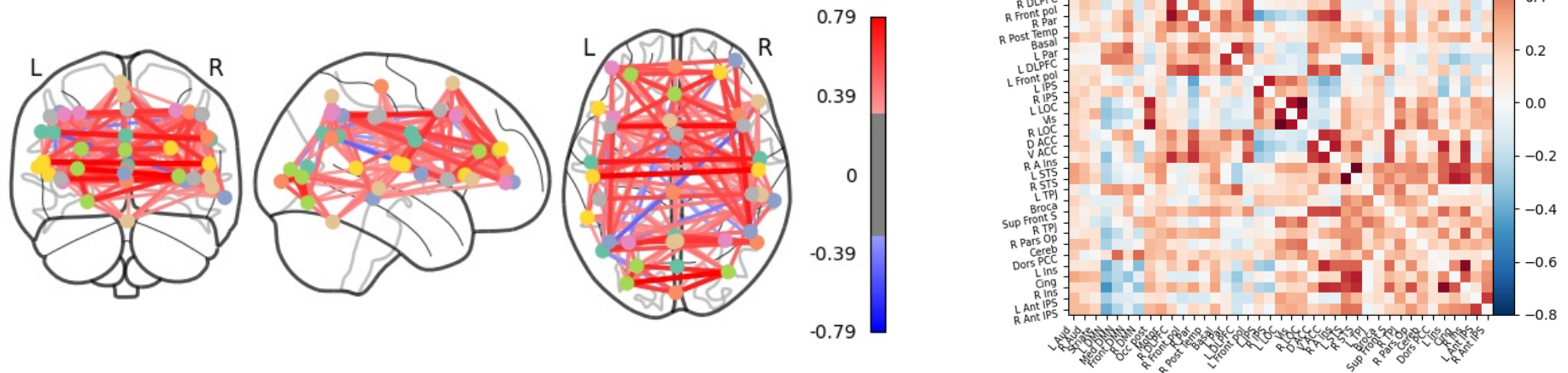


**IMT Atlantique**  
Bretagne-Pays de la Loire  
École Mines-Télécom

# WASAA – Projects on fMRI analysis, graphs and machine learning

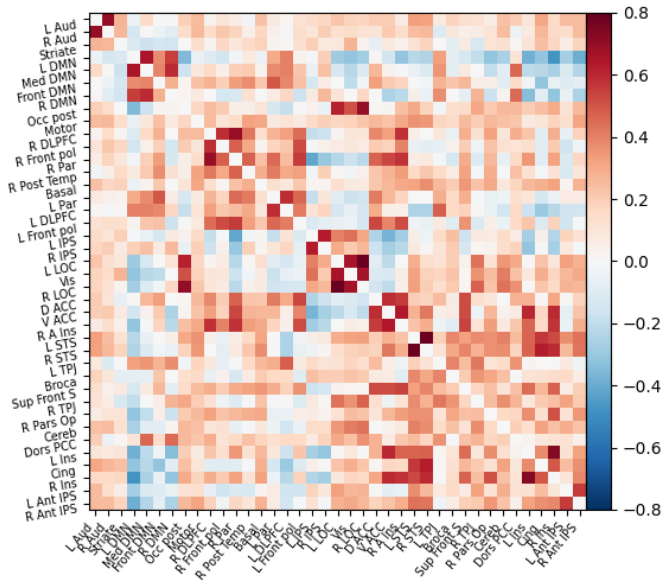
Nicolas Farrugia  
January 2023

# Open Science



All projects presented are based on nilearn (python) and open datasets

# Project 1 : Classification of patients with Autism Spectrum Disorder using spontaneous brain activity



→ ASD ?

Goal : classify patients and healthy

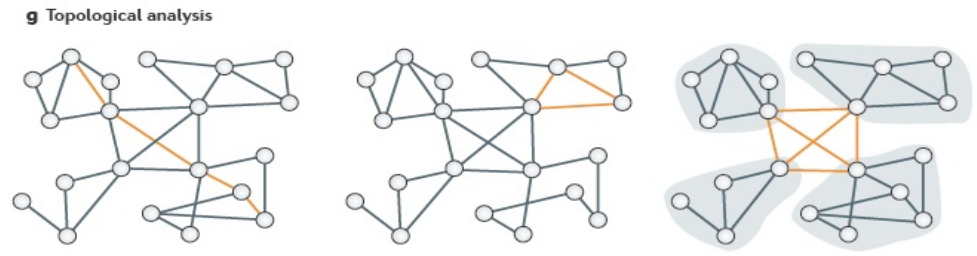
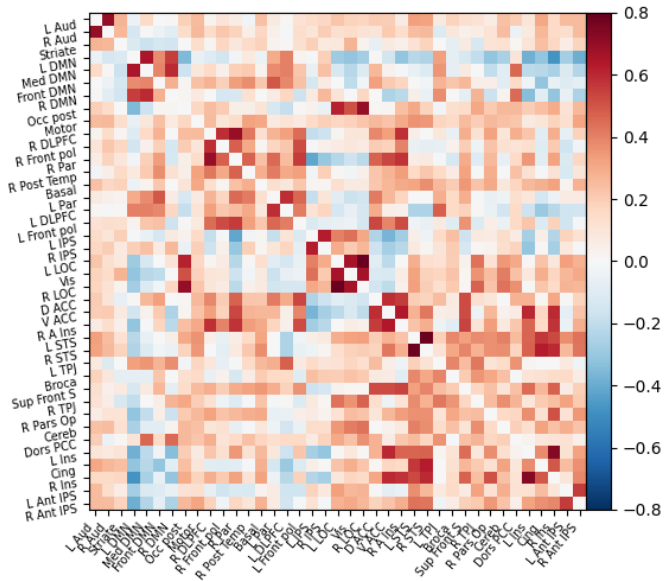
Dataset : ABIDE

Methods :

- Machine Learning
- Functional Connectivity



# Project 2 : Networks in brain pathologies using spontaneous brain activity



Goal : characterize changes in graph metrics

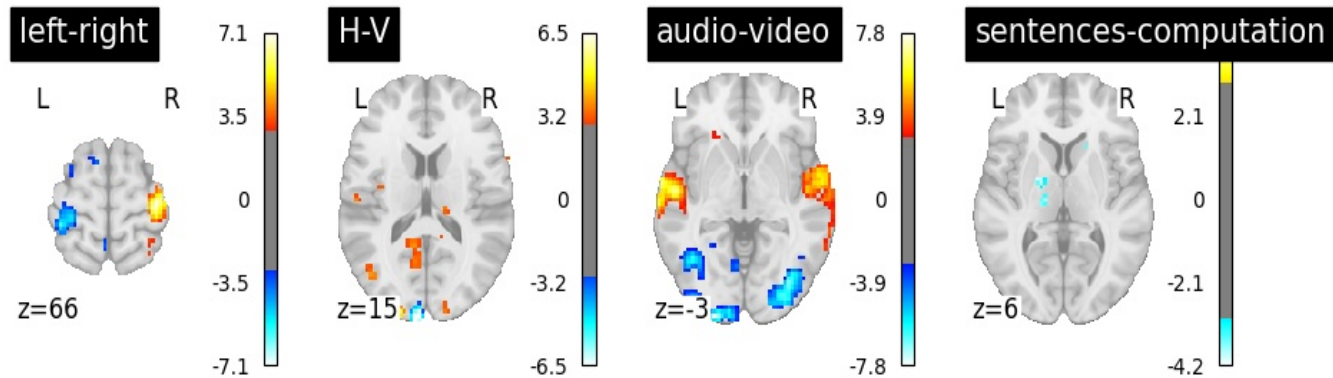
Dataset : ABIDE or ADHD

Methods :

- Functional Connectivity
- Graph theoretical metrics



# Project 3 : Decode brain activity during tasks



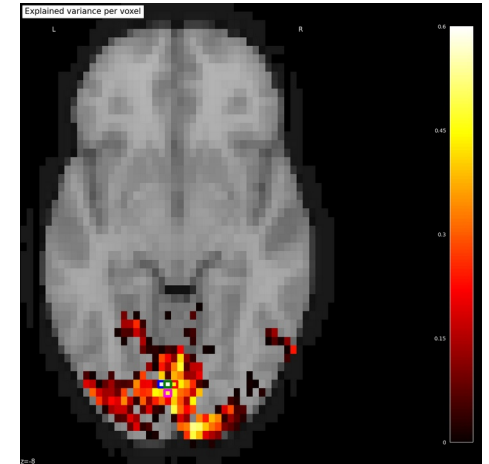
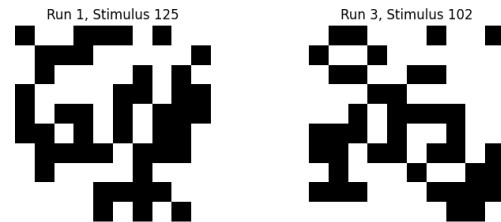
Goal : Classify tasks using brain activity

Dataset : Haxby, neurovault or openneuro

Methods :  
- Machine Learning



# Project 4 : Encoding models of brain activity



Goal : Model brain activity using stimuli

Dataset : Haxby, Miyawaki, Neuromod

Methods :

- Machine Learning

# Questions?

Merci de votre attention!  
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