

# Contents

An introduction to the custom preprocessing pipeline built for surfaced-based analysis

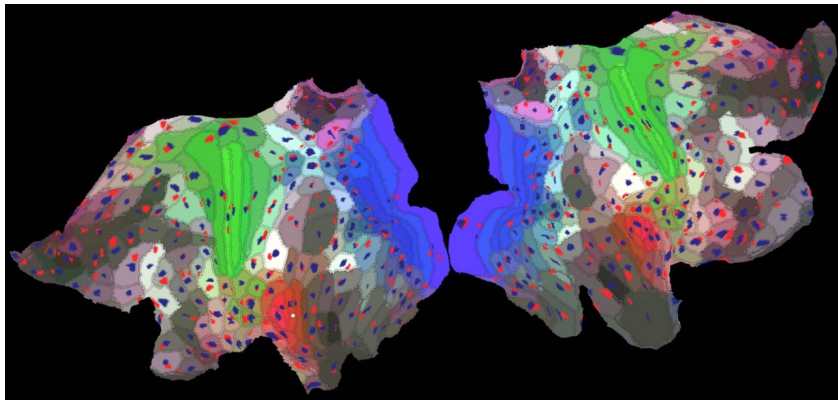
1. Motivation – Why surface?
2. Overall scheme – Covering multiple softwares (e.g., FSL, AFNI, ANTs, Freesurfer)
3. Pipeline details – Comparison with existing preprocessing pipelines
4. Practical applications – Not limited to surface analysis



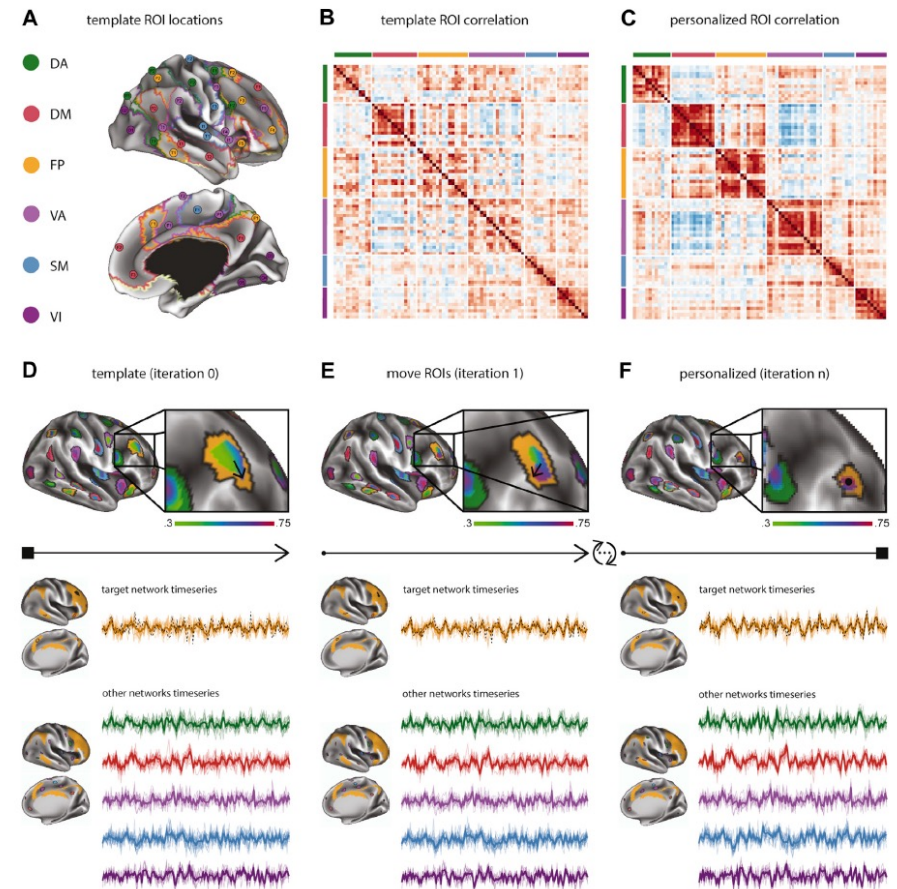
## 4. Practical applications – Not limited to surface analysis

### Personalized Intrinsic Network Topography (PINT) Mapping

PINT on HCP-MMP 1.0 parcellation



● Original center      ● Moved (personalized) center



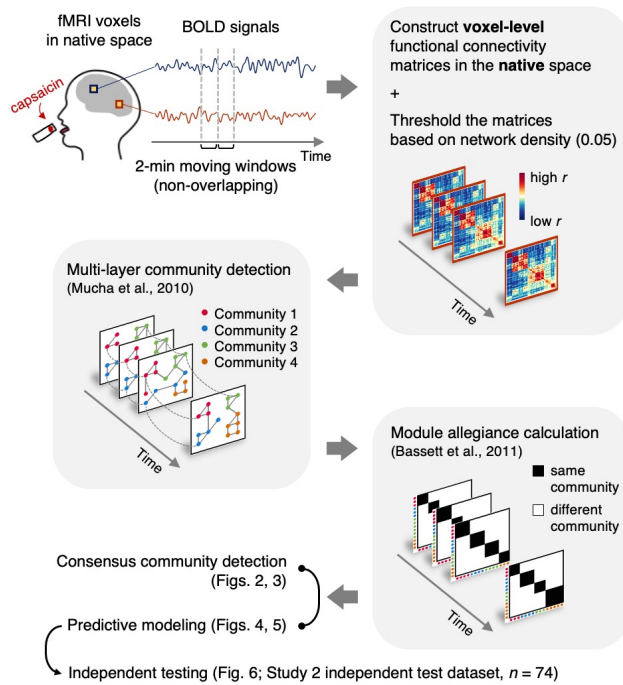
Dickie et al., 2018



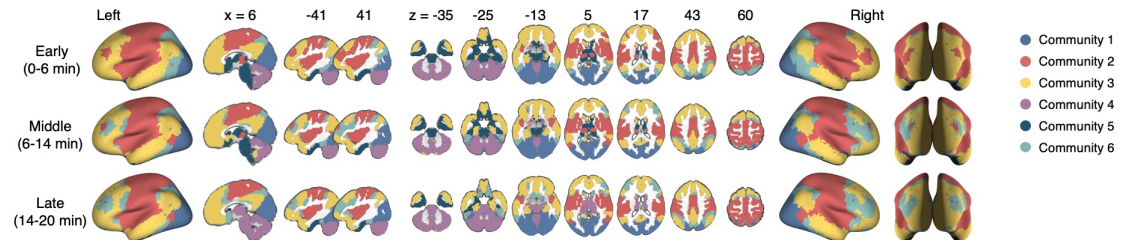
## 4. Practical applications – Not limited to surface analysis

### Dynamic network reconfiguration during sustained pain

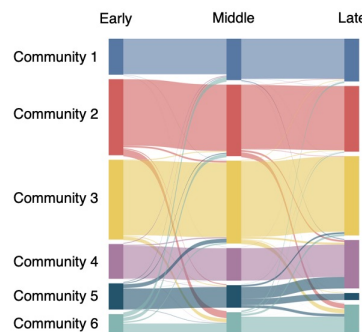
**c** Community detection for time-evolving brain networks



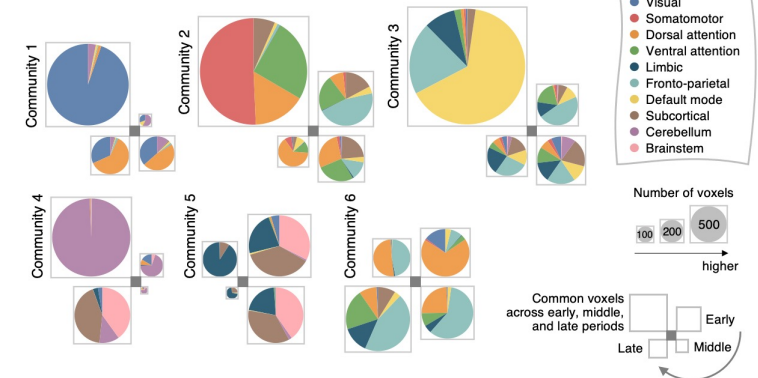
**a** Consensus community structure over the time-course of sustained pain



**b** Reconfiguration of community structure



**c** Distribution of canonical brain networks in each community



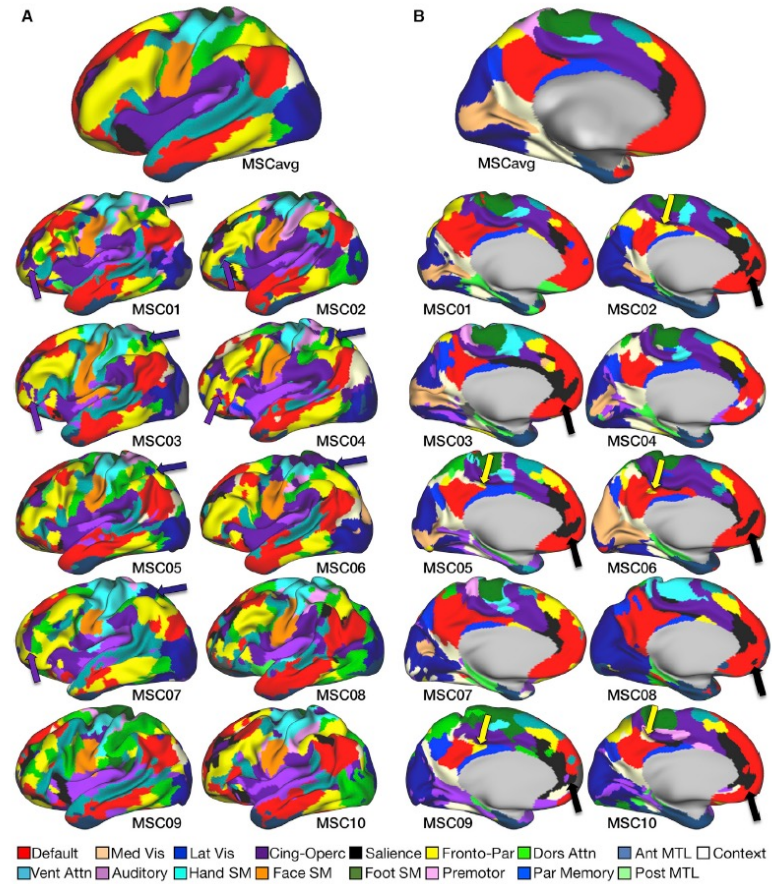
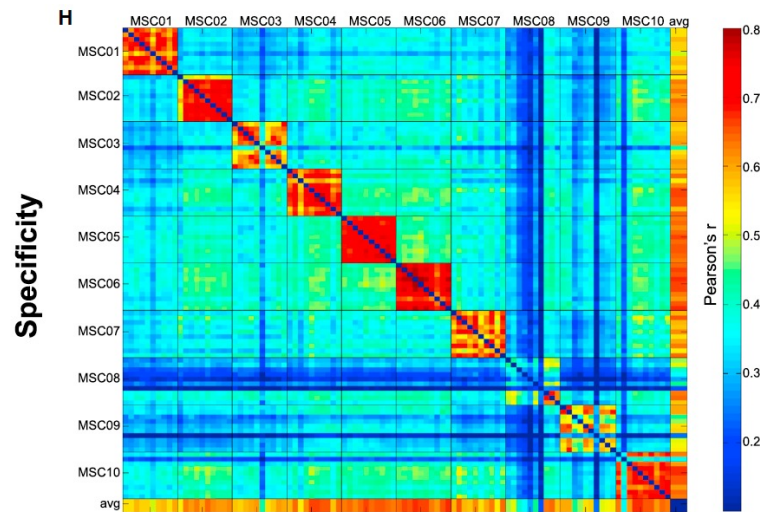
Lee et al., in prep





## 4. Practical applications – Not limited to surface analysis

### Precision functional mapping (Midnight Scan Club)

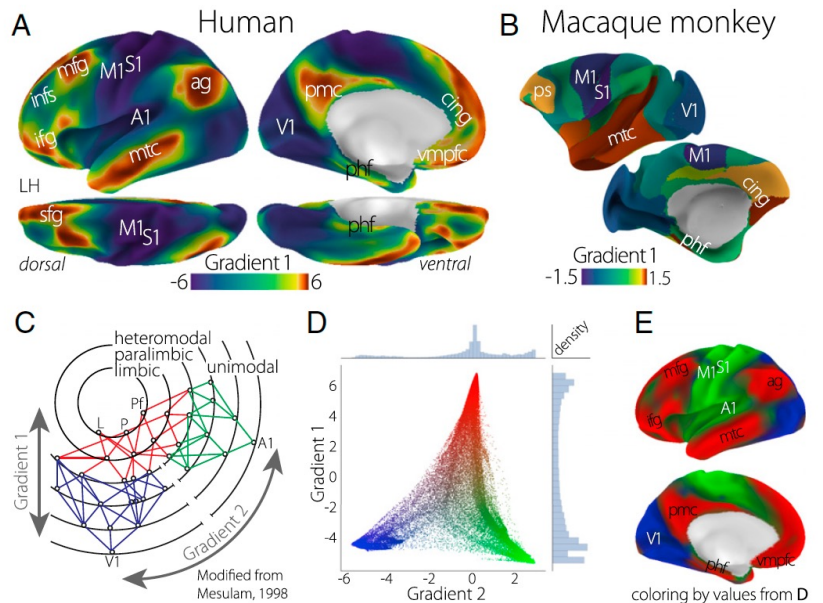


Gordon et al., 2017

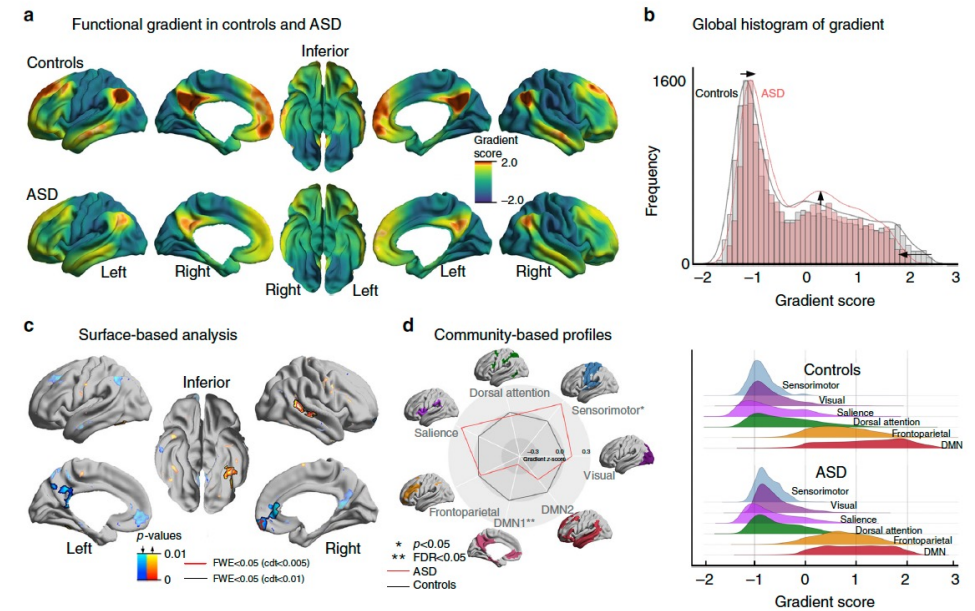


## 4. Practical applications – Not limited to surface analysis

### Cortical gradient



Margulies et al., 2016



Hong et al., 2019

