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## Presentation of the project 'Narps Open Pipeline'

Jeremy Lefort-Besnard, Camille Maumet, Boris Clenet, Elodie Germani

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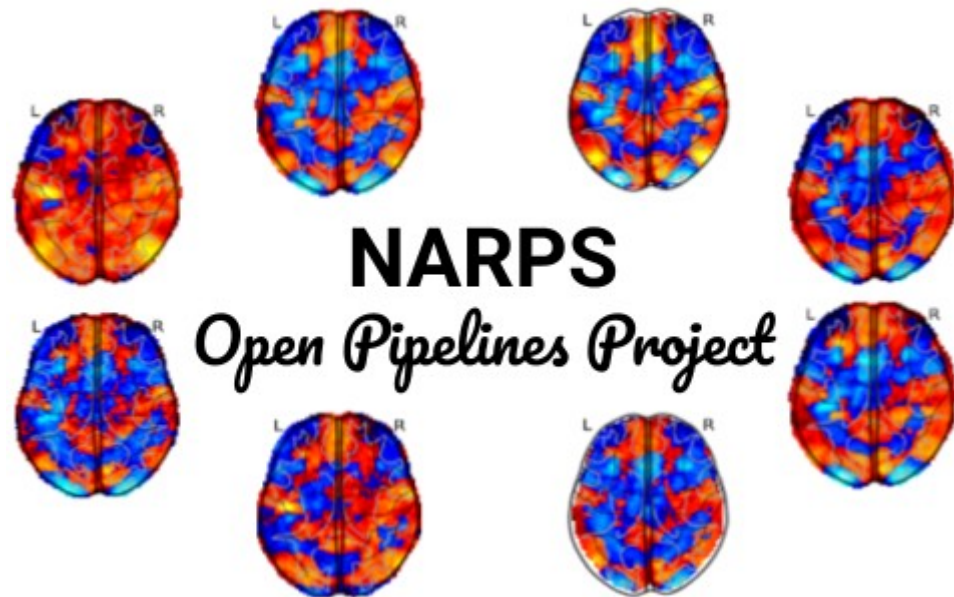
Submitted on 15 Nov 2023

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Camille  
Maumet



Boris  
Clenet

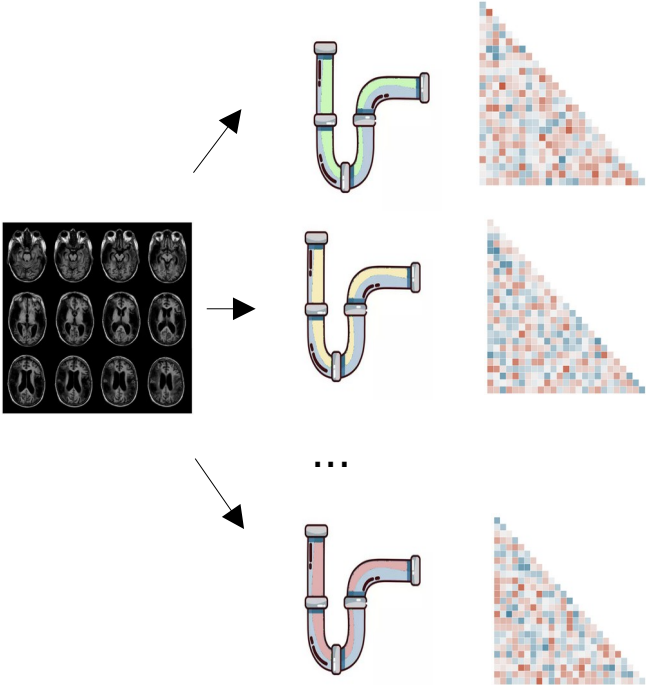


Elodie  
Germani

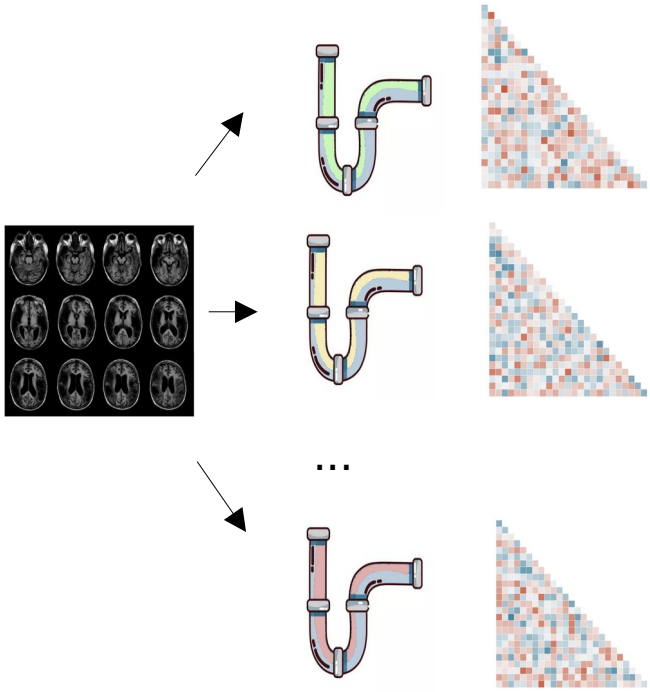


Jeremy  
Lefort-Besnard

Analytical variability has often been overlooked assuming it was negligible compared to other sources of variability



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In 2020 a landmark paper in Nature challenged this status-quo:

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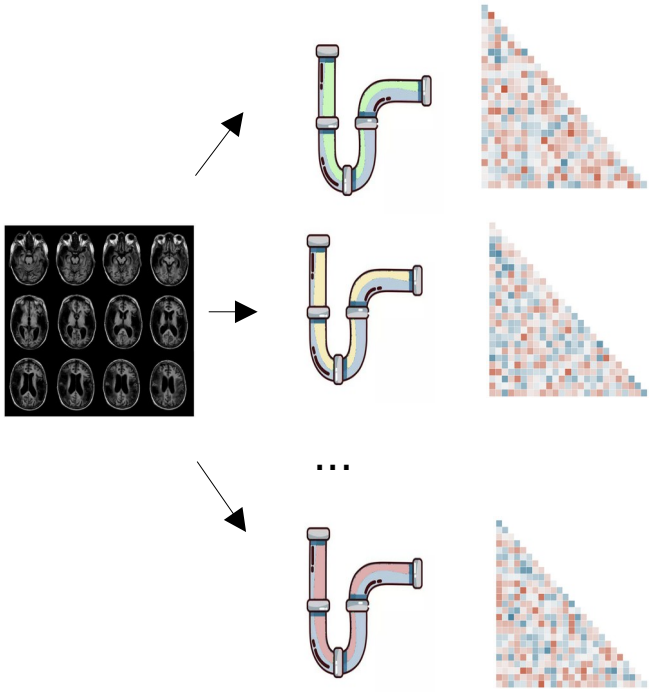
### Variability in the analysis of a single neuroimaging dataset by many teams

[Rotem Botvinik-Nezer](#), [Felix Holzmeister](#), [Colin F. Camerer](#), [Anna Dreber](#), [Juergen Huber](#), [Magnus Johannesson](#), [Michael Kirchler](#), [Roni Iwanir](#), [Jeanette A. Mumford](#), [R. Alison Adcock](#), [Paolo Avesani](#), [Blazej M. Baczowski](#), [Aahana Bajracharya](#), [Leah Bakst](#), [Sheryl Ball](#), [Marco Barilari](#), [Nadège Bault](#), [Derek Beaton](#), [Julia Beitner](#), [Roland G. Benoit](#), [Ruud M. W. J. Berkers](#), [Jamil P. Bhanji](#), [Bharat B. Biswal](#), [Sebastian Bobadilla-Suarez](#), ... [Tom Schonberg](#) ✉ [+ Show authors](#)

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70 expert teams (200 scientists) – Same yes/no research questions – Same dataset

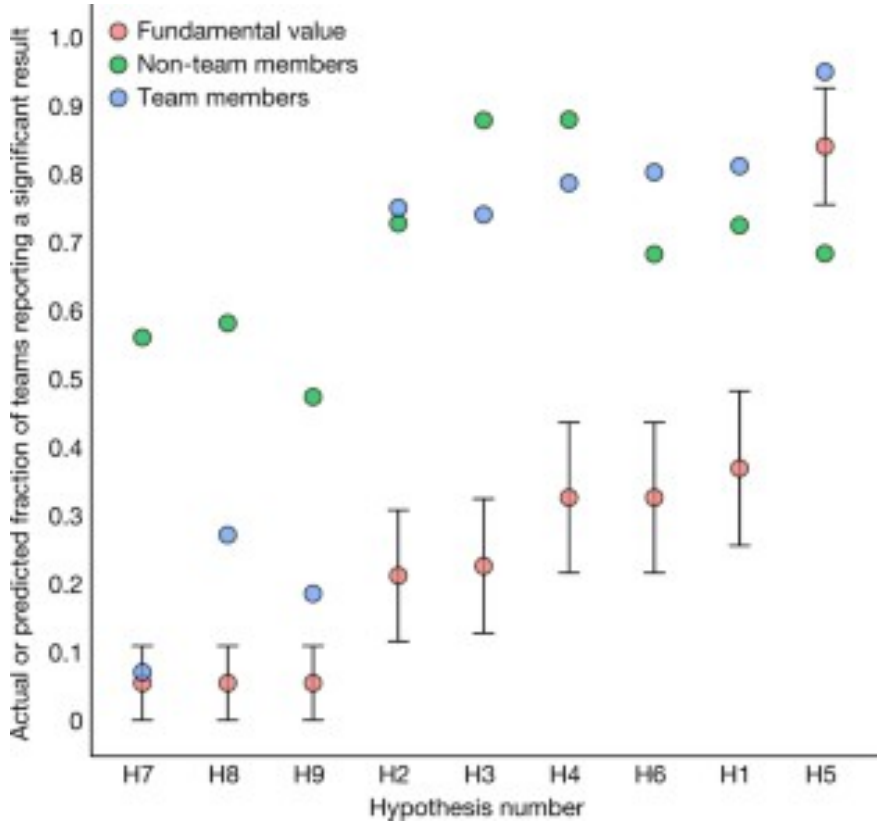
Each team built a different pipeline

Each team built a different pipeline

Differences in pipelines led to contradictory findings

# Each team built a different pipeline

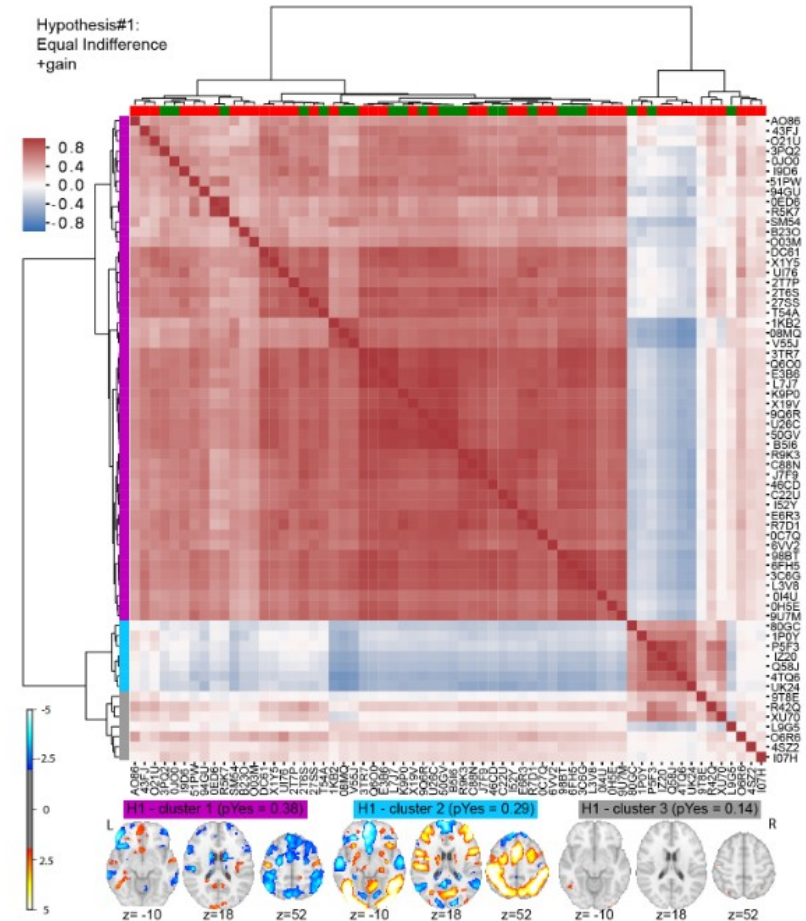
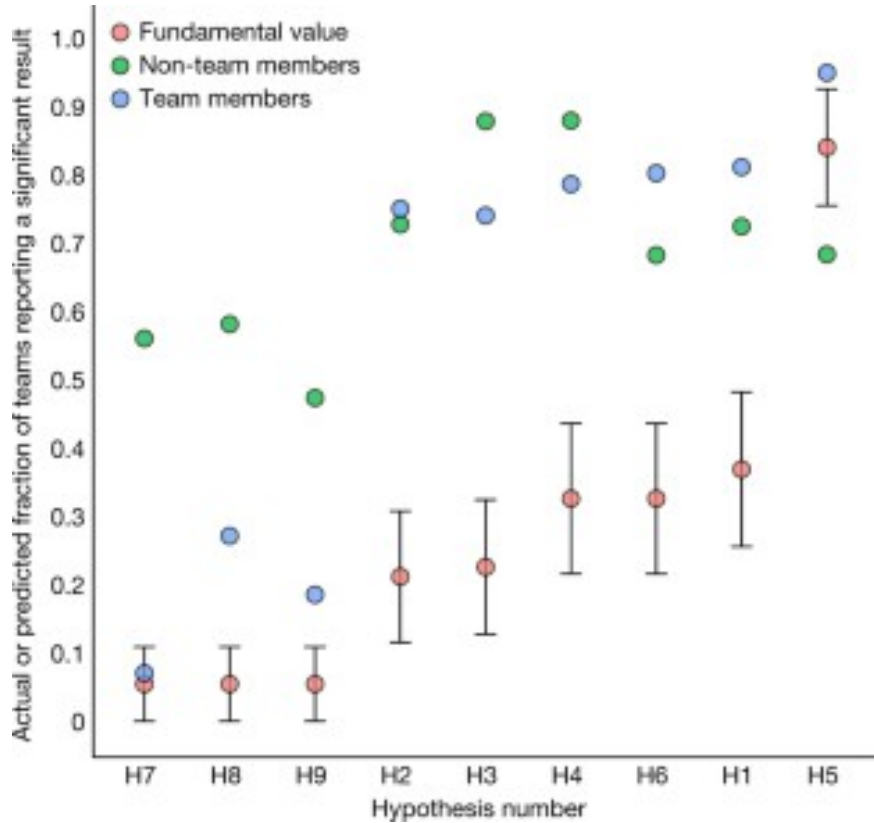
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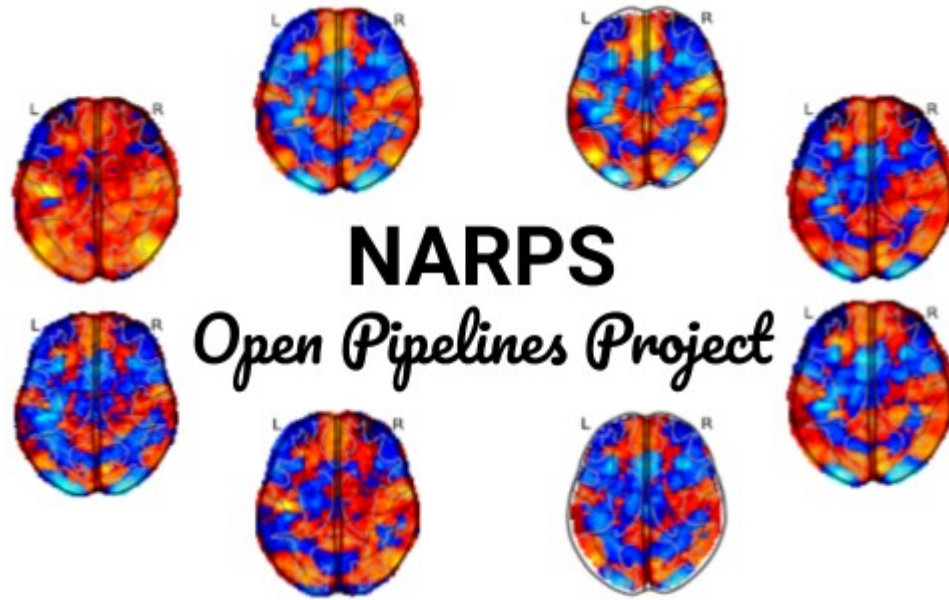




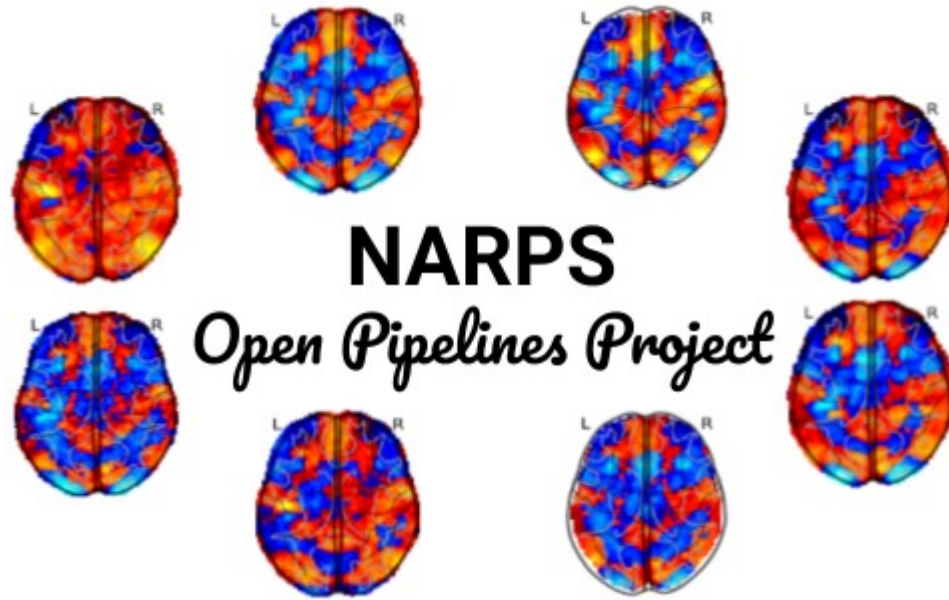
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Create a codebase reproducing the 70 pipelines of the NARPS study and share this as an open resource for the community



Create a codebase reproducing the 70 pipelines of the NARPS study and share this as an open resource for the community



[Github.com/Inria-Empenn/narps\\_open\\_pipelines](https://github.com/Inria-Empenn/narps_open_pipelines)



# [Github.com/Inria-Empenn/narps\\_open\\_pipelines](https://github.com/Inria-Empenn/narps_open_pipelines)

Use a NARPS pipeline for your project:

```
narps_open_pipelines / narps_open / pipelines / team_2T6S.py 📄
bclenet 2T6S pipeline reproduction (#75) 🗨️ ✅
Code Blame Executable File · 664 lines (562 loc) · 27.8 KB
1  #!/usr/bin/python
2  # coding: utf-8
3
4  """ Write the work of NARPS team 2T6S using Nipype """
5
6  from os.path import join
7  from itertools import product
8
9  from nipype import Workflow, Node, MapNode
10 from nipype.interfaces.utility import IdentityInterface, Function
11 from nipype.interfaces.io import SelectFiles, DataSink
12 from nipype.interfaces.spm import (
13     Smooth,
14     LevellDesign, OneSampleTTestDesign, TwoSampleTTestDesign,
15     EstimateModel, EstimateContrast, Threshold
16 )
17 from nipype.algorithms.modelgen import SpecifySPMModel
18 from nipype.algorithms.misc import Gunzip
19
20 from narps_open.pipelines import Pipeline
21
```



# Github.com/Inria-Empenn/narps\_open\_pipelines

Use a NARPS pipeline for your project:

```
narps_open_pipelines / narps_open / pipelines / team_2T6S.py
```

bclenet 2T6S pipeline reproduction (#75) ✓

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```
1  #!/usr/bin/python
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4  """ Write the work of NARPS team 2T6S using Nipype """
5
6  from os.path import join
7  from itertools import product
8
9  from nipype import Workflow, Node, MapNode
10 from nipype.interfaces.utility import IdentityInterface, Function
11 from nipype.interfaces.io import SelectFiles, DataSink
12 from nipype.interfaces.spm import (
13     Smooth,
14     Level1Design, OneSampleTTestDesign, TwoSampleTTestDesign,
15     EstimateModel, EstimateContrast, Threshold
16 )
17 from nipype.algorithms.modelgen import SpecifySPMModel
18 from nipype.algorithms.misc import Gunzip
19
20 from narps_open.pipelines import Pipeline
```

Contribute to NARPS Open Pipelines:

## The NARPS Open Pipelines project

unit tests passing code quality passing contributors 7 commit activity 2/month

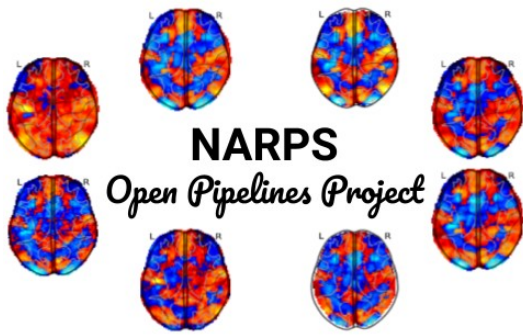
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- Funding

● not started yet  
● in progress  
● completed

The *softwares used* column gives a simplified general *software* column.

| team_id | status | softwares used |
|---------|--------|----------------|
| Q6O0    | ●      | SPM            |
| 6VV2    | ●      | AFNI           |
| 08MQ    | ●      | FSL            |
| 1KB2    | ●      | FSL            |
| 43FJ    | ●      | FSL            |
| 4SZ2    | ●      | FSL            |
| 4TQ6    | ●      | FSL            |
| B5I6    | ●      | FSL            |
| O6R6    | ●      | FSL            |
| T54A    | ●      | FSL            |
| X19V    | ●      | FSL            |



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Maumet



Boris  
Clenet



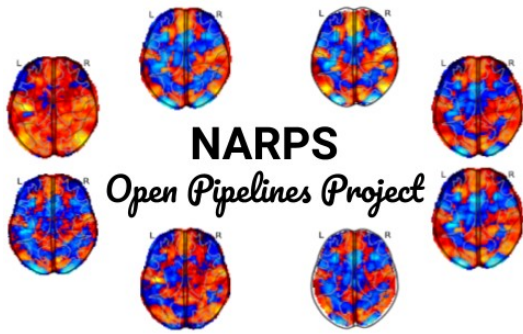
Elodie  
Germani



Jeremy  
Lefort-Besnard

This project is supported by Région Bretagne (Boost MIND) and by Inria (Exploratory action GRASP)





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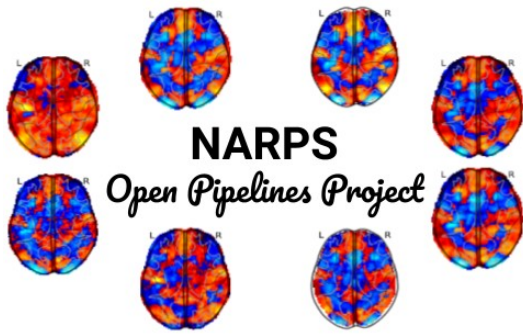


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This project receives contributions by Rémi Gau and during events such as OHBM Brainhack 2022 and 2023, e-ReproNim FENS NENS Cluster Brainhack 2023, ORIGAMI lab hackathon 2023 by :

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Come meet us and/or contribute during our next brainhack sessions:

- Monthly Narps Open hours
- Marseille brainhack 2023
- OHBM brainhack 2024