

# Resources for MEG

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Here follows a by no means exhaustive links of helpful material for MEEG analysis.

## Toolboxes for MEEG analysis

MNE-Python: <https://martinos.org/mne/stable/index.html>

A very quickly developing toolbox, and the only one I know of available for Python. Its analysis pipeline is tightly integrated with some of the tools of FreeSurfer

FieldTrip: <http://www.fieldtriptoolbox.org/>

A very extensive and general toolbox for MEG analysis, using MATLAB. It's the most well tested when it comes to oscillatory analysis and beamforming

Brainstorm: <https://neuroimage.usc.edu/brainstorm/>

I haven't used this much myself, but it showcases an impressive GUI that is impressive for exploring data visually. Of course also allows for scripting. Uses MATLAB

EEGLAB: <https://sccn.ucsd.edu/eeglab/index.php>

An old classic, but one that I haven't used much. Uses MATLAB

SPM: <https://www.fil.ion.ucl.ac.uk/spm/>

More or less the standard for MRI and fMRI. Interface should be well known for users coming from there. Uses MATLAB.

NUTMEG: <https://www.nitrc.org/projects/nutmeg/>

This one I also don't know that well, but has its focus on oscillatory responses. Uses MATLAB

## Articles showcasing pipelines

Here are links to my two articles and the data and code associated with them.

MNE-Python: <https://doi.org/10.3389/fnins.2018.00006>

FieldTrip: <https://doi.org/10.3389/fnins.2018.00261>

Data: <https://zenodo.org/record/1134776>

Code: [https://github.com/ualsbombe/omission\\_frontiers](https://github.com/ualsbombe/omission_frontiers)

Here's a link to a Frontiers issue showcasing different pipelines

<https://www.frontiersin.org/research-topics/5158/from-raw-megeeg-to-publication-how-to-perform-megeeg-group-analysis-with-free-academic-software>

Finally, here's a link to the permutation test article: <https://doi.org/10.1016/j.jneumeth.2007.03.024>

## Single subject tutorials

Example page of MNE-Python: [https://martinos.org/mne/stable/auto\\_examples/index.html](https://martinos.org/mne/stable/auto_examples/index.html)

FieldTrip: <http://www.fieldtriptoolbox.org/tutorial>

The other toolboxes surely also have links to tutorials.

Here follows a link to some of the workshops I have led myself:

<http://laumollerandersen.org/workshops.html>

And here are links to some of my teaching material introducing MEG

<http://laumollerandersen.org/teaching-material.html>