# Agenda BIDS-MATLAB onboarding meeting Sept 20, 2021

Meeting link:
https://ki-se.zoom.us/j/61510789393?pwd=UVhPeFdSam9xR2FWOTZaS0duYlNOQT09

<mark>Meeting is being recorded</mark>

## Agenda

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Attendees (please enter yourself)

| Name | Email | Toolbox/initiative/etc |
|------|-------|------------------------|
| Malin Sandström | malin@incf.org | INCF |
| Remi Gau | remi.gau@gmail.com | BIDS-MATLAB |
| Giovanni Volpe | giovanni.volpe@physics.gu.se | BRAPH |
| Christophe Phillips | c.phillips@uliege.be | hMRI / PRoNTo |
| Cyril Pernet | wamcyril@gmail.com | LIMO MEEG / SPMUP / BIDS / OpenNeuro PET |
| Raymundo Cassani | raymundo.cassani@mcgill.ca | Brainstorm |
| Jason Sherfey | sherfey@bu.edu | DynaSim |
| Guillaume Flandin | g.flandin@ucl.ac.uk | SPM |
| Francois Tadel | francois.tadel@mcgill.ca | Brainstorm |

| Mite Mijalkov | mite.mijalkov@ki.se | BRAPH |
|---|---|---|
| Yu-Wei Chang | yu-wei.chang@physics.gu.se | BRAPH |
| Robert Oostenveld | r.oostenveld@donders.ru.nl | FieldTrip |
| Anna Canal-Garcia | anna.canal.garcia@ki.se | BRAPH |
| Emiliano Gomez | emiliano.gomez@physics.gu.se | BRAPH |
| Stephan Heunis | jsheunis@gmail.com | fMRwhy |
| Joana B. Pereira | joana.pereira@ki.se | BRAPH |
| Mike Jones | jones.mike@wustl.edu | automaticanalysis |
| | | |

# Brief intro to BIDS (Rémi Gau)

Standardized folder structure, filenaming and metadata for raw data coming from:

- MRI,
  - anat
  - func
  - fmap
  - perf
  - dwi
- EEG
- MEG
- iEEG
- PET
- behavioural,
- physio

General filename template: **entity-label(_entity-label)+_suffix.extension**

Metadata in json files

Tabular data in .tsv files

Cover some types of derivative (processed) data.

# Brief intro to BIDS-matlab (Rémi Gau)

**Centralising MATLAB/Octave tools to "interact" with datasets "conforming" to the BIDS**

- Modality agnostic:
    - Aims to "support" all modalities that are currently part of BIDS
- Software agnostic:
    - Aims to Provide "low level" tools that can be reused across softwares to minimize "wheel reinvention"
- Aims to keep up with the development of the BIDS standards and its extensions
    - Support for new modalities, new derivatives
    - Support for the BIDS schema
    - Support for the BIDS statistical model

- read the layout of a BIDS dataset (see bids.layout), also works with BIDS derivative compatible datasets (like those generated by fMRIprep),
- perform queries on that layout to get information about the subjects, sessions, runs, modalities, metadata contained within that dataset (see bids.query),
- create BIDS compatible filenames or folder structures for raw or derivatives datasets (bids.File, bids.util.mkdir, bids.Description, bids.Init), and derivatives metadata (bids.derivatives_json)
- copying of files to help initialize a derivative dataset to start a new analysis (bids.copy_to_derivative),
- generate a human readable methods report of the content of BIDS dataset (see bids.report)

- read and write JSON files (see bids.util.jsondecode, bids.util.jsonencode)
- read and write TSV files (see bids.util.tsvread, bids.util.tsvwrite)
- access and query the BIDS schema (bids.schema)

## What can BIDS-Matlab do for you?

Dog fooding BIDS-matlab (how I have used it)

- Standardizing filenames and data format at acquisition: CPP_BIDS, CPP_PTB

- Help with creating analysis pipelines: CPP_SPM
- Help renaming files into BIDS derivative: spm_2_BIDS

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## BINDER DEMO

## API documentation - testing/feedback wanted

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## Main Kanban

## Google Drive

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# What BIDS matlab is unlikely to ever do:

- act as a BIDS-validator
- act as a BIDS converter
- implement reading / writing capabilities for the different modality-specific data format that exist in BIDS (.nii, .eeg, .ds, .fif...)

## Notes

Q: If you don't implement validation, what does your tool do with a dataset with validation problems?  (Why? There are often problems with open datasets that need fixing.)

Cyril P: The BIDS validator is being refactored (by Squishy Media), the new version might allow easier validation in MATLAB

Christophe P: how will BIDS-MATLAB handle files that don't fully comply with the naming conventions? RG: BIDS-MATLAB will handle them

Q: what is the expected timeline? RG: first release by the end of the year, then at least 1.5 years

Todo: create more examples for people to play with BIDS-MATLAB

# Q & A - what do you/your project need from BIDS-MATLAB?

*Please prepare a statement and bring it to the meeting*

Planned release data for version 0.1.0: december 2021: looking for people to test the API

- A certain level of bids validation via the schema
- Help with fixing bids invalid dataset
- More pure Matlab demos and examples

Wishlists:
- [Google doc](#)
- [Kanban](#)

# Going forward: communication channels / meeting forms

- Suggestion: standing monthly meeting time, only used if needed (synch on [Mattermost](#) & group email)
- Meeting notes and recordings will be available.
- Joint email alias for (sparse) group communication (e.g [bids_matlab@incf.org](mailto:bids_matlab@incf.org), [bids_matlab_devs@incf.org](mailto:bids_matlab_devs@incf.org))