DMP title

Project Name FWO DMP Plan Pieter De Clercq - DMP title
Project Identifier u0137757
Grant Title S40122N
Principal Investigator / Researcher Pieter De Clercq
Description Assessment of language abilities in patients with aphasia. EEG and fMRI data will be collected in patients with aphasia to objectively assess the language abilities of a person with aphasia. We will use natural speech paradigms to accomplish this.
Institution KU Leuven

1. General Information

Name applicant

Pieter De Clercq

FWO Project Number & Title

Neurodiagnostics of natural speech processing in persons with aphasia
S40122N

Affiliation

- KU Leuven

2. Data description

Will you generate/collect new data and/or make use of existing data?

- Generate new data

Describe in detail the origin, type and format of the data (per dataset) and its (estimated) volume. This may be easiest in a table (see example) or as a data flow and per WP or objective of the project. If you reuse existing data, specify the source of these data. Distinguish data types (the kind of content) from data formats (the technical format).

Type of data	Format	Volume	Origin of data
Textual Data	pdf	1 GB	Patients with aphasia will be screened at UZ Leuven with a short language test in the **acute stage**. The results (pseudorandomyzed) will be scanned in pdf
Audio recordings	.wav	5 GB	Screening at stroke unit (language test) will be audiorecorded
Textual Data	pdf	2 GB	All pencil- and papertests, collected during EEG and fMRI study in the **chronic stage** of aphasia, will be scanned and saved as pdf
Computer tasks	.csv, .apr	200 MB	All computer-based language tasks, collected during EEG and fLRU study in the **chronic stage** of aphasia
EEG data	.bdf	300 GB	Patients with aphasia in the **chronic stage** will participate in our EEG-study while they listen to a natural story. This is +- 45 minutes of EEG data sampled at 8192 Hz. Estimated volume is around 300 GB
(f)MRI data	.NifTI, DICOMS, par-rec	50 GB	Patients with aphasia in the **chronic stage** will participate in our fMRI-study. A structural T1 and functional images will be collected. Etimated volume is around 40 GB

3. Legal and ethical issues

Will you use personal data? If so, shortly describe the kind of personal data you will use. Add the reference to your file in KU Leuven's Register of Data Processing for Research and Public Service Purposes (PRET application). Be aware that registering the fact that you process personal data is a legal obligation.

- Yes

Privacy Registry Reference: G-2022-4679 (date of approval: 23/02/2022)

Short description of the kind of personal data that will be used: Patients that suffered a stroke in the acute stage will be screened with a short language test for aphasia at UZ Leuven. This test assesses if a stroke patient has residual language deficits or not. If they have such deficits, and they suffered from a stroke in the left hemisphere and do not have a neuro/psychiatric history, they will be invited to our EEG and fMRI study in the chronic stage, where we collect neuroimaging data of patients listening to a story.

The patients at the stroke unit will immediately receive a pseudorandomyzed code. All experimental data will be linked to that pseudorandomyzed code. There is a single, encrypted, pass-word protected excel-sheet where we link to pseudorandomyzed code to personal data. This excel-sheet will be stored on secure KU Leuven network drives only (J-drive). In no case, personal data will be stored locally.

All experimental data is linked to the pseudorandomyzed code, and will be stored on the secured KUL network drives (J-, K-drive).

Are there any ethical issues concerning the creation and/or use of the data (e.g.

experiments on humans or animals, dual use)? If so, add the reference to the formal approval by the relevant ethical review committee(s)

- Yes

G-2022-4679 (date of approval: 23/02/2022)

Does your work possibly result in research data with potential for tech transfer and valorisation? Will IP restrictions be claimed for the data you created? If so, for what data and which restrictions will be asserted?

- No

Do existing 3rd party agreements restrict dissemination or exploitation of the data you (re)use? If so, to what data do they relate and what restrictions are in place?

- No

4. Documentation and metadata

What documentation will be provided to enable reuse of the data collected/generated in this project?

All data will be stored on secure KU Leuven network drives and in no case on personal computers. The data is stored according to BIDS-structure, which is a standard open-science structure to store neuro-imaging data and derivatives (pdf's, .txt's, .csv's and .apr's). At the level of the dataset and individual elements, README's and json's are provided with a (standardized) description.

Will a metadata standard be used? If so, describe in detail which standard will be used. If no, state in detail which metadata will be created to make the data easy/easier to find and reuse.

- Yes

The data will be stored based on the BIDS structure, an organisation structure for neuroimaging and behavioural data (see also website bids.neuroimaging.io). The BIDS format is essentially a way to structure your data / metadata within a hierarchy of folders. This makes it easy to browse from a computer, as well as to automatically parse a BIDS folder with a program. The BIDS structure makes minimal assumptions about the tools needed to interact with the data that's inside.

5. Data storage and backup during the FWO project

Where will the data be stored?

The pseudonymised data will be stored on secure KU Leuven network drives (J and K drive). To analyse the
data, some files will need (temporarily) to be stored on the encrypted PC hard drive. Once analysed, the raw
data are again removed from the local hard drive.
As explained above, the personal data will be stored on an encrypted, pass-word protected excel-sheet that is saved on the secure KU Leuven J-drive. In no case, this file will be accessed on a personal computer.

How is backup of the data provided?

Since the pseudonymised and personal data are stored on KU Leuven storage, the general ICT back-up policy
is applied. Furthermore, the data for longer term storage are kept on separate drives with a) limited access (only a limited set of people have access) and b) an overwrite and delete protection (based on read-write access) in order to prevent accidental loss of these data.

Is there currently sufficient storage & backup capacity during the project? If yes, specify concisely. If no or insufficient storage or backup capacities are available then explain how this will be taken care of.

- Yes

The data are stored on KU Leuven servers and are expandaple in blocks. The servers are backed up and maintained automatically on regular basis.

What are the expected costs for data storage and back up during the project? How will these costs be covered?

The expected costs for data storage during this project (+- 300 GB, 4 years maintenance on protected KU Leuven servers) is around 300€. Costs will be covered by the FWO grant of the promoter, prof Maaike Vandermosten (application number G0D8520N).

Data security: how will you ensure that the data are securely stored and not accessed or modified by unauthorized persons?

Only researchers involved in the project have access to the secured KUL drives.

6. Data preservation after the FWO project

Which data will be retained for the expected 5 year period after the end of the project? In case only a selection of the data can/will be preserved, clearly state the reasons for this (legal or contractual restrictions, physical preservation issues, ...).

All data.

Where will the data be archived (= stored for the longer term)?

The data will be stored on secure KU Leuven network drives for at least the duration of the project. These files will still be accessible by the promoter if the researcher has left the lab. It is then considered long term storage

What are the expected costs for data preservation during the retention period of 5 years? How will the costs be covered?

The expected costs for preservation is around 600€. Costs will be covered by the FWO grant of the promoter, prof Maaike Vandermosten (application number G0D8520N).

7. Data sharing and reuse

Are there any factors restricting or preventing the sharing of (some of) the data (e.g. as defined in an agreement with a 3rd party, legal restrictions)?

- Yes. Specify:

Data will not be transferred to or shared with persons/agenscies outside KU Leuven

Which data will be made available after the end of the project?

No data will be made available at the end of the project.

Where/how will the data be made available for reuse?

- In a restricted access repository

The data will not be shared.

When will the data be made available?

- Upon publication of the research results

Data will not be shared outside KU Leuven

Who will be able to access the data and under what conditions?

Only the researcher of this project, myself, Pieter De Clercq, and the promoters (prof. Tom Francart and prof. Maaike Vandermosten

What are the expected costs for data sharing? How will the costs be covered?

This is not applicable since data will not be shared

8. Responsibilities

Who will be responsible for data documentation & metadata?

The researcher who collects the data, myself, Pieter De Clercq. When my contract has ended the responsibility
shifts towards the PI to ensure data preservation and reuse.

Who will be responsible for data storage & back up during the project?

The researcher who collects the data, myself, Pieter De Clercq. When my contract has ended the responsibility
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Who bears the end responsibility for updating & implementing this DMP?

The PI bears the end responsibility of updating & implementing this DMP (prof dr Maaike Vandermosten).