FWO DMP Template

Project supervisors (from application round 2018 onwards) and fellows (from application round 2020 onwards) will, upon being awarded their project or fellowship, be invited to develop their answers to the data management related questions into a DMP. The FWO expects a **completed DMP no later than 6 months after the official start date** of the project or fellowship. The DMP should not be submitted to FWO but to the research co-ordination office of the host institute; FWO may request the DMP in a random check.

At the end of the project, the **final version of the DMP** has to be added to the final report of the project; this should be submitted to FWO by the supervisor-spokesperson through FWO's e-portal. This DMP may of course have been updated since its first version. The DMP is an element in the final evaluation of the project by the relevant expert panel. Both the DMP submitted within the first 6 months after the start date and the final DMP may use this template.

1. General Information	
Name applicant	**Hans Op de Beeck**
FWO Project Number & Title	**G073122N** **Computational neuropsychology 2.0: A deep learning account of the pattern of deficits in visual recognition after brain damage**
Affiliation	☒ KU Leuven ☐ Universiteit Antwerpen ☐ Universiteit Gent ☐ Universiteit Hasselt ☐ Vrije Universiteit Brussel ☐ Other:
2. Data description	
Will you generate/collect new data and/or make use of existing data?	☒ Generate new data ☐ Reuse existing data

Describe the origin, type and format of the data (per dataset) and its (estimated) volume *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 1:** Type: Behavioural responses of participants to visual tasks on computer or using online platform. Format: Mostly .mat (Matlab files) or .csv Size: 1-10 GB How created: Output of experimental scripts written in e.g. Matlab (PsychToolbox) or Python (PsychoPy) **Type 2:** Type: Magnetic Resonance Images (MRI) of the brain, Structural & Functional Format: Mostly NIfTI or DICOM Size: 300 GB - 1 TB (the latter including intermediate processing steps) How created: MRI research scanner **Type 3:** Type: Computer simulation data Format: Depending on software, often .py and .mat Size: 500 GB How created: By implementing artificial neural networks & training them to classify visual images (e.g. using Python & Tensorflow/PyTorch

3. Ethical and legal issues

Will you use personal data? If so, shortly describe the kind of personal data you will use AND add the reference to your file in your host institution's privacy register. *In case your host institution does not (yet) have a privacy register, a reference is not yet required of course; please add the reference once the privacy register is in place in your host institution.*	☒ Yes ☐ No Yes, we use personal data. This is registered through our ethical approvals with EC and SMEC. For studies with paid participants, we obtain the names, email address, personal address, and bank account information. This information is needed to pay participants. This identifiable information is kept separate from the actual research data (see types 1-4 under Section 2.2). The research data are coded.
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 ☐ No Yes, there are ethical considerations, and they will be covered by ethical approval. The ethical application will be started by the first junior researcher that will be hired on the project.
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?	☐ Yes ☒ No If yes, please comment:
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?	☐ Yes ☒ No If yes, please comment:

4. Documentation and metadata

What documentation will be provided to enable understanding and reuse of the data collected/generated in this project?	The raw data files for all three types are automatically stored with relevant meta-data. For each experiment a detailed Methods section is written that allows to replicate the experiment, and re-analyse the obtained data. It is impossible to detail these methods before the start of the project, given that many design and implementation choices will be made together with the to-be-hired junior researchers.
Will a metadata standard be used? If so, describe in detail which standard will be used. If not, state in detail which metadata will be created to make the data easy/easier to find and reuse.	☐ Yes ☒ No Where applicable we use data acquisition and analysis software that is internationally used (e.g., for data type II: fMRIPREP, SPM, cosmoMVPA toolbox), and the relevant standard data formats such as BIDS (which also standardizes directory structure & experimental information).

5. Data storage & backup during the FWO project	
Where will the data be stored?	The coded research data are stored on the professional KU Leuven Onedrive for Enterprises serves, using the drive of the main experimenter per experiment (up to 3 experimenters can be involved in this project). Copies can be made and kept on personal professional devices that fall under the university' secure environment. All people with access to these data use multi-factor authentication.
How will the data be backed up?	The Onedrive assures a storage using online cloude services. In addition, the coded research data might be backed-up on local external hard drives that are encrypted and password-protected.
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 ☐ No Yes, the expected size of the research data is smaller than the 2 TB per person provided through Onedrive.

What are the expected costs for data storage and backup during the project? How will these costs be covered? *Although FWO has no earmarked budget at its disposal to support correct research data management, FWO allows for part of* ***the allocated project budget*** *to be used to cover the cost incurred.*	No substantial costs expected, except the purchase of a few external hard drives.
Data security: how will you ensure that the data are securely stored and not accessed or modified by unauthorized persons?	Password protection and multi-factor autenthication.

6. Data preservation after the end of the FWO project FWO expects that data generated during the project are retained for a period of minimally 5 years after the end of the project, in as far as legal and contractual agreements allow.	
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, ...).	The coded research data will be preserved for 10 years. The informed consents on paper will also be preserved for 10 years.
Where will these data be archived (= stored for the long term)?	Currently we archive data on a central storage RAID system of our research group when a lab member's contract ends, with additional backup on encrypted & password-protected external hard drives stored in a different building. Towards the end of this project, we hope to move towards using the university's central servers (with automatic back-up procedures) for at least 10 years, conform the KU Leuven RDM policy.

What are the expected costs for data preservation during these 5 years? How will the costs be covered? *Although FWO has no earmarked budget at its disposal to support correct research data management, FWO allows for part of **the allocated project budget** to be used to cover the cost incurred.*	With current policies, we expect a total cost of around 5 000 euro, which can be covered from the FWO budget.

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 ☐ No The research data can be shared (anonymously) with other researchers, also on online databases. This is explicitly mentioned in the informed consent forms signed by the participants.
Which data will be made available after the end of the project?	We share the final analyses files and further experimental material (stimuli etc.) using the OSF platform, which is an international standard frequently used in the domain of psychology.
Where/how will the data be made available for reuse?	☒ In an Open Access repository ☐ In a restricted access repository ☒ Upon request by mail ☐ Other (specify): We use the Open Science Framework. Partially also by mail, because not all the raw data files might be on OSF.
When will the data be made available?	Upon publication of the research results
Who will be able to access the data and under what conditions?	Summary data & analysis files and experimental material will be fully open access for all that are registered on OSF.

What are the expected costs for data sharing? How will these costs be covered? *Although FWO has no earmarked budget at its disposal to support correct research data management, FWO allows for part of **the allocated project budget** to be used to cover the cost incurred.*	OSF has no costs (at the moment).

8. Responsibilities	
Who will be responsible for the data documentation & metadata?	The researchers hired on the project and the supervisor/promotor (the latter is the first contact point).
Who will be responsible for data storage & back up during the project?	The researchers hired on the project and the supervisor/promotor (the latter is the first contact point).
Who will be responsible for ensuring data preservation and sharing?	The supervisor/promotor.
Who bears the end responsibility for updating & implementing this DMP? *Default response: The PI bears the overall responsibility for updating & implementing this DMP*	The end responsibility for updating and implementing the DMP is with the supervisor (promotor).