DMP title

Project Name My plan (FWO DMP) - DMP title
Grant Title 11M3722N
Principal Investigator / Researcher Yifan Wu
Project Data Contact yifan.wu@kuleuven.be
Description The normal circuit function relies on a proper balance between excitation (E) and inhibition (I), and the disrupted balance has been reported as the underlying mechanisms of various brain disorders such as autism spectrum disorders (ASD), schizophrenia, and epilepsy. At the single-cell level, this equilibrium state is reflected by the stable ratio of excitatory to inhibitory synaptic transmissions, namely the E/I ratio. Although previous studies suggest the inhibitory neurons play a vital role in the maintenance of the E/I ratio, the subtype contributions of the inhibitory circuit have not been identified yet. Thus, in this project, I will use the antennal lobe circuit in Drosophila melanogaster, as a model in combination with many cutting-edge techniques including in vivo electrophysiology, optogenetics and behavioral assays to examine the role of the inhibitory circuits in the maintenance of the E/I ratio. In addition, I will also study how the E/I ratio and related inhibitory synapses can be affected by sleep, and further assess the underlying mechanisms.
Institution KU Leuven

1. General Information

Name applicant
Yifan Wu
FWO Project Number & Title
11M3722N
The role of the inhibitory circuits in the maintenance of the E/I ratio
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).
The data will include but not be limited to; electrophysiological data (ABF format, ~1TB), microscopy images (Nd2 format, ~10 TB), Behavioral assay data (MP4 format, ~5 TB), screening data (AVI format, ~5TB), and manuscripts (Word or PDF format, ~200 MB).
All data will be collected by using fruit flies (Drosophila *Melanogaster*) as a model animals. The flies are purchased from either Bloomington Drosophila Stock Center or Vienna Fly Stock Center)

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.
No
Privacy Registry Reference:
Short description of the kind of personal data that will be used:
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)
No

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?
Electrophysiological data: abf or dat format
Microscopic data: nd2
Behavioral data: Mp4/Jpeg
All data comes with a metadata in csv format that includes the date, experimental conditions and the experimenters.
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.
The metadate will be provided as a csv file.

5. Data storage and backup during the FWO project

Where will the data be stored?
Data will be stored in the local hard drive of the lab and also a backup in the dropbox space that the lab owned.
How is backup of the data provided?
The backup of the data can be provided upon reasonable request before the publication. After the publication, all data and metadata will be released to Public with a link of dropbox.
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.
The expected data size is around 22 TB. According to the dropbox service we purchased, we are supposed to get infinite storage space on the cloud.
What are the expected costs for data storage and back up during the project? How will these costs be covered?
600 Euros per year
The cost will be covered by my host lab
Data security: how will you ensure that the data are securely stored and not accessed or modified by unauthorized persons?
All our data are not private data and no any sensitive data will be used.
In principle, only the people from the lab can have the access to the data collected during the experiment.

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 generated in the project will be retained.
Where will the data be archived (= stored for the longer term)?
All data will be stored in both local hard disk and also dropbox.
In the meantime, all data collected in the project will be released after the publication.
All dead biological samples will be stored in 4 degrees or -20 degrees fridge, and living organs will be raised in my host lab at either 18 degrees or 25 degrees room with 12 hr day/night transitions.
What are the expected costs for data preservation during the retention period of 5 years? How will the costs be covered?
600 Euros per year
The cost will be covered by my host lab

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)?
No
Which data will be made available after the end of the project?
All data will be available to the public after publication.
Where/how will the data be made available for reuse?
In an Open Access repository
Upon request by mail
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?
The full dataset will be available to the public under no conditions.
What are the expected costs for data sharing? How will the costs be covered?
There is no extra cost for data sharing since the data size will be relatively small.

8. Responsibilities

Who will be responsible for data documentation & metadata?
The student will be responsible for the data documentation & metadata.
Who will be responsible for data storage & back up during the project?
The PI will be responsible for data storage & back up during the project
Who will be responsible for ensuring data preservation and reuse ?
The promotor of the applicant will be responsible for ensuring data preservation and reuse.
Who bears the end responsibility for updating & implementing this DMP?
The PI bears the end responsibility of updating & implementing this DMP.