<< This is file "crcns_data_description_template" which is used to creating a "data description document" for describing a data set hosted at CRCNS.org. This file and instructions for using it are at https://crcns.org/contribute. Edit the Word Version of this file (.docx extension). When done, remove these lines. Version 0.5 (Dec 15, 2015). >>

CRCNS.org xxx data description
Version 0.5 (Jan 1, 1970)

(leave this two lines line alone, they will be updated by CRCNS.org staff)

Summary

<< Provide one or two paragraphs describing the data set. Include the species, brain region, recording method, what was performed in the experiments; for example type of stimuli, any behaviors, conditions of the animal, type of data included (e.g. raw recordings, imaging, LFP, results of spike sorting, ...). If possible, include some relevant summary statistics, such as: number of sessions, number of channels, total time of recorded data, number of units recorded from. Also mention anything special about the data set, and any scripts provided to help work with the data set. Include references to all publications that were based on the data set or which might to help understand the data set. e.g. Results from the experiments are described in:

A motor cortex circuit for motor planning and movement
Nuo Li, Tsai-Wen Chen, Zengcai V. Guo, Charles R. Gerfen & Karel Svoboda
Nature 519, 51–56 (05 March 2015) doi: 10.1038/nature14178

... (can include any number of references. If desired, some (or all) can go at the end and be referenced from the text).

>>

Conditions for using the data

<< This section should specify the ground rules for publishing results emanating from your data. For example, do you require being consulted before publication? Would you require co-authorship under certain circumstances? For this, most contributors just request citation of a publication associated with the data, and citation of the data set itself using the text given below. If you have other conditions modify the paragraph. Conditions cannot be legally enforced, but most people will probably honor them.

To specify how to cite the data set, modify the text below to specify any papers to cite, and provide: (a) a suggested title of the data set and (b) a list of contributors. These will be used to create a DOI for the data set using DataCite (www.datacite.org). Choose a title that is very specific so it will uniquely describe your data set among, possibly many, others recorded from the same species and brain region. An example of a good title is: "Simultaneous extracellular recordings from hippocampal areas CA1 and CA3 from rats performing an alternation task in two W-shaped tracks that are geometrically identically

but visually distinct." After completing these instructions (here in the angle brackets) you can delete them.>>

If you publish any work using the data, please cite the publication above (<<author et. al, date>>) also cite the data set in the following recommended format:

<<list of contributors>> (<<current year>>); <<suggested title of dataset>>. CRCNS.org http://dx.doi.org/10.6080/--TBD-- (This will be replaced later by the DOI)

Methods

<<Describe methods used to gather and process the data. If the methods are fully described in publication(s) that can be cited then just indicate and cite them. If the methods are not fully described in publications that can be referenced, then this section should contain the information that would go into a method section. For example, include (if applicable):

Description of experimental conditions/experimental paradigms etc.
Species, age of the animal, etc.
Surgical procedures
Information about recording technique (electrode type, clamp method, etc)
Locations of recording electrodes
Information of recorded cells, such as cell anatomies, cell type, laminar position
Tools/procedures used to process the data (e.g., spike sorting)
Information on how stimuli were generated.
Information on how the timing of the stimuli is correlated with the recordings.
For cells in the visual system, the size and location (eccentricity) of stimuli on the retina (if available). >>

Data files organization

<<Describe here how the files in the data sets are organized. This could include:

- If there is a directory structure, describe the organizing principle used to group the files.
- Provide pointers to any files with more detailed explanatory material.
- List directories and important files with short descriptions of their contents.
- If there are multiple sessions, a table giving information about the sessions could be included here. Or it could be stored in a separate file but referenced from this section.

>>

Data format

<< Describe here the format of every type of data file. This section is critical because the whole purpose of sharing data is to allow new analysis of the data, and doing this requires being able to understand and read the data files. For purposes of recommending how to document the data file formats, four types of formats are described:

1. Fully custom formats – the data format is completely custom. These could be in either binary or text.
2. Standard container, custom organization. In this situation, there is a standard container format, for example Matlab, HDF5, XML; but a custom method is used to organize data within the format.
3. Standard open format. These are formats in which the format is standard and there exists open source software to read data in the format. Examples of this are CARMEN NDF, Neo, LBNL Brain format, NWB format.
4. Proprietary format – These formats can only be read by proprietary software.

For type 1 (fully custom formats) the documentation should include enough detail to allow writing a program to read the data, and also an example script to load the data into either Python or Matlab.

For type 2 (standard container, custom organization) the organization of the data within the standard container should be documented in detail. For example, if the data is stored in a mat file (matlab) each variable created when loading the mat file into matlab should be fully described including any components of the variable such as contents of cells arrays and structures. A recommended way to document matlab file formats is to load an example file into matlab and use the matlab command window to display the structure of each variable. Then copy that into this document, and add comments to describe what is there.

For type 3 (standard open format) if there is any aspect of the data that is not described by the standard features of the format, they should be documented.

Type 4 (proprietary formats) should not be used unless software to read the data using matlab or Python is included. The software should run on all major platforms (Mac, Windows, Linux) and the format of the data after reading using the software should be described.

This section could often be quite long (perhaps many pages). If desired, the contents that would go in this section can be placed in a separate document (or documents) that are included with the data set and referenced from this section. >>

How to get started

<< Summarize here how you would recommend someone get started looking into the data. It should include instructions (or pointers to instructions) for running any included scripts. >>

How to get help

<< In most cases, use something like the sentence provided below.

To get help with the data set post any questions on the forum at CRCNS.org.

Using the forum as the method for people to ask questions about your data set allows everyone to see the answers. Staff at CRCNS.org will notify you if there is a question about your data set on the forum. If you wish to provide other ways of getting help, modify the above text accordingly. >>

References

<< Any references not included in the first section can be included here. This section is optional >>