THIS FOLDER AND FUNCTIONS ARE ONLY REALLY DESIGNED FOR DNMP, THIS NEEDS TO BE CHANGED BEFORE LETTING OTHERS USE IT.

**A brief summary of this folder:**

In the main folder “Analysis Pipeline”, you will find a variety of functions that do a variety of tasks. For example, if you have collected LFP data and you want to analyze the data in a specific time-frame, you will use get\_coherence. If you would like to analyze power in a given time-frame, you will use get\_power. For single unit stuff, the same applies. If you are interested in just a single session, the functions output will provide a means for you to extract data from that session.

It is important to note that you will need to change a variety of inputs depending on the function. For example, if you have LFP data, you will need to change some parameters given these functions draw on other functions (like those found in chronux toolbox). Therefore, it is very important that you do NOT run these functions blindly.

**Important tips for usage:**

You should have an understanding of how these functions work, and what parameters you feel are best to use (this is somewhat a matter of subjectivity). Outside of the framework of learning how things work, if you plan to analyze your entire dataset, you should first select the parameters based on some background understanding of them, run your analysis, and do NOT go back and change them. If you run an analysis on all of your data, then change parameters and run again, you are biasing your results. This is practically p-hacking and should be avoided for ethical concerns. If you always pre-register your analyses before you run them, you never have to think twice about if you introduced bias ☺.

**How to use:**

If you haven’t done so, please read the above texts before moving on. They will be important for what comes.

Most functions in this folder require that you provide a Datafolders variable, this variable is explained in the matlab pipeline document in the MatlabToolbox folder. However, it is simply a folder that houses other folders that contain your session data. You will be required to define this variable along with other variables (please see the specific document to learn more). Typically, your output will be some cell array (type in ‘cell array matlab mathworks’ on google to read about) containing your data. This data will typically be layered in a manner where eventually, the deepest layer of data will be either trial-by-trial data, or session averaged data. This provides the flexibility to visualize, plot, and analyze the dataset in different ways.

**Outputs of functions:**

I found it very useful to generate the data, then plot the data separately. Therefore, when you run a function, you often will not receive an output variable (like say if you run get\_coherence). Instead, you will be prompted to save the data in a separate folder (***and please, save your data to a separate folder from the analysis pipeline folder***). You can then use this data to plot and statistically assess specific relationships.

**For future use of this toolbox:**

Please, feel free to copy a document, edit it, then save it in this folder for future use. However, do not save documents in this folder that do not abide by the given format that the others follow. This ensures that future members of the lab can readily access functions that meet the criteria mentioned above.

**Example workflow:**

You define your epoch and inputs, then Datafolders, then you run your function. Save the data to a specific location. Then pull up the Plotting Scripts script that you are interest in using, load your data, then plot it out. Or, you can make your own script that plots and statistically analyzes your data! Please only save it in the plot scripts folder if you feel it will be broadly applicable to others!