**Instructions for running *TMS-via-Arduino* on Windows**

**Download and Installation**

1. Download the project

Github: <https://github.com/eugsokolov/tms-via-arduino/>

2. Install Python v2.7

Python: <https://www.python.org/downloads/>

3. Install the proper Python libraries

pyserial: <http://pyserial.readthedocs.io/en/latest/pyserial.html>

matplotlib: <https://www.youtube.com/watch?v=o3K_fE6GYRk>

You should now be able to run the Python script: *tms-program.py*

**Running the Program**

1. Edit the configuration file: *config.csv*

Configuration file must be saved in the same directory as the *tms-program.py* script file. Be sure to save the configuration file as a CSV (comma separated values).

What do the values mean?

Name: the test subject's name

Sex: the test subject's gender

Iterations per user: number of iterations to display objects

Screen: select display mode - display a single object or a side by side aka double

Type: select type of object - image, text, or mouse

directory: location of objects - point to full path of images, or text file of words

TMS port: port of Arduino-TMS adapter - on Windows, usually COMS1, COMS2, etc.

TMS before or after: do we wish to fire the TMS machine before or after showing an image?

Fire iteration: specify when to fire the TMS as an array, ie [1, 2, 3] will fire 1st, 2nd, and 3rd iterations. Alternatively, we can specify random in which case a fair coin will be flipped to determine fire

Time to fire: millisecond time when to fire before/after showing an image

event end: how to end the event? Keypress action or time?

Event end time: if event end by time, how long between events?

Refresh: refresh image after each iteration event?

ISI step: show an ISI image between each iteration event?

ISI step duration: if so, for how long?

ISI end: show an ISI image at the end of the program run?

ISI end duration: if so, for how long?

2. Run the script: *tms-program.py*

Right click on the file and select “Edit in IDLE”

On the top screen, select “Run Module” or alternatively press F5

At the end of the trial, a log file will be created as name-date.log