MATLAB Workshop for Research

*Days/Times/Location:*

MATLAB Workshop 1: June 12 – 14 from 11-1:30 pm in East Hall B247

MATLAB Workshop 2: July 17 – 19 from 10:30-1 pm in East Hall B247

Note: Both workshops will be covering the same material

*Pre-requisites:*

* MATLAB and Psychtoolbox installed and ready-to-go
* No programming experience necessary

*Day 1: Stimulus Presentation*

We will go over the basics of putting a variety of stimuli on the screen. While doing so, you will become familiar with various Psychtoolbox functions that are essential to creating an experimental script. Below are the main aspects of stimulus presentation that we will explore:

* The Starting Point: Pulling up a screen on Psychtoolbox that says “Hello” in different background colors
* Text Stimuli: Displaying single and multiple words of your choice on the screen in different colors, fonts, sizes, and locations
* Picture Stimuli: Displaying an image (yours or the one provided) on the screen in different sizes and in different locations
* Sound Stimuli: Playing a sound (yours or the one provided) when the screen appears
* Drawn Stimuli: Drawing a line or shape in different colors, sizes, and locations

*Day 2: Stimulus Duration and Timing*

We will go over the basics of controlling stimulus duration and timing in the context of an experimental script. This will involve creating a series of trials, an essential in every researcher’s toolbox. Below are the main aspects of stimulus duration and timing that we will explore:

* The Starting Point: Displaying a stimulus (text, picture, sound) on the screen for a specified time duration
* Creating a Trial: Displaying a stimulus with time variables for each aspect of a trial – the time before, of, and after stimulus presentation
* Creating a Series of Trials: Displaying a series of “trials” using a variety of stimuli from Day 1

*Day 3: Data Input and Output*

We will go over the basics of collecting data input (such as response time and error rate) and outputting it in a file. While doing so, we will be incorporating all aspects from Days 1 and 2. Below are the main aspects of data input and output that we will explore:

* The Starting Point: Creating a text file for data collection with the names of the different experimental conditions of interest
* Measuring Response Time: Creating timing variables to measure and output response time in each trial
* Measuring Error Rate: Creating variables to determine a “correct” response and output whether an error was made in each trial