Fear Conditioning Tutorial

1) Freezing time is determined by the sum of absolute differences method to discriminate between motion and freezing. This requires selecting a threshold. We recommend recording a short video of an empty fear conditioning chamber (without mouse) and the same lighting conditions as a real experiment. The GUI will ask for the location of this file and use it to determine camera noise and threshold for freezing.
2) Navigate to autotyping/FearConditioning and enter the command FCGUI at the command window in MATLAB. A screen should pop up that looks like the one below.
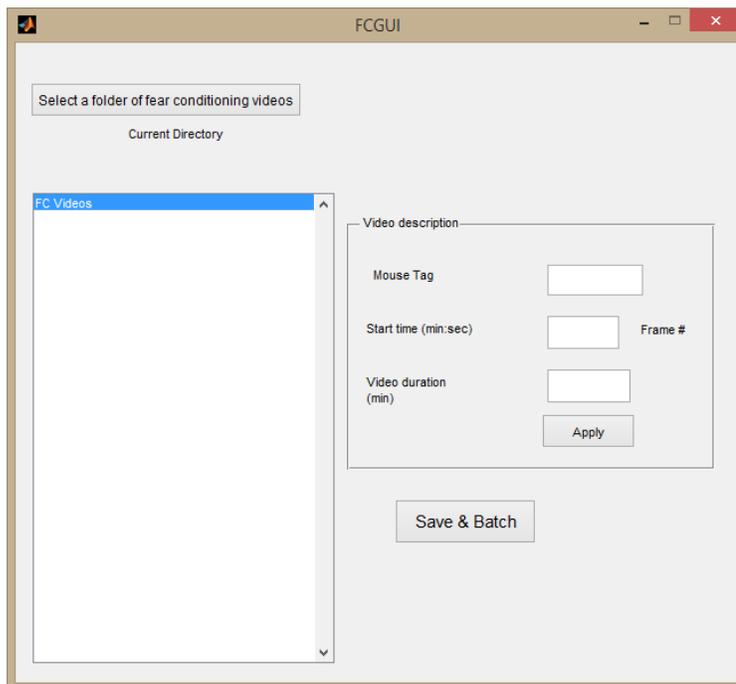
3) The next step is to load the videos. I recommend placing all training and testing fear conditioning videos in one folder and place the video of an empty chamber (if you have one) in a different folder.
4) Click on the button that says "Select a folder of fear conditioning videos". Each video name should appear on the left hand side.
5) Double click on the video names to open the video in order to fill out the rest of the information.
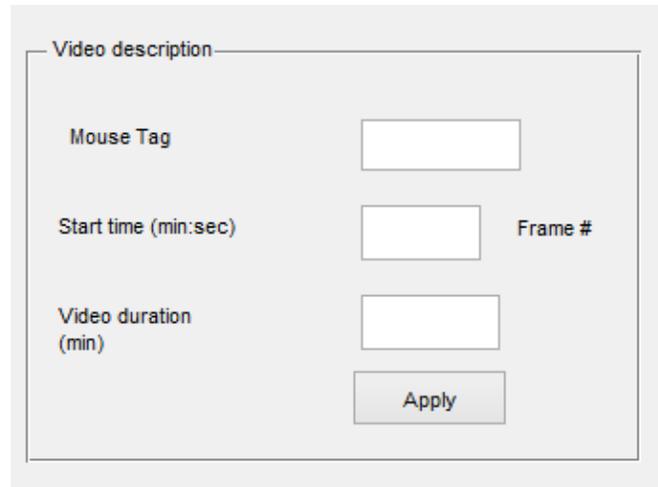
Video description

Mouse Tag

Start time (min:sec)   Frame #

Video duration
(min)

Apply

6) "Mouse Tag" is just the mouse identifier.
7) "Start time" is the time when the mouse is introduced in the chamber and the chamber door is shut.
8) Video duration is typically 5 (for 5 minutes). Once all the video description information has been entered, hit the "Apply" button.
9) Move on to the next video in the listbox.
10) Once finished, click Save & Batch. This will bring a prompt whether you have a video of an empty chamber. Select Yes and select the empty chamber video. You will have to type the start time for the empty chamber video in seconds. NOTE: if start time is 0:24, enter it as 24 rather than 0:24 as you did for the actual test/train videos.
11) If you do not have an empty chamber video, select No and enter a threshold value – typically a value of 1.5 works well based on our experience.
12) Choose to batch process now or later. If you choose the "later" option, edit Read_FNames and enter the full path to the experiment folder in single apostrophe. More than one folder can be added on separate lines.Run FCBatch at the command prompt.