Some comments for Lab 2

1. For deliverable 4 in the static calibration. When I ask, “Determine the interval in which you are 95% confident that ANY individual measurement will fall within.”, I am referring to the next measurement of the ice bath temperature and not any other temperature.
2. You will be graded on the quality of your plots and the ease with which they can be evaluated. The presentation of dynamic data is giving some people problems. The following information is provided to help you present plots closest to what we think is appropriate.
   1. Refer to the 5sx for determining the beginning of the event as the 5sx onset method.
   2. Refer to the maximum slope method as the maximum slope method.
   3. Refer to the ln(Γ) fit method.
   4. Refer to the Γ = 0.632 fit method
   5. When finding the local slope to determine the maximum slope location, choose your window so that it is as small as possible. It should never be longer than 5% of the time of the event you are studying so, in the case of the exponential decay, it should probably be less than 0.1τ (the length of time you took data is irrelevant). I realize you don’t know τ but you can eyeball it. If you repeated these measurements, you would standardize on a sampling rate and window size. The window should be large enough to integrate out the noise so you see the trend and not the noise.
   6. We want to see some baseline data and some saturated data, but if you recorded data for 5 seconds and the event, including the decay, is over in 2 seconds, it does not make sense to plot all of the data, only the relevant data. We want some visual indication that you correctly located the 5sx and maximum slope location. Plotting a single point on a T vs. t curve that you identify as each start method point would be informative. Otherwise, make sure your plot is shifted so that you the location you define as t = 0 is plotted at t=0.
   7. Some of the students have taken the stacked plots to an extreme. The plot aspect ratio is too great to see the trends. Your plots should be constructed to illustrate the trends. The comparison between the prediction and the data should be easy to see. Your legend should not obscure the data and you need a legend. I recommend using ‘.’ for the data symbols for the dynamic data.
   8. The horizontal ranges should be the same in stacked plots. While there are always exceptions, three vertically registered stacked plots is probably the maximum number of plots in a stack.
   9. The code on the next page might be valuable in controlling plot aspect ratio. Using figure() might also be valuable. Feel free to ask the classroom wizards on this and those wizards are encouraged to share their strategies for publishing plots with good aspect ratios.
3. When Publishing your program results, make sure you suppress all output to the console using the ‘;’ at the end of all lines including the ones in your functions. We will deduct points if we see a lot of console output. If you have errors, it may not publish. If this happens, comment out the code except the code for the first plot. If that publishes the plot, then increment along in plots to locate where the problem lies. Use the pdf output. Do NOT edit your published document using Adobe or we will deduct points.
4. Smudgy plots are no longer acceptable. We will deduct 5% for any smudgy plots. Come see us if you cannot figure out why it is happening. We will post the most common reasons as we identify them.

For figure aspect ratio control

figWidth = 1000; % pixels

figHeight = 800;

rect = [0 0 figWidth figHeight];

figure('OuterPosition', rect)