INSTRUCTIONS FOR DOWNLOADING AND INSTALLING THE PROCESS CONTROL LAB SOFTWARE

1. Go to https://www.arduino.cc/en/Main/Software
   and download the Arduino IDE using the Windows Installer. Then install the Arduino IDE. This should create a folder named Arduino either in Documents or in My Documents. If an Arduino folder was not created in Documents (or My Documents), create one in Documents (or My Documents). Then find the other Arduino folder (the one created during installation) and move the library folder from there to the Documents Arduino folder.
2. Go to https://learn.adafruit.com/adafruits-raspberry-pi-lesson-5-using-a-console-cable/software-installation-windows
   and download and install **Putty**.
   Then follow the instructions for installing the driver for the **SiLabs** chipset (not for the Prolific chipset).
3. Download and install the OneWire library. To download the OneWire zipped folder go to https://github.com/PaulStoffregen/OneWire and click the green button to download the ZIP file. Save the file. Extract the zipped folder to obtain the unzipped folder OneWire-master. Move it to the Arduino library folder. Careful: The OneWire-master folder with the files OneWire.cpp and OneWire.h must be a direct subfolder in the library folder, if it is a subfolder inside another folder (which is inside the library folder) it will not work.
4. Following the instructions in https://faculty.eng.ufl.edu/spyros-svoronos/lab/lab-software/download the files PortableWetContolLab_Main.ino and PortableWetContolLab_Main.xlsm and move them to your Arduino folder (not the Arduino library folder).
5. Connect the two USB cables of the lab set-up to your laptop. Double click the file PortableWetContolLab_Main.ino to open it. Accept the creation of a containing folder. Click the upper left checkmark to verify the code. There should be no errors. Select Tools. You should see two port numbers and one of them should list the Arduino. If it is not checked, check it. The other number is the port that will communicate with Excel.
6. Open the Excel file PortableWetContolLab_Main.xlsm. If PLX-DAQ is not open you will get an error. In this case click the button Open PLX-DAQ to open it. Change the port to the number you identified in step 5 (that is not being used by the Arduino) and press Connect. NOTE: Always disconnect PLX-DAQ before closing Excel.
7. Return to the file PortableWetContolLab_Main.ino and upload it to the Arduino by pressing the right arrow in the upper left corner. The two fans should turn on. Then click on the upper right corner to open the Arduino Serial Monitor. You will probably want to minimize the .ino file. The Excel file should start tabulating and plotting data. If it does not, disconnect PLX-DAQ and reconnect. Close the Serial Monitor and reopen it. It should run now.
   NOTE: For a run, do not forget to fill the can with water before plugging in the solid-state relay.