

<https://manuals.plus/biosignalsplux/electrodermal-activity-eda-sensor-manual#axzz7eEMebEMh>
<https://www.creact.co.jp/wp-content/uploads/img/BVPEarClipUserManual.pdf>

- Look at shared Google Sheets Research Participants to see and select 2 students from your assigned participant list to collect data collection.

Meet participants at the station zone you are assigned to.

Research Participants:

- Ask student following questions for their unique five digit code to save. If they don't already have their code, ask them the following questions for the code.

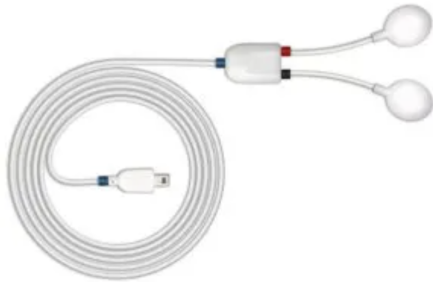
Linking questions to generate a personalized code for each participant:

- 1) First letter of your mother's first name?
- 2) Number of older brothers? (living and deceased. If none, use X)
- 3) Number representing the month you were born? (format 00, e.g: use 09 for September)
- 4) First letter of your middle name? (if none, use X)

Example Code for Niveda: CX04M

Attaching the Students to the Biosensors

Attaching EDA Sensor:



1. Obtain new gel electrode pads from Thomas/ biosensor kit and attach to the two probes.
2. When attaching BioSensors to participant the positive and the negative measuring

electrodes can be positioned in either way. See Figure 4.

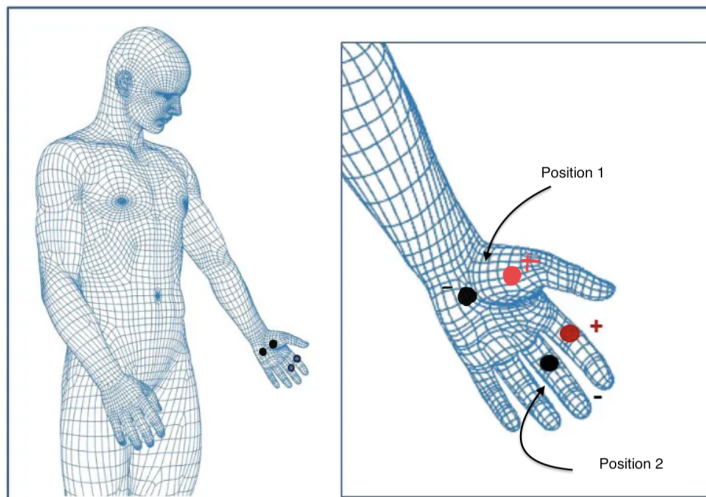


Figure 4: Example EDA placement I on the index and middle finger.

3. The electrodes may be placed in either position 1 or position 2.

Attaching BVP EAR Sensor:



Figure 2: Application of the ear-clip form-factor.

1. If a participant is wearing an earring please ask them to remove before attaching the BVP sensor
2. See figure 2 for orientation of the BVP sensor to make sure the sensor cable is out of the way.
3. Make sure the LED is facing toward you.
4. The BVP sensor should be placed connected through in the second location on the hub.

Connecting Biosensor to Laptop

1. Turn on Biosensor hub by pressing the on button. Green light should be flashing from the power button.
2. Open Bluetooth settings on laptop.
3. The device should pop up as “biosignalsplux” or “biosignalsplux #X:##”
4. Click on the device to connect.

Configuring Sensors to Opensignals Software

OpenSignals (r)evolution (Windows, macOS, Linux)

Open the OpenSignals (r)evolution device manager to access and configure your biosignalsplux device.

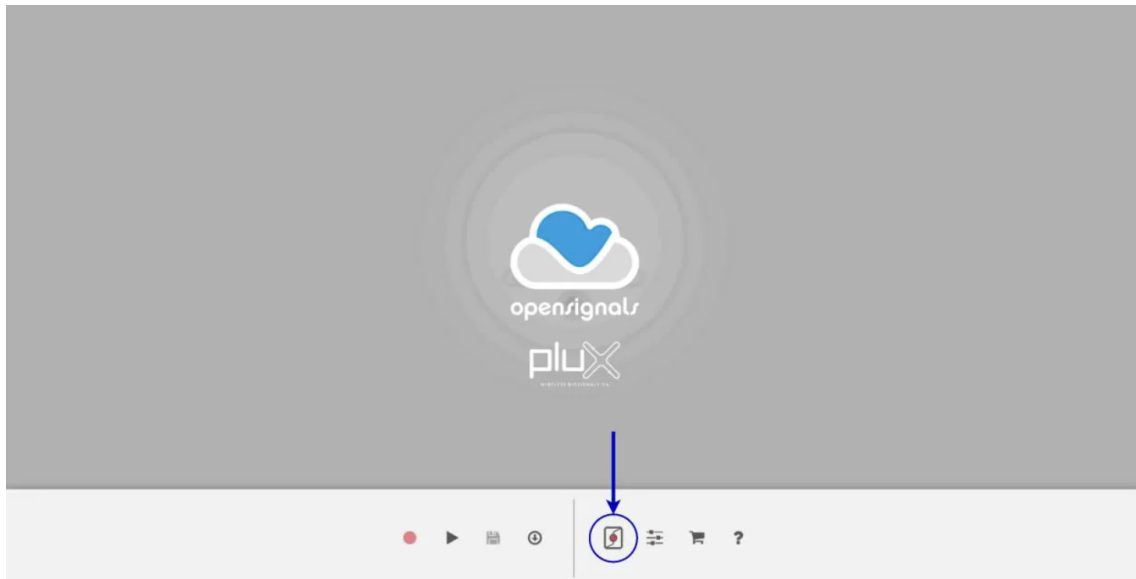


Figure 8: Access the OpenSignals (r)evolution device manager.

Select the device you intend to use for acquisition by clicking on ENABLE button on the device panel in the OpenSignals device manager. The device is activated for acquisition if the ENABLE button is blue.



Figure 9: Enabling the device for acquisition.

Click on the biosignalsplux logo to access the available settings. Select the channel your sensor is connected to and select the EDA from the dropdown menu highlighted in the next screenshot.

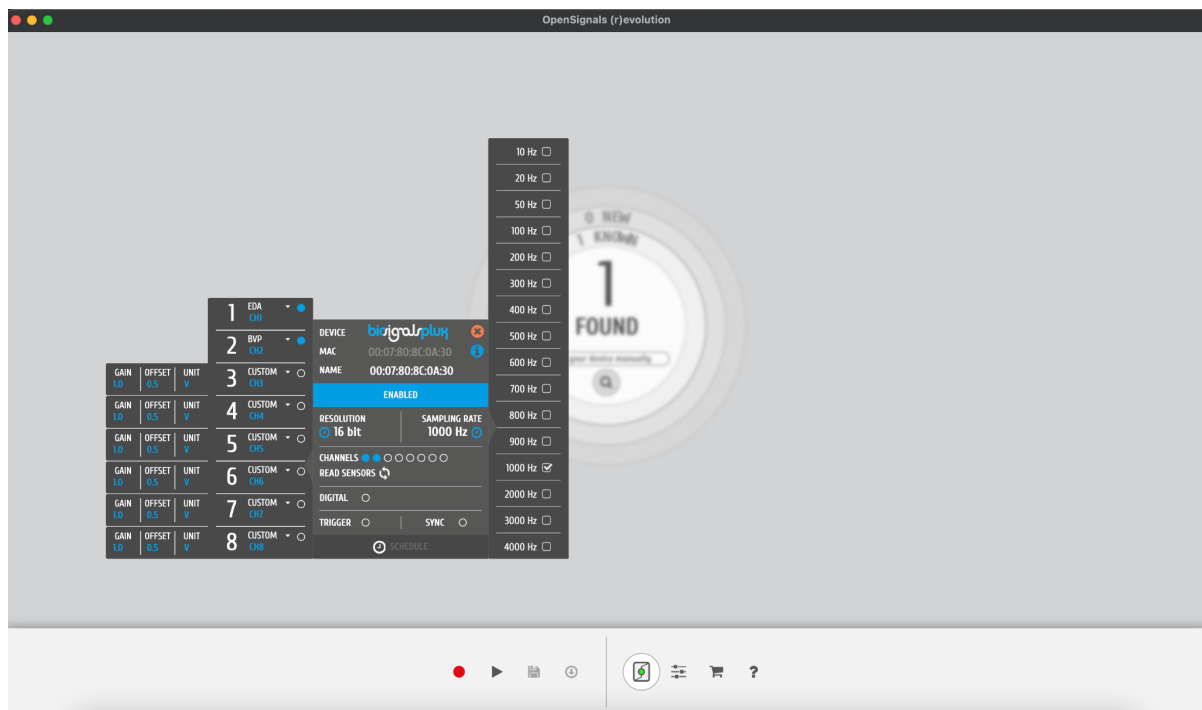


Figure 10: Set the channel type of the channel you have your EDA sensor connected to, to EDA.

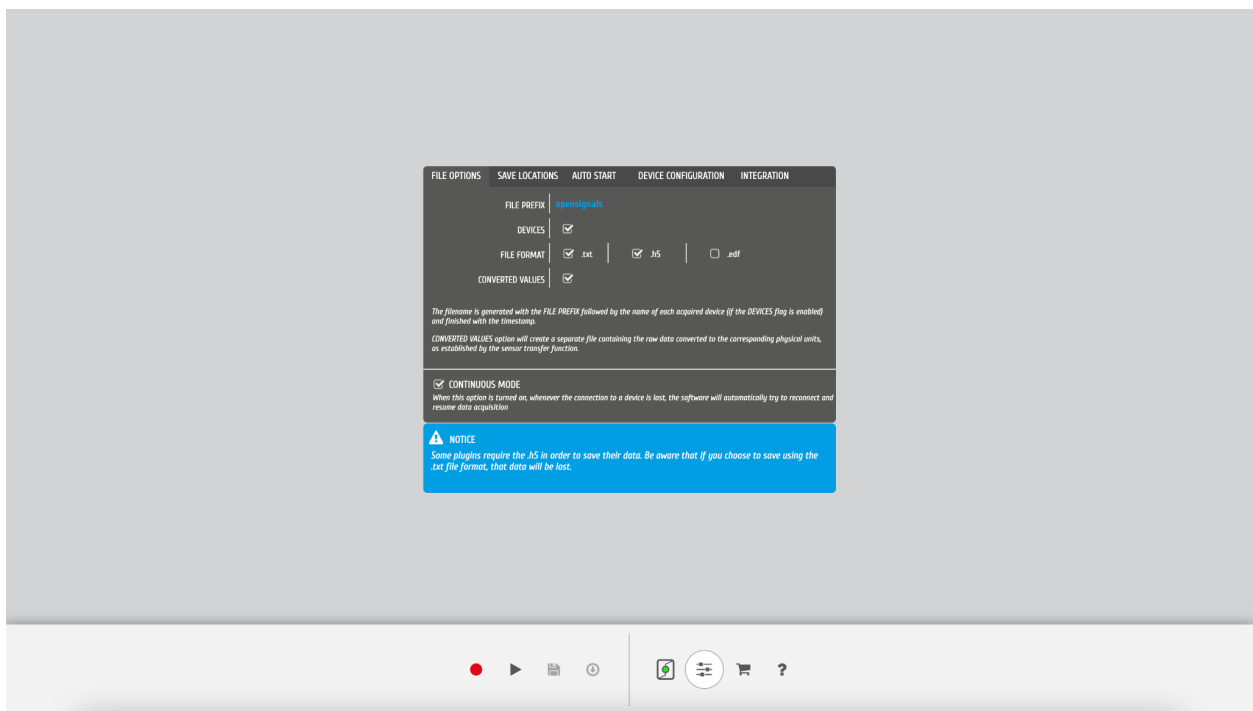
Save Options:



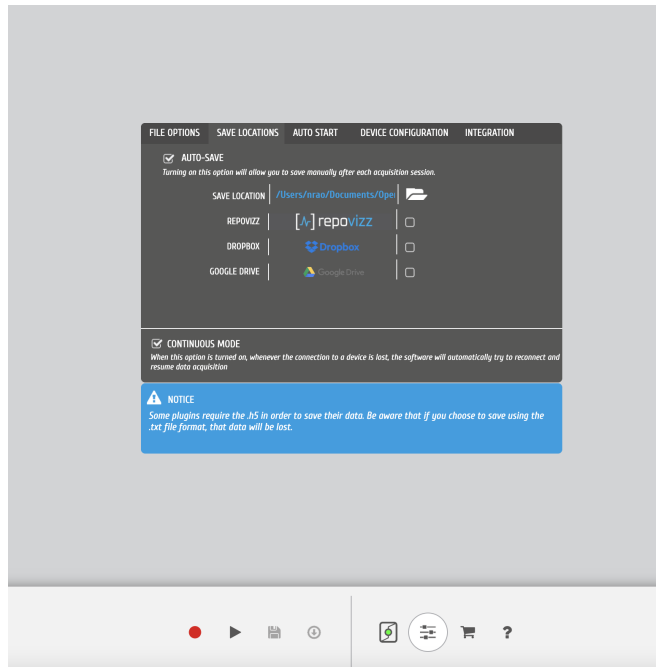
Click on the three lines with dots icon for saving preferences.

Under File Locations tab,

Click on Devices, **.txt, .h5, converted values**. Make sure to click on **Continuous Mode**.



Under the **Save Locations** tab, click and turn on the **Auto-Save button, Continuous Mode**, and have the Save Location to the Open Signals file folder on your laptop. We will record the files to that folder and then drag and drop the files after the recording session to the OneDrive folder that you have access to.



Under Save:

Activate the channel for acquisition by clicking on the circle next to the channel type (must be blue). Click on the record button in the OpenSignals main interface whenever you're ready for your acquisition.

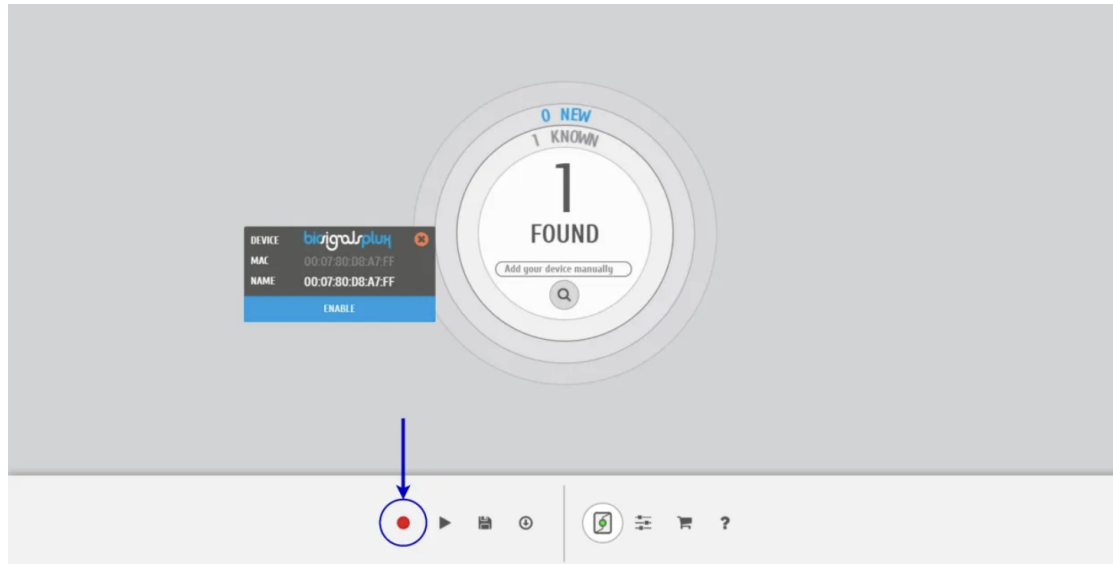


Figure 11: Start the acquisition whenever you're ready.

Data Acquisition:

Start collecting the 30 minutes of data as soon as Dr. Noel starts the grounding exercise and make sure to keep monitoring the data so there is proper recording. You can adjust the parameters to make the EDA and HR more clear and visible.

When the dissection begins, start recording participants and record for 30 minutes from the start of recording. If the participants needs to move around, make sure to help out if you can or make sure that both participants stay within range.

Post- physiologic data collection:




Stop recording. Files should save automatically. Disconnect the participant from the biosensor and keep the sensors. Wipe down the sensors.




Make sure to keep files saved.




Go into your Files and rename the .h5, .txt, and .converted.txt files with this format:

5-digit code_2022_month_day.converted.txt

Example:

 Name ▾	Modified ▾	Modified By ▾	File size ▾	Sharing
 CX04M_2022-9-07_converted.txt	6 days ago	nmrao@health.ucsd.edu	8.81 MB	 Shared

 Name ▾	Modified ▾	Modified By ▾	File size ▾	Sharing
 CX04M_opensignals_2022-09-07.h5	6 days ago	nmrao@health.ucsd.edu	7.71 MB	 Shared

 Name ▾	Modified ▾	Modified By ▾	File size ▾	Sharing
 CX04M_opensignals_2022-09-07.txt	6 days ago	nmrao@health.ucsd.edu	6.58 MB	 Shared

There should be 3 files for one participant. If you are recording two participants, you will have 6 files. Make sure you can distinguish which 3 files belong to which participant and do not mix up the participant codes.

Drag and drop the files into the associated .h5, .txt, and .converted.txt file folders for that particular week and day of anatomy.

Make sure to tell students that they will be getting a survey via email to fill out by the end of that day. Text Niveda the students that you collected data from or let her know before class starts. Update the Google Sheets doc or excel file on One Drive!

