Description of sample data for João Paulo Teixeira, 21 April 2022

Data\_for\_JPT.zip contains 3 folders and this file.

Each folder contains some pre-processed (I.e. ‘cleaned raw’) data, approximately 5 minutes long, for two study participants (the participants are not the same in all folders). The ECG and RESP folders also contain data that has been processed using ‘ProcessSignals’.

**Folder 1. ECG**

ECG RR interval data.xlsx:

1. RAW (pre-processed) , recorded at 1024 Hz
2. RR\_interval (in ms)
3. R\_peak\_amplitude (arbitrary units)
4. S\_trough\_amplitude (arbitrary units)

In #1, values > 1000 are highlighted in red, but probably more data should be trimmed from either end.

If I remember rightly, we trimmed the data before extracting the interval and amplitude data.

Using #3 and #4, a ‘R-to-S’ amplitude time series can be created

**Folder 2. EEG**

6 files of cleaned and filtered 19-channel EEG data in .mat format, recorded at 250 Hz (e.g. BA\_a\_25\_1\_Alpha\_FIR.mat), for Delta, Theta, Alpha, Beta and Gamma bands, and also the ‘total’ band (0.5-45 Hz)

**Folder 3. RESP**

1/2. Raw data for two participants, in .mat format (e.g. BR\_a\_80\_1\_RSP.mat), recorded at 500 Hz.

Use ‘DataRaw’ or ‘dataCuttOff’ (trimmed) and ignore the rest.

3. RESP breath interval data.xlsx:

3.1. peak\_to\_peak\_i (whole breath)

3.2. peak\_to\_trough\_i (outbreath)

3.3. trough\_to\_peak\_i (inbreath)

3.4. peak\_amplitude

3.5. trough\_amplitude

Using #3.2 and #3.3, an outbreath-to-inbreath ratio can be created.

Using #3.4 and #3.5, a breathing amplitude measure can be estimated.