**Fluorescence Measurements: Horiba Jobin Yvon instrument, in Bill Cooper's lab**

Calibration.
- Start **FluorEssence** program

- Click on M : system will initialize (1 min)

- Once Main experiment menu appears, click on Spectra, then "emission"
- Next, "load": select "water_Raman_FItoolbox.xml" and open.

- click on detector icon (left hand side) then remove S1 and R1 on the formula menu (highlight and then click "remove") Need only S1/R1

Fill cell with distilled water then place in holder (always position cuvette with same side facing front)

Click Run

Window will appear at end of scan, asking for the project name. Click cancel

Go to File, Export, ASCII data, name the file. Save. Make sure all boxes are unchecked. Click OK.

[Samples can also be calibrated from blank (ie full 2d scan of distilled water) via R-scripts. In this case, however, units will be arbitrary.]

Sample measurement

M

Choose 3D, for 3D scan
-> load method ("3D_EEM.xml")
-> Run

Signal: save S1/R1

project name: cancel

Activate S1/R1 window

-> File -> export -> Ascii data
when exporting, do not include column names etc
once saved, close all plots before taking next sample

This procedure generates 3D excitation-emission plots and corresponding matrices of data. The plots and data are calibrated in "Quinine Sulfate Equivalent" units (QSE). Raman and Raleigh scattering are removed.

Processing via Matlab script "EEM_processing.m"
(change file name at top)
* save in the directory where the data is *

need water raman file

Fluorescence toolbox (Matlab)

Import DataMax File -> Import 53 files *.prn (only need to import first file)

choose ie 5 nm wavelength slit
start: 240 nm excitation
interval: 5 nm

water Raman
-> find file (no extension, edit file name if necessary)
automatically calculates Raman peak]
(leave calibration set)

-> Proceed

can then export jpg picture or matrix of data.