# Voxel-wise analysis – Generating excel file with frame times for analysis

### ### Prep before starting analysis

!!! Convert .czi to .lsm (LSM 5) on ZEN Black for the pipeline to run. Save both files in the file folder.

### OME metadata extraction

1. A screenshot of a computer

   AI-generated content may be incorrect.Open .czi file\* with FIJI BioFormats importer. Before you press open, tick the OME metadata option

A screenshot of a computer

AI-generated content may be incorrect.

1. Once the image opens go to the metadata window, Ctrl + A and Ctrl + C the contents
2. Ctrl + V the contents into an .txt file
3. Call the .txt file OME\_"name of .czi file"

\*The .czi files have a few more decimal points of information on frame times, but .lsm could work too, haven’t checked. I keep the .czi files in case some metadata is lost in conversion and it will be necessary for troubleshooting.

### Aims:

1. Find out which frame number coincides with the beginning of ViSaGe video
2. Create a frame time list to be picked up by the analysis depending on frequency of stimulus given by the ViSaGe

### Logic:

1. Produce a single value of start time of time series acquisition adjusted to be on ViSaGe time
2. Extract frame times from time-series metadata
   1. Frame times come as for example 0.1, 0.12, 0,14 as in they start from 0 and add on
3. Get a list of frame time in the format of HH:MM:SS.ms but on ViSaGe time (using the single starting value you produced in point 1)
4. Using the time, you wrote down in your lab book of the ViSaGe video start time (up to the millisecond) – calculate which frame number is the closest to the start of the ViSaGe video
5. Produce a list of frame times starting with the time that has passed from frame 0 to the above calculated frame number time.
   1. If the frame number that you calculated in point 4 is 49, how much time passed from frame 0 to frame 49 is the start amount of time of your list.
   2. Example: Time from 0 to 49 = 10s, first frame time is 10s, second frame time is 18s and third frame time is 28s as the stimulus video goes 8s of stimulus and 10s break. The list will look something like this:

|  |  |  |
| --- | --- | --- |
| Time (sec) | Event Type | Event Description |
| 10.245 | Marker | trigger |
| 18.405 | Marker | trigger |
| 28.505 | Marker | trigger |
| 36.695 | Marker | trigger |
| 46.805 | Marker | trigger |
| 54.995 | Marker | trigger |
| 65.105 | Marker | trigger |
| 73.275 | Marker | trigger |
| 83.395 | Marker | trigger |
| 91.545 | Marker | trigger |
| 101.655 | Marker | trigger |
| 109.845 | Marker | trigger |
| 119.945 | Marker | trigger |
| 128.115 | Marker | trigger |
| 138.215 | Marker | trigger |
| 146.375 | Marker | trigger |
| 156.485 | Marker | trigger |
| 164.645 | Marker | trigger |
| 174.755 | Marker | trigger |
| 182.915 | Marker | trigger |
| 193.035 | Marker | trigger |
| 201.215 | Marker | trigger |
| 211.315 | Marker | trigger |
| 219.475 | Marker | trigger |
| 229.595 | Marker | trigger |
| 237.785 | Marker | trigger |

It must have 27 values.

### After Script

1. Find the excel file generated from the script
2. Go to “save as” on that file and save it as UTF-8 .csv – use this excel for Andrew Lowe’s analysis – to generate epochs steps