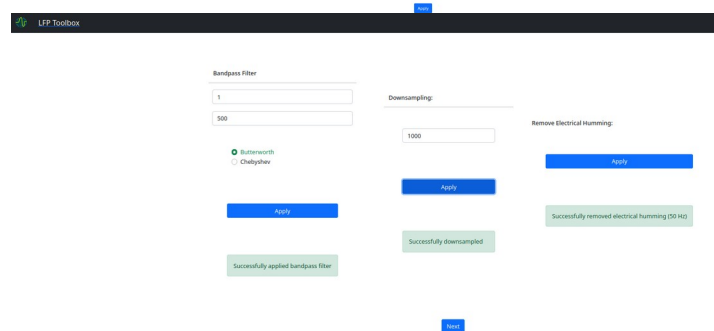
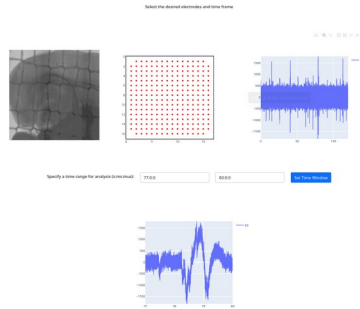
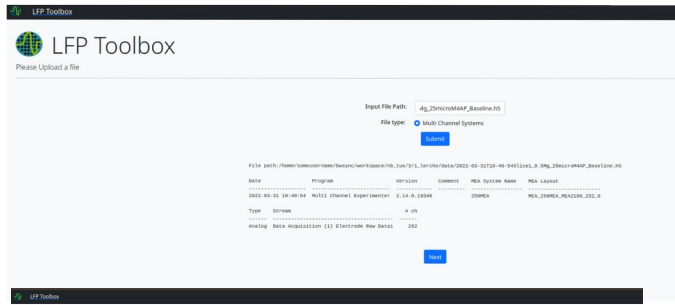


# LFP Analysis Toolbox



## What's there so far?

- GUI w. Interactive visualization
- Import for MCS 256 MEA (200  $\mu\text{m}$  el. distance)
- Select electrodes & time window of interest
- Filter electrical humming, bandpass filter, downsample
- Amplitude per electrode animation, raw plots

## What more should be there in the end?

- Exploration & Visualization:
  - Power (in dB) as animation
  - Spectrogram/PSD, Periodogram, Envelope
  - Raster plot, PSTH
- Quantitative Analysis:
  - Periodic-Aperiodic component separation (FOOOOF)
  - FFT, Hilbert T., STFT
  - Peak & Burst detection
  - Granger Causality, Cross-correlation,
- Electrode Grouping
- #Sample reduction for exploration (to incr. Performance)

