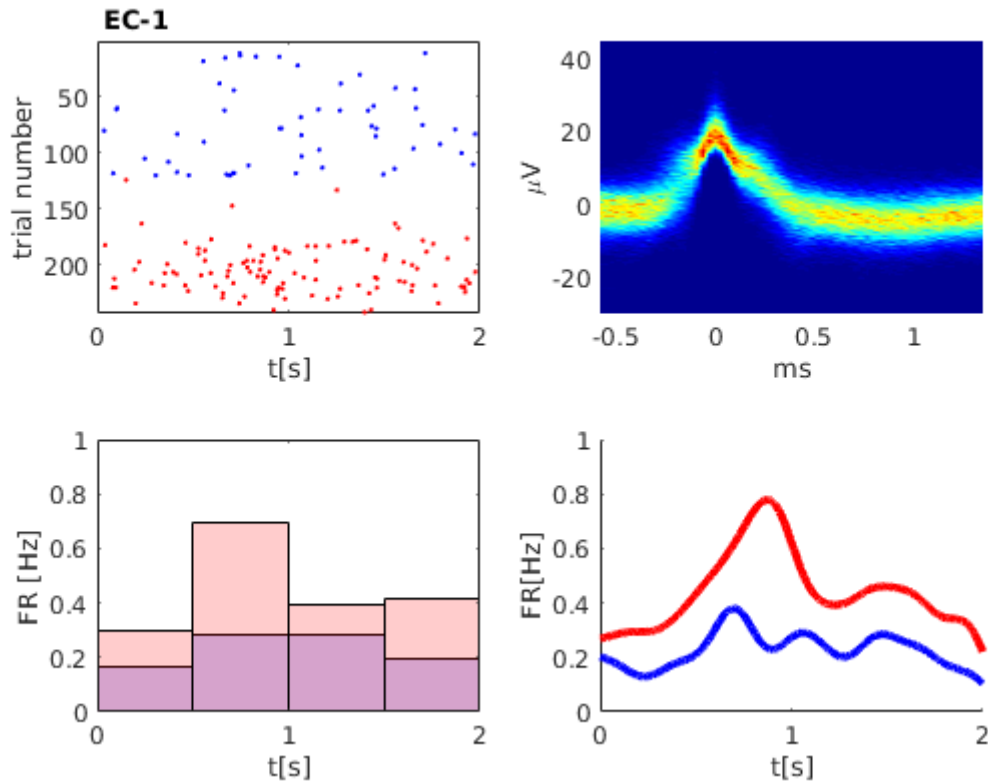
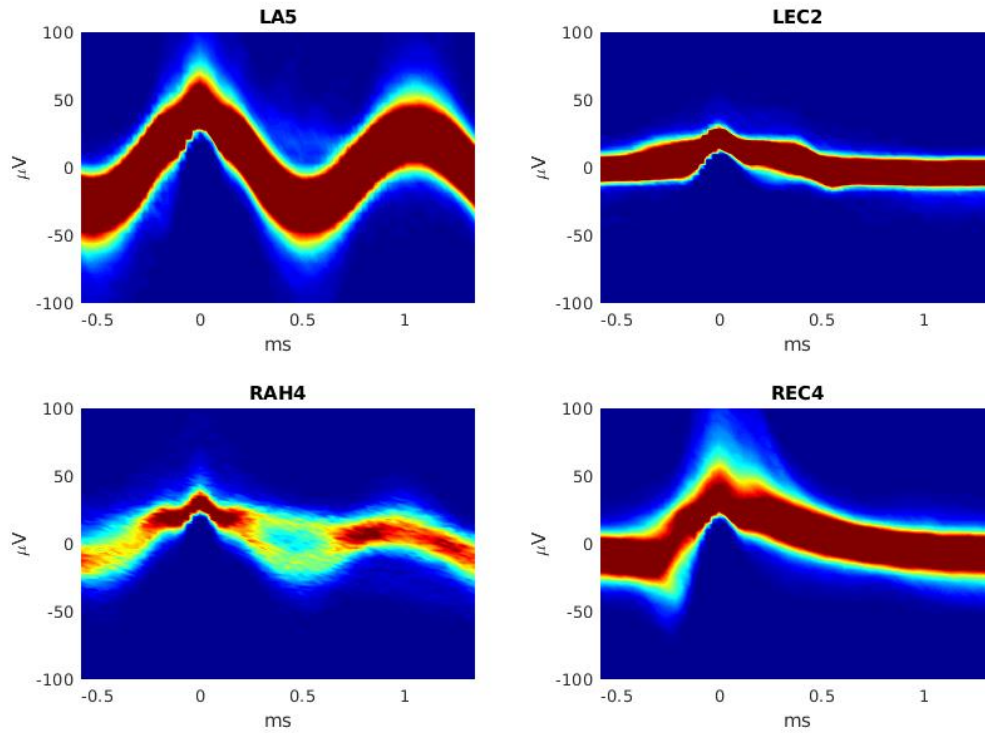


**Scheme 1. Example of beat-responsive single-unit from amygdala.** Top left: raster plots of spike times relative to stimulus onset for binaural beat stimulation (blue) and monaural beat stimulation (red). Top right: Density plots of all spike waveforms. The plots show 2-dimensional histograms of spike voltages over time. The color code depicts the percentage of spikes (denominator: all spikes recorded for this unit) with the specified voltage at the given time point. Bottom left: Histograms of average firing rates within consecutive 500 ms windows (stimulus onset at  $t=0$ ; binaural: blue; overlap binaural and monaural: purple). Bottom right: Histograms of continuous average firing rates (stimulus onset at  $t=0$ ; binaural: blue; monaural: red). Firing rates were calculated within 1ms time intervals and were subsequently convolved with a Gaussian kernel (standard deviation: 100 ms).



**Scheme 2. Example of beat-responsive multi-unit from entorhinal cortex.** Top left: raster plots of spike times relative to stimulus onset for binaural beat stimulation (blue) and monaural beat stimulation (red). Top right: Density plots of all spike waveforms. The plots show 2-dimensional histograms of spike voltages over time. The color code depicts the percentage of spikes (denominator: all spikes recorded for this unit) with the specified voltage at the given time point. Bottom left: Histograms of average firing rates within consecutive 500 ms windows (stimulus onset at  $t=0$ ; monaural: pink; overlap binaural and monaural: purple). Bottom right: Histograms of continuous average firing rates (stimulus onset at  $t=0$ ; binaural: blue; monaural: red). Firing rates were calculated within 1ms time intervals and were subsequently convolved with a Gaussian kernel (standard deviation: 100 ms).



**Scheme 3. Examples of artifacts.** Density plots of waveforms classified as artifacts. The plots show 2-dimensional histograms of spike voltages over time. The color code depicts the percentage of spikes (denominator: all spikes recorded for this unit) with the specified voltage at the given time point.