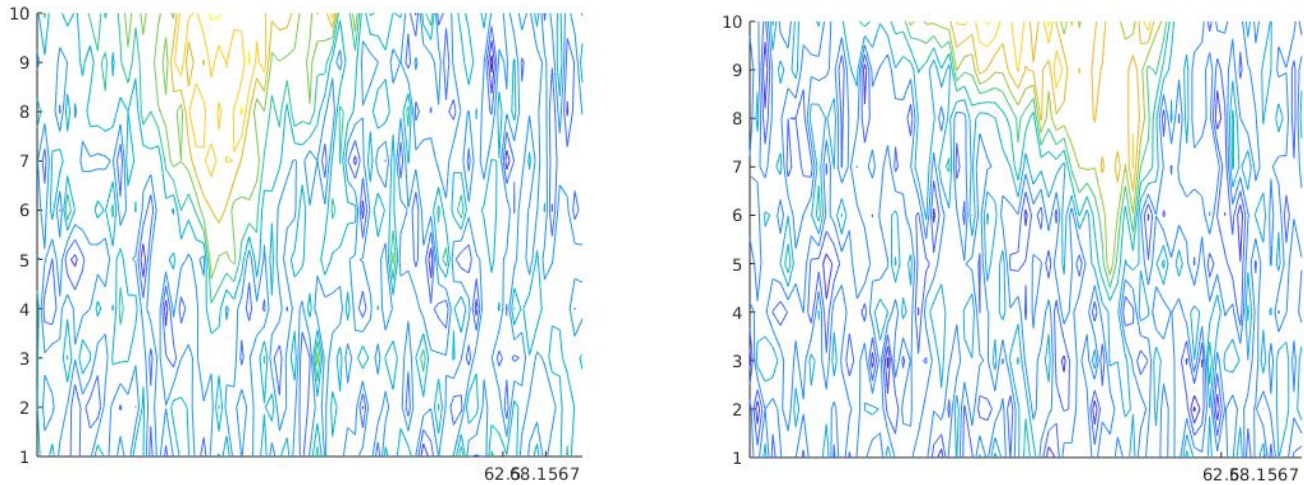# PART A

1. Responses to Tones (Rate Representation)

Figure 1 & 2: Response rates of ANFs with BFs of 500Hz on left and 4KHz on right. There is a clear shift to right in the frequency at which maximum response is achieved for the 4KHz BF.
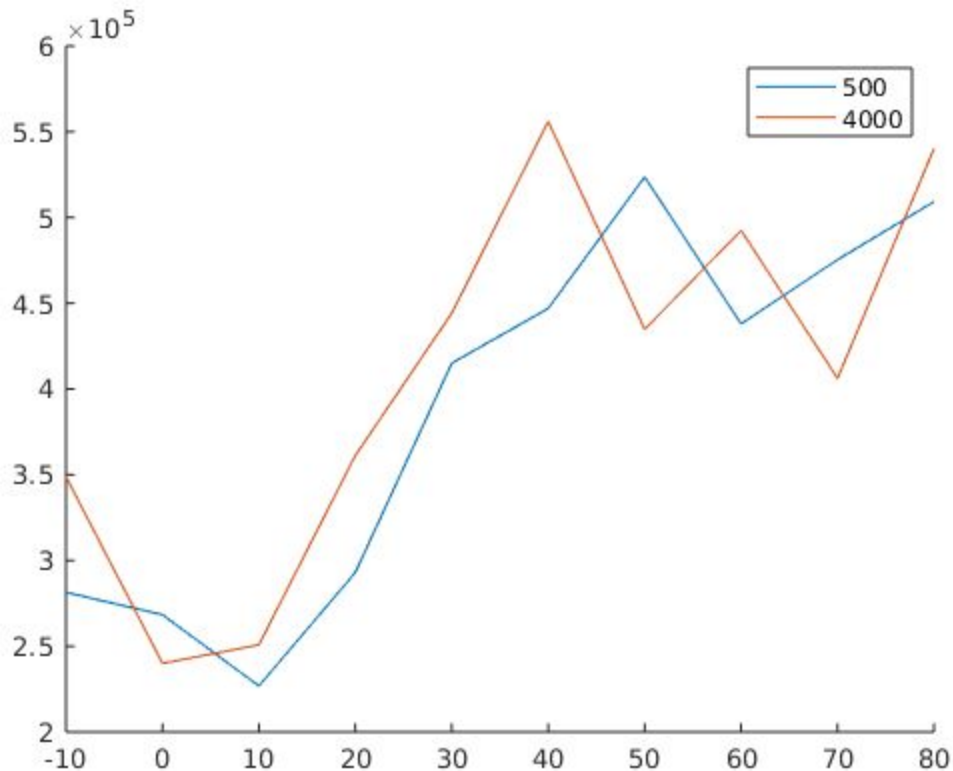

Figure 3: Response Rate v/s intensity function for BF tones

With an increase in intensity -> increase in the response rates of both the 500Hz and 4000Hz.
Rate increases sharply for ANF -500HZ around 10 - 40 dB and ANF-4000 around 10 - 30dB. At higher intensities (around 45 dB to 80 dB), there is a saturation observed for both lower and higher BFs.

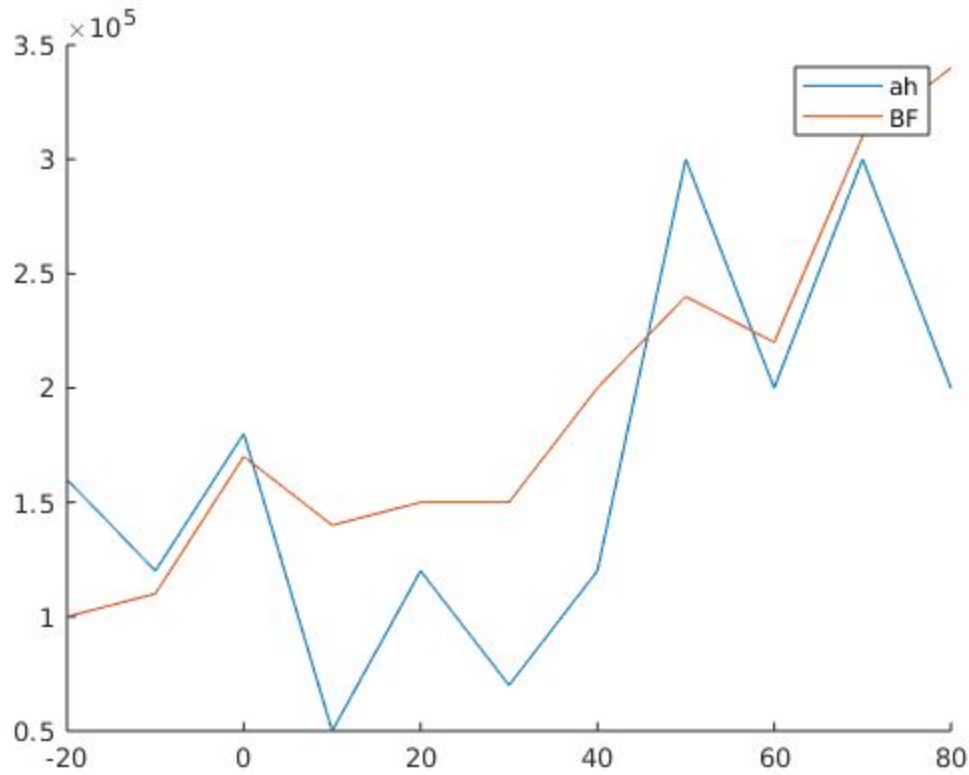2. Responses to Speech (Rate Representation)

Figure 4: Rate comparison of 'ah' sound of a 500 Hz BF ANF with the BF tone. From the figure, the rate of increase in response rate is high for BF tone rather than 'ah' sound.
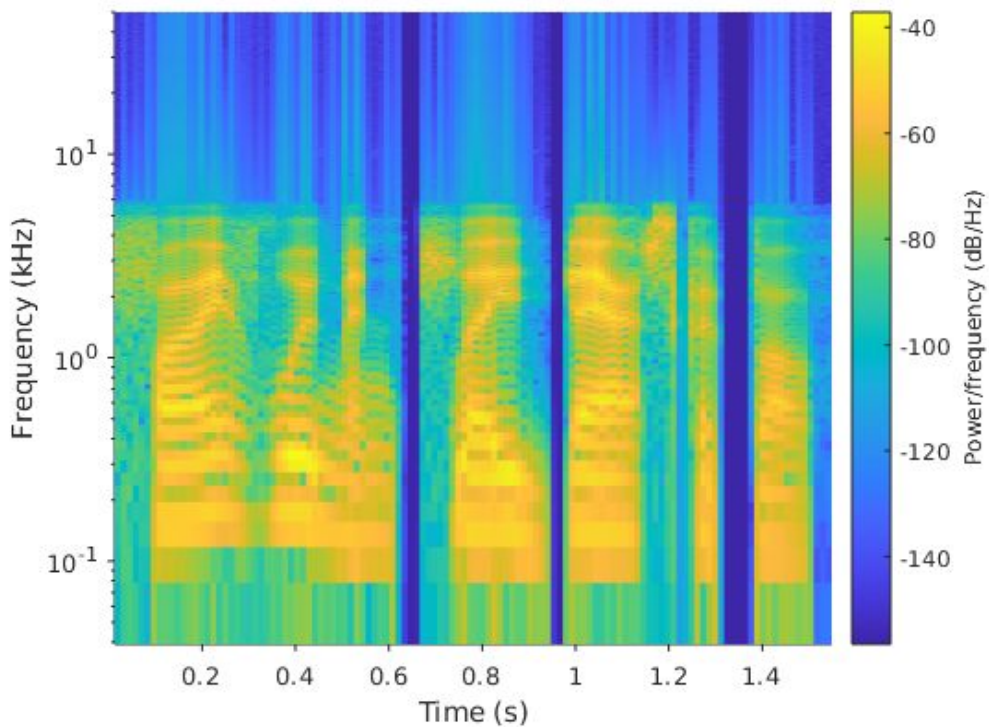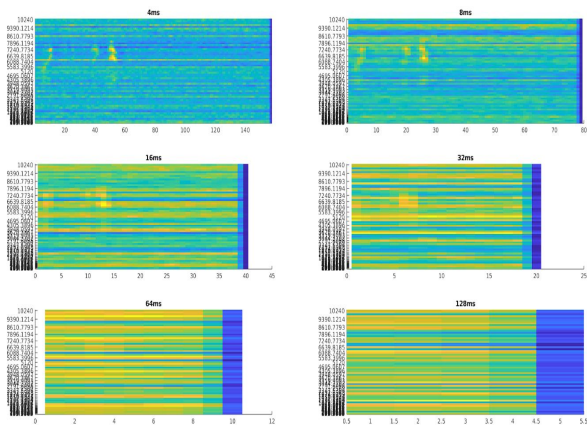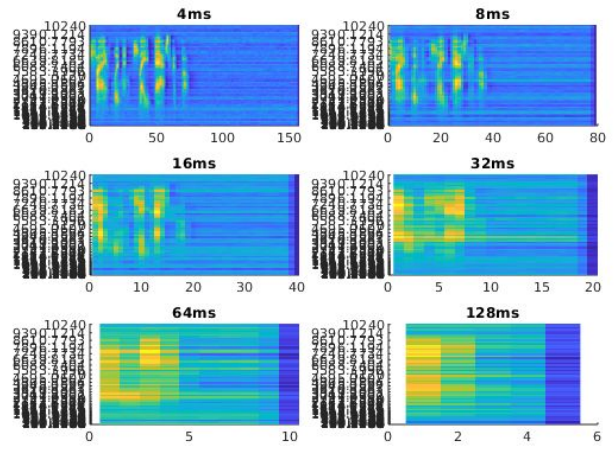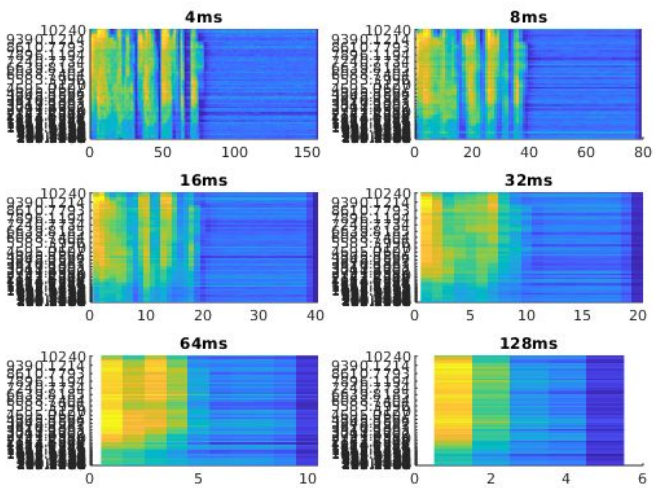

Figure 5: Spectrogram of the speech signal with a window size of 25.6 ms and an overlap with the successive window (Log scale)

Sound - Threshold Level

Sound - Dynamic Range

Sound - Saturation Level

Figure 6: Average response rate of each ANF as a function of time for different window sizes(in a single figure) and for different threshold levels(in 3 different figures)