

## Laboratory 6 -- Acoustics of Consonant Voicing and Manner

### Part 1: Measurement of VOT

1. Each member of the group should choose a different stop consonant, such as /b/, /p/, /k/, /g/, /d/, and /t/. Try to make sure that you have a good mix of voicing and place. Although you will each record and measure only one consonant in this lab, also pay attention to the consonants recorded by other members of the lab group.
2. Using the WASP program, record the consonant in C-/i/ syllables (e.g., in the words *bee*, *pea*, and *key*).
3. Make a spectrogram. Locate the burst and the start of voicing. Observe the how the spectrogram changes between the burst and the start of the voicing.
4. Measure VOT. Place one marker at the burst and another at the start of the voicing. Measure the latency (i.e., the elapsed time) between the burst and the start of voicing. Write this measurement below.

**Syllable**

**VOT**

\_\_\_\_\_

\_\_\_\_\_

5. Plot your VOT measurement on the class VOT diagram.

### Part 2: Voicing and Manner Quiz

Run the Voicing and Manner Quiz as a group. This quiz is designed to help you learn how to identify voicing and manner from spectrograms. Discuss each question and try to work out an answer (i.e., do not just guess). Use the hints when needed. Switch between the spectrograms at the end of the questions.

### Concluding Questions

1. Take a look at the class VOT diagram. How does VOT differ for the different places of articulation?
2. How do the spectrograms that you made of initial stops (i.e., before a vowel) differ from the spectrograms of the medial stops (i.e., between vowels) that were used in the quiz?