

Speech Perception

Teaching period: 12.04.2021 - 23.07.2021

Corpus Christi week: 31.05.2021 – 4.06.2021, no class

Consolidation week: 14.06.2020 - 18.06.2020, no class

Seminar times: Wednesday 10-11.30 a.m.

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This course will examine the human ability to receive and process spoken signals. It will start with introducing the foundations of human audition, the hearing mechanism and its properties in healthy and clinical populations. Ways of measuring perceptual impressions (auditory scales) and multimodality of speech perception will be discussed, along with auditory illusions where there is a discrepancy between a subjective percept and an objective physical reality, and explain how they arise. Students will be introduced to the key issues in speech perception research, including perception of different linguistic units (consonants, vowels, words, prosody) and different accents (regional, social, non-native), and learn about current models of speech perception.

Prerequisites

BA in Linguistics or Psychology, basic knowledge of experimental methods

• Assignments:

- **Presentation of a perception study** (25%) – **22.06. and 29.06.2021**
 - data collection during the Corpus Christi and Consolidation weeks, ~20-40 listeners to be tested
- **Experimental report** (3,000 words, 75%) – **31.07.2021**
 - marks due: 30.09.2021

13.04.2021 Introduction – key issues in SP (lecture, readings, exercises)

Recommended reading:

- Mattys (2014). Speech perception. In: *The Oxford handbook of cognitive psychology* (pp. 391-396).
- Smith (2013). New directions in speech perception. In: Jones and Knight (eds). *The Bloomsbury companion to phonetics* (pp. 227-241).

20.04.2021 The Auditory System (lecture, readings, exercises)

Recommended reading:

- Zsiga (2013) *The Sounds of Language: An Introduction to Phonetics and Phonology* (pp. 173-197)
- Georg von Békésy - Nobel Lecture (1961). *Concerning the Pleasures of Observing, and the Mechanics of the Inner Ear.*
- Watch this educational [video](#) from 1940 which outlines the structure and the function of the human ear (in preparation to the exercises).

27.04.2021 Properties of Audition (lecture, readings, exercises)

Recommended reading:

- Reetz and Jongman (2009). Auditory scales. In: *Phonetics: Transcription, Production, Acoustics and Perception* (pp. 242-250).
- Johnson (2011). Basic audition. In: *Acoustic and Auditory Phonetics* (pp. 82-97).

04.05.2021 Categorical Perception (lecture, readings, exercises)

Recommended reading:

- Mattys (2014). Speech perception. In: *The Oxford handbook of cognitive psychology* (pp. 396-398).
- Strange (1999). Perception of consonants: from variance to invariance. In: Pickett (ed.) *The Acoustics of Speech Communication: Fundamentals, Speech Perception Theory, and Technology* (pp. 166-182).

11.05.2021 Multimodality (lecture, readings, exercises)

Recommended reading:

- Rosenblum, L. D. (2005). Primacy of multimodal speech perception. In: Pizoni and Remez (eds.) *The handbook of speech perception* (pp. 51-78).
- Warren (2008). Multimodal perception. In: *Auditory Perception*. (pp. 216-220).

18.05.2021 Top-down and context effects (lecture, readings, exercises)

Recommended reading:

- Traxler (2012). Coarticulatory effects on speech perception. In: *Introduction to psycholinguistics* (pp. 56-58).
- Warren (2008). Speech. In: *Auditory Perception*. (pp. 194-210).

25.05.2021 Development (lecture, readings, exercises)

Recommended reading:

- Hawkins (1999). Auditory capacities and phonological development: animal, baby and foreign listeners. In: Pickett (ed.) *The Acoustics of Speech Communication: Fundamentals, Speech Perception Theory, and Technology* (pp. 183-197)
- Hazan (2013). Speech perception development. In: Jones and Knight (eds). *The Bloomsbury companion to phonetics* (pp. 98-110).

1.06.2021 Corpus Christi week – no class, preparation for a discussion and the upcoming assignment

8.06.2021 Impairment (readings and discussion)

Readings – pick one:

- Leybaert et al. 2014, *Atypical audio-visual speech perception and McGurk effects in children with specific language impairment*. *Frontiers*.
- Narinesingh et al. 2014, *Audiovisual Perception in Adults With Amblyopia: A Study Using the McGurk Effect*. *IOVS*.
- Ziegler et al. 2005, *Deficits in speech perception predict language learning impairment*. *PNAS*.

15.06.2021 *Consolidation week – no class, preparation for the upcoming assignment*

22.06.2021 Presentations

29.06.2021 Presentations

6.07.2021 Illusions and Slips of the Ear (lecture, readings, exercises)

Recommended reading:

- Bond (2006). Slips of the ear. In: Pisoni and Remez (eds). *The Handbook of Speech Perception* (pp. 290-311).
- Warren (2008). *Auditory Perception* (pp. 199-210).

13.07.2021 Theories of Speech Perception (lecture, readings, exercises)

Recommended reading:

- Hawkins (1999). Two classical theories of speech perception. In: Pickett (ed.) *The Acoustics of Speech Communication: Fundamentals, Speech Perception Theory, and Technology* (pp. 198-231).
- Hawkins (1999). Reevaluating assumptions about speech perception: interactive and integrative theories. In: Pickett (ed.) *The Acoustics of Speech Communication: Fundamentals, Speech Perception Theory, and Technology* (pp. 232-282).

20.07.2021 Wrap-up, concluding discussion, discussion of lab reports