Course description RM2/PhD courses

Background
The LOT Summer School offers courses that are intended for second-year Research Master's (RM2) and PhD students. This course is at intermediate level: State-of-the-Art.

The format of the school is 5 consecutive days (Monday to Friday), teaching 2 hours a day, with a 10 minute break halfway through.

Participants can earn 1 ECTS per course upon completion of all requirements (i.e. preparation and full attendance), which amounts to 28 hours of course load. As their attendance is already 10 hours, this leaves ca. 18 hours of preparatory work before and during the course.

Title of the course: **Prosody in Speech Perception**

Teacher: Dr. Hans Rutger Bosker

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Course info

Level: Intermediate state-of-the-art

This level means that the target group is RM2 and PhD students who have previously taken a course on the topic. The course gives an overview of the most recent developments in your field.

Course prerequisites:
Which knowledge and/or skills are expected of participants to be able to take this course (e.g. based on specific literature)?

Familiarity with concepts in speech acoustics (e.g., f0, formants, VOT) will be helpful.

Course description:

Prosody in spoken communication generally refers to those aspects of speech that fall outside the segmental information about consonants and vowels (e.g., intonation, stress, rhythm). Still, this course will describe how suprasegmental prosody and segmental cues in speech are tightly interconnected. As such, it aims to reveal the central role that prosody plays in low-level speech perception and spoken word recognition. Each lecture targets a different processing mechanism by which prosody impacts speech perception, including general-auditory normalization, neural speech tracking, prosody-guided prediction, talker-specific learning, as well as audiovisual integration of multisensory cues to prosody. Thus, prosody - in all its different forms and appearances - is a potent factor in speech perception, determining which words and speech sounds we hear.

Course objectives:

- to be familiar with key concepts in the area of speech prosody and speech perception
- to be familiar with recent advances and new paradigms in the speech perception literature
- to understand how prosody influences the perception of vowels, consonants, and words
- to understand the different processing mechanisms that underlie these influences
- to understand the open issues and debates in the field of speech perception

Day-to-day programme:

Monday: Low-level normalization for prosody
Tuesday: Neural tracking of prosody
Wednesday: Prosody-guided prediction
Thursday: Talker-specific learning of prosody
Friday: Audiovisual integration of multisensory prosody

Reading list

Background and preparatory readings:
    Arvaniti, A. (2020). The Phonetics of Prosody. In S. Calhoun (Ed.), *Oxford Research Encyclopedia of Linguistics*. Oxford: Oxford University Press*.* doi:10.1093/acrefore/9780199384655.013.411.
    Nooteboom, S., Brokx, J. P. L., & De Rooij, J. J. (1978). Contributions of Prosody to Speech Perception. In W. J. M. Levelt and G. B. Flores d'Arcais (Eds.), *Studies in the Perception of Language*. p.75-107. New York: Wiley. Open fulltext.

Course readings:

Class 1:
    Bosker, H. R., Sjerps, M. J., & Reinisch, E. (2020). Temporal contrast effects in human speech perception are immune to selective attention. *Scientific Reports,* 10: 5607. doi:10.1038/s41598-020-62613-8.
Class 2:
    Peelle, J. E., & Davis, M. H. (2012). Neural oscillations carry speech rhythm through to comprehension. *Frontiers in Psychology*, 3. doi:10.3389/fpsyg.2012.00320.
Class 3:
    Arnold, J. E., Hudson Kam, C. L., & Tanenhaus, M. K. (2007). If you say -thee uh- you're describing something hard: The on-line attribution of disfluency during reference comprehension. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 33, 914–930. doi:10.1037/0278-7393.33.5.914.
Class 4:
    Severijnen, G. G. A., Di Donna, G., Bosker, H. R., & McQueen, J. M. (2023). Tracking talker-specific cues to lexical stress: Evidence from perceptual learning. *Journal of Experimental Psychology: Human Perception and Performance*, 49(4), 549–565. doi:10.1037/xhp0001105. Open fulltext.
Class 5:
    Bosker, H. R., & Peeters, D. (2021). Beat gestures influence which speech sounds you hear. *Proceedings of the Royal Society B*, 288(1943), 1–9. doi:10.1098/rspb.2020.2419.