

Invited speakers

[Judit Gervain](#) (Università degli Studi di Padova)

The neural basis of early speech perception in hearing and deaf/hard-of-hearing infants

This talk will give an overview of several lines of research investigating the neural mechanisms underlying basic auditory and speech perception in typically developing infants as well as in deaf / hard-of-hearing and cochlear implanted infants. In particular, a NIRS-EEG co-recording studies will be presented testing how typical newborn infants process stimuli simulating those produced by a cochlear implant. Further, NIRS studies will be discussed assessing how 0-10-month-old hearing impaired infants and 12-24-month-old cochlear implanted infants recognize the human voice or discriminate their native language from a rhythmically different unfamiliar language, two foundational abilities for acquiring spoken language. Some of the studies are still ongoing, but preliminary results suggest that residual hearing in these groups of infants may be sufficient to successfully perform these basic auditory tasks, and may thus serve as a foundation for further language development, rehabilitation and speech therapy.

[Leher Singh](#) (National University of Singapore)

Breaking into Language: Diversity, representations, and limits on generalizability

Theories of early language development incorporate a developmental mechanism by which infants can break into language: perceptual narrowing. This account is grounded in the notion that infants statistically sample distributional variation of sounds in language input, allowing them to converge on native phonetic categories that align with these distributions. This process is then in turn presumed to scaffold word learning. Often characterized as a universal process, the methodological and demographic foundation of studies of perceptual narrowing remains decidedly narrow. In this talk, I will discuss recent data that examine i) diversity and representation in studies of perceptual narrowing, ii) constraints on generalizability on prior studies, and iii) recent evidence from under-represented populations that suggest alternative pathways to phonetic category acquisition.

Invited symposium speakers in honour of Anne Cutler (afternoon of Wednesday 25th October):

[Melanie Soderstrom](#) (University of Manitoba)

Understanding infants' preference for infant-directed speech through large scale collaborative science

A robust literature supports the importance of infant-directed speech (IDS) in infant language development (e.g. Soderstrom 2007; Golinkoff et al., 2015; Cristia, 2013 for reviews). However, like most areas of language development, research on IDS has historically been limited by small sample sizes (Frank et al., 2017) and samples biased in terms of geography and language (Kidd & Garcia, 2022). In this talk I will discuss ManyBabies 1, a first attempt to study infant preference for IDS using a large scale, globally diverse sample of infants, and its various follow-on studies. While the overall findings confirm the presence of a preference for IDS, factors such as language experience and infant age influence this preference. Moreover, studies of test-retest reliability and later vocabulary measures raise questions

about the predictive value of this preference as measured in the laboratory. I will explore the implications of these findings, and end with a brief discussion of the need for further diversification of samples.

[Thierry Nazzi](#) (Université Paris Descartes)

At the interface of phonology and the lexicon: a crosslinguistic Cantonese/French comparison

Since the seminal work by Stager and Werker (1997), many studies have explored the use of phonological detail during word learning in infants and toddlers. In this crosslinguistic project, we compared Cantonese- and French-learning toddlers on their sensitivity to consonant, vowel and tone information while learning new words in Cantonese. In a first experiment, we presented infants with pairs of word differing only by a consonant, a vowel or a tone. Cantonese-learning 30-month-olds (but not 24-month-olds) only learned in the vowel condition, establishing a vowel bias. French-learning infants failed in all conditions. In a second experiment, we presented infants with pairs of word differing in both consonants and vowels. In the learning phase, each word was either presented with a single tone (control condition), or with three different tones (interference condition). Overall, toddlers could learn the words, although the effect was only significant in the control condition. These results establish word learning even in an unknown language, highlighting powerful word learning abilities. Regarding tone sensitivity, we argue that it comes from different levels in the two populations, the phonological level for Cantonese-learning toddlers, the acoustic level in French-learning toddlers, bringing new data on the complex link between sound processing and lexical learning.

[Claartje Levelt](#) (Leiden University)

Pitch processing in Japanese and Dutch infants: same or different?

In a vintage *Native Listening* study, Sato, Sogabe and Mazuka (2010) showed that in Japanese 10-month-olds, hemispheric specialization had taken place for the processing of pitch accent; the bilateral processing that had been found in 4-month-olds had changed to a left-hemisphere dominance in the 10-month-olds. Pitch accent is typical for Japanese and the idea was that Japanese infants, at some point between 4- and 10-months old, had discovered that tone was being used lexically (i.e. linguistically) in their L1, triggering the lateralization to the left hemisphere when lexical tones, but not pure tones, were processed. This raises the question whether this hemispheric specialization would, then, not take place in infants with linguistic input lacking lexical tone, like Dutch. In a Japanese-Dutch collaboration, 4- and 10-months-old Japanese and Dutch infants were tested on novel stimuli to try and answer this question.