

Team 1 - The Chair's Head Problem

The interdisciplinary project discussed by team one came to be known as the "Chair's head problem". The basic idea is to explore (by computational modelling, psychoacoustics and neuroimaging) the processes involved in chairing a meeting. The domain is rich enough to introduce many basic problems in speech and language processing. For instance, the chair needs to solve the auditory scene analysis problem in order to determine what was being said, which in turn involves location and identification of the speaker, both from audio and visual cues. The chair must also solve the dialogue problem to generate an appropriate response based on the context, the interlocutor, the meeting dynamics etc.

Understanding the cognitive processes involved in chairing a meeting (demonstrated by the development of an automated meeting chair) is a long-term goal, awaiting basic scientific advances in many fields. However, the team drew up a far-from-exhaustive list of exemplar sub-projects, united both by the chairing theme and by a joint computational/psychological/neuroimaging methodology.

1. Understanding speech in noisy, multiparty meetings
2. Speaker change identification
3. Adaptive modelling of participants
4. Dialogue and the Lombard effect
5. Multimodal cues in meetings with multilingual participants

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