Predicting language in naturalistic settings: the role of linguistic, visual and pragmatic context

Eleanor Huizeling¹, Phillip M. Alday², David Peeters³, Peter Hagoort^{1,4}

¹Max Planck Institute for Psycholinguistics, Nijmegen, The Netherlands,

²Beacon Biosignals Inc., Boston, United States, ³Department of
Communication and Cognition, TiCC, Tilburg University, Tilburg, The
Netherlands, ⁴Radboud University, Donders Institute for Brain, Cognition and
Behaviour, Nijmegen, The Netherlands

Eleanor.huizeling@mpi.nl

For a complete understanding of how the brain processes language, it is crucial to study language in naturalistic settings, where language is embedded in dynamic and multimodal contexts and speech is full of disfluencies. The prediction of language is one mechanism that is thought to facilitate our incredible ability to process speech so quickly. Evidence for this comes from the fact that a listener's eye-gaze moves towards a referent before it is mentioned if the sentence context is highly constraining, rendering the noun predictable. I will present a line of work where we have been using EEG, eye tracking and virtual reality to investigate to what extent the linguistic, visual and pragmatic contexts are used together to predict upcoming language in naturalistic settings.