Stefan Kopp, Kirsten Bergmann

Abstract:
Speech and spontaneous co-verbal gestures are often assumed to form a
tightly integrated communication system with phonological, semantic, and
pragmatic synchrony between both modalities (McNeill 1992, 2005). At the
same time, gestures are thought to communicate different information than
words, to vary in their relation to speech, to serve different functions for
the addressee or the speaker, etc. A systematic picture of the
multi-facetted speech-gesture relationship and its internal structure is
still missing. In the attempt to formulate exact, predictive computational
models of speech and gesture production, we have collected a large corpus of
spontaneous speech and gesturing in direction-giving dyads. We will report
results from our fine-grained annotation and analyses of the speech and
gesture relationships in these data, and we will show how building
computational models can help to unravel those facets and how they
interrelate with each other.