In Construction Grammar, human's grammar system is composed of grammatical patterns (form-meaning pairing) stored in human mind. However, most of previous studies focus on peripheral or author-invented patterns like *John sneezed the napkin off the table.* This research examines grammatical patterns in actual language use in a top-down approach.

**Research questions**

- What are the frequent grammatical patterns in spoken language?

This is the first part of my PhD project, in which I examine how the framework of Construction Grammar might provide insights into spoken language as both an audio and visual phenomenon — in terms of how we use gesture with speech.

**Procedure and results**

1) Annotate a spoken corpus (Santa Barbara Corpus of Spoken American English) with Stanford Parser, like Figure 1, extract all fragments with their frequency (Figure 2);

2) Identify the link between the frequency, fragments and the dialogues, as shown in Graph 1.

**Results**

1) Grammatical patterns have various degrees of token frequencies.
2) There appears to be a correlation between the token frequency of the tree fragments and the number of dialogues in which they occur (bigger nodes are centrally positioned).
3) Frequently observed tree fragments are generally more abstract than peripheral tree fragments.

**Future directions and open questions**

1) Comparison of different genres (e.g., lectures, novels, everyday conversation)
2) Different degrees of granularity
3) Investigating the relation of token frequency and centrality to gesture occurrence and form
4) What kind of statistics would help to confirm the results obtained so far?