Languages carry form-function mappings, and while this property is shared across languages, the exact same mappings are not. Cross-linguistic studies of these mappings enable us to study the extent of systematicity and the range of variation observed in the mappings across languages. This can, in turn, shed some light on the nature of human language. In this talk, I present our recent efforts to explore a phenomenon, definiteness, which expresses the mapping between morphosyntax and the semantic, pragmatic and discourse properties of noun phrases. Starting with a novel language-independent annotation scheme for definiteness, and statistical modeling of communicative functions, this work provides insight into the form-function mappings of English noun phrases. Besides aiding in an understanding of the nature of language in general, discoveries about the form-function mapping across languages hold promise for various NLP applications such as machine translation, knowledge base construction, and information retrieval.

Archna Bhatia is a postdoctoral researcher in the Language Technologies Institute. She received her PhD in Linguistics from University of Illinois at Urbana-Champaign in 2011. In her thesis research, she focussed on the phenomenon of agreement in the context of coordination in Hindi and compared it with two genetically unrelated languages, one with the same and one with different word order properties. She is interested in developing an understanding of the nature of language by applying theoretical, descriptive, experimental and computational methods to study its structure and acquisition. She has collaborated with researchers in Linguistics, Computational Linguistics and Computer Science departments in this endeavor.

http://www.cs.cmu.edu/~nlp-lunch/