Recent advances in natural language processing have made a lot of impact in information extraction and retrieval. Specifically, tasks like entity linking and semantic parsing have been shown to be crucial to important applications such as question answering and document understanding. These tasks often require structured learning models, which make predictions on multiple interdependent variables. In this talk, I argue that carefully designed structured learning algorithms play a central role in entity linking and semantic parsing. In particular, I will present structured learning models for entity linking, where the models jointly detect mentions and disambiguate entities. I will then show that a novel staged search procedure for question semantic parsing can significantly improve knowledge base question answering systems. Finally, I will discuss some challenges and exciting opportunities for future semantic grounding research.

Bio:
Ming-Wei Chang is a researcher at Microsoft Research Redmond. His research interests are in structured learning and natural language understanding. Recently he focused on developing structured learning algorithms for semantic entity analysis on short and noisy text. His entity linking tool, E2E, won the first place at the Named Entity Extraction & Linking (NEEL) Challenge at 2014. E2E also pushed the start-of-art question answering system to a new level, and the final system won the Outstanding Paper at ACL 2015. He enjoys working on a wide range of natural language and applied machine learning problems. In addition to NEEL, he won the first place in two other international machine learning competitions including power load forecast prediction and sequential data classification.