The title of the thesis was

**Models and Algorithms for Automatic Detection of Language Evolution**

Towards Finding and Interpreting of Content in Long-Term Archives

With advances in technology and culture and through high impact events, our language changes. We invent new words, add or change meanings of existing words and rename existing things. This results in a dynamic language that progresses with our needs and provides us with the possibilities to express ourselves and describe the world around us. This phenomenon is called language evolution.

We began by analyzing the problems caused by language evolution on two high-level objectives; the finding and interpreting of content in long-term archives. We present a classification of language evolution and a model, called term concept graphs, to describe different types of evolution. We continued with an in-depth analysis of two specific types of evolution, namely word sense evolution and named entity evolution.

For word sense evolution we made use of automatically derived word senses as the starting point. These word senses were stored in term concept graphs and merged iteratively until all word senses were related. The results allowed tracking evolution within specific senses, including narrowing and broadening. For named entity evolution we made use of first order co-occurrences and change periods, i.e., periods with a high likelihood of name changes. Our method avoids comparing arbitrary term contexts and recurrent computations, and shows promising results.

**Successful PhD Graduation**