

## Graduiertenkolloquium Angewandte Informatik

### „Semantic Annotation and Search: Bridging the Gap between Text, Knowledge and Language”

**Dipl.-Inform. Lei Zhang**

**AIFB**

Abstract:

Within the context of globalization, multilingual and cross-lingual access to information has emerged as an issue of major interest. In order to achieve the goal that users from all countries have access to the same information, there is an impending need for systems that can help in overcoming language barriers and facilitate multilingual and cross-lingual information access. In addition, the ever-increasing quantities of entities in large knowledge bases (KBs), such as Wikipedia, DBpedia, Freebase and YAGO, pose new challenges but at the same time open up new opportunities of intelligent information access, where the large knowledge bases have become valuable resources for bridging the gap between natural language text and knowledge.

In this talk, we face the research question of how to allow for semantic-aware query and document understanding, especially in the cross-lingual setting, by exploiting knowledge in KBs. With the goal of addressing this complex problem, we provide several contributions: (1) we present techniques of semantic annotation for bridging the semantic gaps between Web documents and knowledge; (2) we present techniques of semantic search for bridging the semantic gaps between keyword queries and knowledge; (3) we exploit cross-lingual semantics to overcome the language barriers between natural language text (i.e., keyword queries and Web documents) and knowledge for enabling cross-lingual semantic annotation and search; and (4) based on the semantic representations of keyword queries and Web documents achieved by the previous contributions, we demonstrate a novel system for entity-based multilingual and cross-lingual information retrieval.

**Termin:** Freitag, 22. Juli 2016, 14.00 Uhr

**Ort:** Englerstraße 11, 76131 Karlsruhe  
Kollegiengebäude am Ehrenhof (Geb. 11.40), 2. OG, Raum 231  
(Hinweise für Besucher: [www.aifb.kit.edu/web/Kontakt](http://www.aifb.kit.edu/web/Kontakt))

Veranstalter: Institut AIFB, Forschungsgruppe Wissensmanagement

Zu diesem Vortrag lädt das Institut für Angewandte Informatik und Formale Beschreibungsverfahren alle Interessierten herzlich ein.

A. Oberweis, H. Schmeck, R. Studer (Org.), Y. Sure-Vetter