

## Kolloquium Angewandte Informatik

### Challenges for Consuming and Mining Linked Data

Prof. Dr. Maria-Ester Vidal

Universidad Simón Bolívar, Caracas, Venezuela

#### Abstract

Significant bottlenecks and technical limitations that prevent Linked Data from realizing its maximum potential remain still open despite of the early success of the Linked Open Data initiatives. In this talk, we focus on challenges for data mining and query processing against different web-based sources. In the first part of the talk, we present the problem of predicting interactions between linked entities, and describe an unsupervised method that predicts potential new interactions from communities of similar drugs and targets that highly interact; behavior of the proposed link prediction technique is compared with respect to existing machine learning approaches. In the second part, we discuss query rewriting, source selection, and query execution in the context of Linked Data. Behavior and limitations of the proposed query processing techniques are framed in the context of Web-querying infrastructures such as federation of SPARQL endpoints. We finalize the presentation with an outlook to open issues that have to be achieved to maximize the power of updatable data sources, e.g., open and time-dependent sources, and Web APIs.

#### Speaker Bio

Maria-Esther Vidal is a Full Professor of the Computer Science Department and Dean Assistant for Research on Applied Science and Engineering at the Universidad Simón Bolívar, Caracas, Venezuela. Her research in information management covers information integration, federated databases, graph data management, Linked Open Data and the Semantic Web. Maria-Esther has addressed some of the most important challenges in selecting and modeling sources, rewriting queries, cost based optimization, graph query processing and optimization, benchmarks for federated SPARQL query processing, etc. Her proposed strategies have had significant impact from the early days of information integration in the Web, in the late 90s, to the emergence of the Semantic Web and SPARQL endpoints, to the more recent successes of Linked Open Data. She has published her research results in the premier conferences and journals in Database Management, Artificial Intelligence, and the Semantic Web.

Termin: Dienstag, 10. Juni 2014, 14:00 Uhr

Ort: Englerstraße 11, 76131 Karlsruhe  
Kollegiengebäude am Ehrenhof (Geb. 11.40), 2. OG, Raum 253  
(Hinweise für Besucher: [www.aifb.uni-karlsruhe.de/Allgemeines/Besucher](http://www.aifb.uni-karlsruhe.de/Allgemeines/Besucher))

Veranstalter: Institut AIFB, Forschungsgruppe Wissensmanagement

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

Andreas Oberweis, Hartmut Schmeck, Detlef Seese, Wolffried Stucky, Rudi Studer (Org.), Stefan Tai