

# The 2010 International Workshop on Web-scale Knowledge Representation, Retrieval, and Reasoning (Web-KR<sup>3</sup> 2010)

In conjunction with the 2010 IEEE/WIC/ACM International  
Conferences on Web Intelligence and Intelligent Agent Technology

Toronto, Canada  
August 31, 2010

<http://www.wici-lab.org/wici/web-kr3-2010/>

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# Web-KR<sup>3</sup> from Different Perspectives

- The Large Knowledge Collider Project (LarKC) funded by EU commission under the 7<sup>th</sup> Framework Program.
- KAON2 project for scalable reasoning.
- ISWC 2009. Billion Triples Track. Scalable Reduction of Large Datasets to Interesting Subsets. (RPI)
- ISWC 2009 Best Student Paper Honorable Mention : Scalable Distributed Reasoning using MapReduce (VUA)
- scalable knowledge representation (127 papers in Google Scholar)
- Scalable querying (85 papers in Google Scholar)
- Scalable reasoning (242 papers in Google Scholar)
- Web-scale reasoning (78 papers, 67 LarKC related)
- Web-scale querying (3 papers in Google Scholar).

# Paper Submission and Acceptance

- 8 papers are peer reviewed. 3 are accepted for oral presentation (37.5% accepted, compared to 36.5% accepted for all workshops).
- Ranging from scalable backward chained reasoning, a new method for describing semantic structure for Web pages, to the application of large-scale graph based representation in the field of multimedia domain.
- Authors from the UK, India, and Japan. Both from academic institutions such as University of Southampton and The university of Tokyo, and from Industries such as Garlik Incrop, Tata Consultant Service, etc.

# Agenda

- Workshop Opening
- Semantic Structure Content for Dynamic Web Pages
- Efficient Visualization of Content and Contextual Information of an Online Multimedia Digital Library for Effective Browsing
- 4s-reasoner: RDFS Backward Chained Reasoning Support in 4store
- Invited Talk: Bridging Semantic and Legacy Web Exploration: The Reasoning and Scalability Point of View (Michal Tvarožek, Mária Bieliková)
- Plenary Discussion: Challenges for Web-scale knowledge representation, retrieval and reasoning.
- Workshop Closing Remarks

# Our Workshop website is updated almost real time together with the workshop

## The 2010 International Workshop on Web-scale Knowledge Representation, Retrieval, and Reasoning (Web-KR<sup>3</sup> 2010)

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The World Wide Web has become the carrier for the largest human knowledge repository in history. As its knowledge bases are growing towards a practically 'infinite' volume, Web-scale Knowledge Representation, Retrieval, and Reasoning (Web-KR<sup>3</sup>) is becoming a real issue and an urgent task. Although the Web community has developed a number of knowledge representation languages and reasoning methods, when the volume goes Web-scale, existing approaches meet many challenging problems, such as scalability, inconsistency, uncertainty and dynamics. Hence, a unified approach to Web-KR<sup>3</sup> needs to be developed.

This workshop thus aims to bringing together researchers from Web research, Artificial Intelligence (AI), high performance computing, cognitive science, knowledge management, and machine learning to discuss all issues of Web-KR<sup>3</sup> in a synergistic setting. The workshop is a full day workshop and will be co-located with [the 2010 IEEE/WIC/ACM International Conferences on Web Intelligence and Intelligent Agent Technology](#).

### Topics of Interest

Research contributions should be related but are not limited to one or more of the following topics:

- Scalable knowledge representation languages for the Web.
- Expressivity of Web-scale common sense knowledge.
- Parallelization and distribution techniques for Web-scale knowledge retrieval and reasoning.
- Inconsistency, uncertainty, and relevancy of Web-scale reasoning.
- Granularity of knowledge representation, retrieval, and reasoning.
- New forms of inductive and deductive reasoning (e.g. cognitive and nature inspired methods).
- Web-scale ontology and rule interchange and integration (e.g. via OWL 2, RIF, and RuleML).
- Dynamics of knowledge updating and forgetting on the Web.
- Distributed query answering over Web-scale data.
- Cross-fertilizing Web-KR<sup>3</sup> with Distributed AI, Distributed Description Logic, and Distributed Logic Programming.

### Web-KR<sup>3</sup> Twitter

Web-KR<sup>3</sup> Group  
webkr3

We are having the Web-KR3 2010 workshop today. 3 out of 8 papers were selected by peer review. 3 researchers will present their work.  
53 minutes ago

The 2010 International Workshop on Web-scale Knowledge Representation, Retrieval and Reasoning.  
[http://www.wic-lab.org/...](http://www.wic-lab.org/)  
about 1 hour ago

twitter

Join the conversation

- You will be twitted.
- You will have a picture.

# Plenary Discussion on Future Web-KR<sup>3</sup>

The topic should be related but are not limited to one or more of the following topics:

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- Expressivity of Web-scale common sense knowledge.
- Parallelization and distribution techniques for Web-scale knowledge retrieval and reasoning.
- Inconsistency, uncertainty, and relevancy of Web-scale reasoning.
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- Web-scale ontology and rule interchange and integration. (e.g. via OWL 2, RIF, and RuleML)
- Dynamics of knowledge updating and forgetting on the Web.
- Distributed query answering over Web-scale data.
- Cross-fertilizing Web-KR<sup>3</sup> with Distributed AI, Distributed Description Logic, and Distributed Logic Programming.
- Applications of Web-KR<sup>3</sup>.

# Workshop Closing Remarks

- Hope that everyone learned something or get inspirations from the workshop.
- Future Collaboration with workshop participants.
- Invite more experts and practitioners for submissions next year (planned to be affiliated with WI 2011).
- Please send your slides to [yizeng@bjut.edu.cn](mailto:yizeng@bjut.edu.cn) so that others could download it from our website.