

# The 4<sup>th</sup> Workshop on Uncertainty Reasoning for the Semantic Web

The Uncertainty Reasoning Workshop is an exciting opportunity for collaboration and cross-fertilization between the uncertainty reasoning community and the Semantic Web community.

Effective methods for reasoning under uncertainty are vital for realizing many aspects of the Semantic Web vision, but the ability of current-generation web technology to handle uncertainty is extremely limited. Recently, there has been a groundswell of demand for uncertainty reasoning technology among Semantic Web researchers and developers.

This surge of interest creates a unique opening to bring together two communities with a clear commonality of interest but little history of interaction. By capitalizing on this opportunity, URSW could spark dramatic progress toward realizing the Semantic Web vision.

## Audience

The intended audience for this workshop includes the following:

Researchers in uncertainty reasoning technologies with interest in Semantic Web and Web-related technologies.

- Semantic web developers and researchers.
- People in the knowledge representation community with interest in the Semantic Web.
- Ontology researchers and ontological engineers.
- Web services researchers and developers with interest in the Semantic Web.
- Developers of tools designed to support semantic web implementation, e.g., Jena developers, Protégé and Protégé-OWL developers.

## Topic List

We intend to have an open discussion on any topic relevant to the general subject of uncertainty in the Semantic Web (including fuzzy theory, probability theory, and other approaches). Therefore, the following list should be just an initial guide.

- Syntax and semantics for extensions to Semantic Web languages to enable representation of uncertainty.
- Logical formalisms to support uncertainty in Semantic Web languages.
- Probability theory as a means of assessing the likelihood that terms in different ontologies refer to the same or similar concepts.
- Architectures for applying plausible reasoning to the problem of ontology mapping.
- Using fuzzy approaches to deal with imprecise concepts within ontologies.
- The concept of a probabilistic ontology and its relevance to the Semantic Web.
- Best practices for representing uncertain, incomplete, ambiguous, or controversial information in the Semantic Web.
- The role of uncertainty as it relates to Web services.
- Interface protocols with support for uncertainty as a means to improve interoperability among Web services.
- Uncertainty reasoning techniques applied to trust issues in the Semantic Web.
- Existing implementations of uncertainty reasoning tools in the context of the Semantic Web.
- Issues and techniques for integrating tools for representing and reasoning with uncertainty.
- The future of uncertainty reasoning for the Semantic Web.

## Program Committee

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