

# Summary of the 8th International Semantic Web Conference 2009

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university-logs

- Semantic Web Search (how does it compare with keyword search)
- Usage Policies for Web Services (formal language for describing web services)
- Generalisation of Cartographic Representations (aggregation and dimensional collapse)
- Integration of applications at UI-level using Ontologies
- Agile Ontology Maintenance (keeping track of ontology usage—queries and annotations— to guide ontology development)
- Lexical-Ontological Resource for Consumer Healthcare (development of ontology that consumers—as opposed to medical specialists—can understand).

- Collaborative Construction, Management and Linking of Structured Knowledge
- Ontology Matching
- Ontology Patterns
- Role of SW in Provenance Management
- Service Matchmaking and Resource Retrieval in the SW
- Sharing Ideas for Complex Problems in User Interaction
- Social Data on the Web

- Scalable Semantic Web Knowledge Base Systems
- Uncertainty Reasoning for the SW
- Living Web: Making Web Diversity a true asset
- Semantics for the Rest of Us
- Semantic Sensor Networks
- Semantic Web Enabled Software Engineering
- Ontology Dynamics
- Semantic Web Applications in Scientific Discourse
- Terra Cognita

# Collaborative Construction, Management and Linking of Structured Knowledge

Keynote by Robert Stevens

- Extending medical ontology using spreadsheet and automatic ontology generation.
- Encoding knowledge is not the problem, but deciding suitable scope (a whole day), complexity
- finding out who knows what or who knows more
- OPPL to generate ontology (ontological commitment can be deferred)
- Be prepared to throw ontology away if it doesn't work

# Collaborative Construction, Management and Linking of Structured Knowledge

Discussion Panel: Collaborative Ontology Development: when it works and when it doesn't

- **Rober Stevens**: Gap between human knowledge and Ontologies is too wide, we need an informal representation first (see keynote).
- **Mark Musen**: Workflow is key factor (good example is DMOZ open directory). Processes required to resolve conflicts.
- **Mark Greaves**
- **Pat Hayes**

# Collaborative Construction, Management and Linking of Structured Knowledge

Discussion Panel: Collaborative Ontology Development: when it works and when it doesn't

- Rober Stevens
- Mark Musen
- Mark Greaves: Ontology Development is like politics, sometimes viewpoints can be too disparate to work. Success factors: roles, workflows, automatic quality control, free-text annotation, ease of search (rdfs), embeded in business process.
- Pat Hayes

# Collaborative Construction, Management and Linking of Structured Knowledge

Discussion Panel: Collaborative Ontology Development: when it works and when it doesn't

- Rober Stevens
- Mark Musen
- Mark Greaves
- Pat Hayes: Collaborative use of Ontologies is not a true representation of the world, but a record of agreement that can be used as a reference for future use (data integrity). Ontological agreement is different from natural language agreement. Collaborative creation of an ontology forces agreement even when no agreement exists in NL. However, people disagree at edges (is pregnancy a disease?): no problem in NL, but problem in formal ontologies).

## Blogic (Web logic)

- Web portability: logical statements can be dispersed, but entailments have to hold. RDF and Common Logic are portable, OWL2 is not.
- Names: names are irrelevant in logic, but IRIs have meaning in Blogic. Implications for semantics (sameAs relation).

## RDF Redux

## Blogic (Web logic) RDF Redux

- Several details that RDF could do better: Literals in subject position, naming graphs, importing, etc.
- One fundamental problem: nodes in RDF are thought of as members of a set. This makes it possible to represent blank nodes that can be shared by several graphs.
- New paradigm: blank node is a **mark** on a **surface**
- Surfaces can be coloured, making it easier to make positive or negative statements.
- OWL and RDF have their own semantics that have to be mapped to each other. OWL semantics can be encoded in RDF + surfaces. So RDF + surfaces can be a single, uniform semantic model (a blogic).

# Some interesting papers

- Social Network Analysis operators in SPARQL (Guillaume Ereteo at INRIA)
- Representing Creative Commons licensing rules as RDF and aiding the user to be honest (Oshani Seneviratne at MIT)
- Multiple visualisation for exploration and querying of semantic data (Daniela Petrelli at Sheffield). Filter widget + visualisations about time, geo location, domain specific aspect (jet engine design).

- Analysing the links in BioPortal (4 million mappings between 200 ontologies) (Amir Ghazvinian at Stanford): identify central ontologies, domain coverage.
- OntoCase: semi-automatically enriching ontologies using ontology design patterns (Eva Blomqvist at StLab in Rome)

# Panel: Does the Semantic Web need Ontologies

- Enrico Motta: Yes, for formal measure of agreement and disagreement.
- Frank van Harmelen: Google says that data on the web already provides all the meaning that's necessary, but there is also implicit meaning that cannot be retrieved from data on the web.
- Michael Witbrock: There are 50 different meanings of 'in' in Cyc (it's not easy to reuse those). No ontology is needed for recommender systems, machine translation, object recognition. When ontologies are useful, such as automatic RDF triple extraction, ontologies tend to be inferred from the data instead of handcrafted.
- Tom Heath: Yes
- David Karger from public: structured data is required, ontologies are a luxury.

# Keynote 2: Tom Mitchell

How to populate the SW

- Read the Web project
- initial ontology with example instances + Named entity extraction
- learn new patterns for named entity extraction

## Some more interesting papers

- XLWrap to query spreadsheets with SPARQL. Fairly mature open source project that improves on previous approaches. Not suitable for small amounts of data, as mapping specification is not trivial and a new language has to be learnt. (Andreas Langegger at University of Linz)
- Silk: framework for discovering and maintaining links (Chris Bizer at Freie Universität Berlin)
- RDFa for Drupal 7: publishing RDF without knowledge of RDF (Stéphane Corlosquet at DERI)
- Keynote 3 by Nova Spivack. Twine 2, stronger semantic search support. Focus on interfaces to define and edit ontologies.