

# CS 9010: Semantic Web

## Possible Topics for Discussion

Paula Matuszek  
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- **Specific Ontology Domains, Examples and Servers**
  - Food and Agriculture
  - AOS/CS
  - Semantic Business Management working group
- **Specific ontology and SW languages and tools**
  - DAML+OIL, Cyc, other ontology languages
  - Protégé and other ontology development tools
  - JENA
  - Semantic web technologies in scripting languages and RDBs
  - Semantic web browsers such as Brownsauce and Swoogle
- **Agents and Applications**
  - Agents to extract information and build databases. (Eg, enrollments)
  - Shopbots
  - Generating process models from ontologies
- **Issues, problems, research areas**
  - Censorship
  - Intellectual Property issues
  - The hidden web: getting information when pages are generated from databases
  - Incentives for small groups and very specialized web pages
  - Web of trust project. Permissions, security, encryption
  - Non-monotonic reasoning, truth maintenance, default reasoning

- Alternatives to the W3C model
  - What are the alternatives to having "special tags"? Just make search more intelligent?
  - Semantic Analysis of URLs. (Finding a course website by URL analysis, for instance).
  - Google and Yahoo intelligent specialized searches
- Software Engineering
  - Data management. What steps, algorithms exist for retrieving, deleting, updating tags
  - Maintaining tags, applying new ones as the domain shifts, when do pages get tagged?
- How do we get there?
  - Limiting effect of legacy data on innovation.
  - Agent search engines; learning the semantics and ignoring garbage
  - Integrating the Semantic Web into applications
  - Applying an existing general ontology such as Cyc to see how well it can tag current websites.
  - Machine learning for developing SW pages (eg, AeroDAML)
  - Machine learning for ontology development
- And what's it like when we do?
  - Semantic wikipedia, semantic blogging.
  - What will the web look like if the SW is implemented? What about the 8 billion plus existing pages?