Public Talk Series: Semantic Web and Mapping of Science

Date
March 4, 2010, 3:30pm-5:00pm

Location
E174 Wells Library, Indiana University Bloomington

Web 3.0 Emerging
Jim Hendler

_Tetherless World Chair of Computer and Cognitive Science and the Assistant Dean of Information Technology and Web Science at Rensselaer Polytechnic Institute_

There are currently several different approaches to semantics, semantic technologies, and the Semantic Web floating around. While the uptake of these technologies is going well, there is still confusion about what sort of technology fits where and how it works. The confusion is made worse because the term “ontology” is used in a number of different ways. In this talk, I will describe how different sorts of models can be used to link data in different ways. I will particularly explore different kinds of Web applications, from Enterprise Data Integration to Web 3.0 startups, the different needs of Web 2.0 and 3.0, and the different kinds of techniques needed for these different approaches.

Science in the Age of the Web: the End of the Scientific Paper as We Know It
Frank van Harmelen

_Professor of Knowledge Representation and Reasoning in the AI Department, and lead of Knowledge Representation and Reasoning group, Vrije Universiteit Amsterdam_

Since the early days of modern science, scientists have been communicating their results in the same way: scientists write their findings down in papers; these are published in journals, which are read and cited by other scientists, who then produce a new batch of papers. And even though we now publish all our papers on the Web, this model has essentially remained unchanged since the 17th century.

I will argue that the Web will have a much more profound influence on science. We are on the brink of a very new way of doing science, and of a very new way of reporting about science. I will show how the availability of very large volumes of on-line data is already changing many scientific disciplines, ranging from physics and astronomy to the social sciences and the humanities. And I will argue that in the (near?) future, we will stop publishing papers in the form we have known for centuries and start building an on-line network of claims and counterclaims, of arguments and evidence, in which scientists interactively build a giant on-line network of knowledge.

Interactive Maps of Science and Technology
Katy Börner

_Victor H. Yngve Professor of Information Science at the School of Library and Information Science, Indiana University Bloomington_

Maps of science and technology aim to communicate the results of different types of analyses such as temporal, geospatial, topical, network analysis or modeling efforts to help answer when, where, what, with whom, and why questions respectively. Maps might show different scales such as micro/individual (1-100 records), meso/local (101-10,000 records), or macro/global (10,000 < records). They might be presented as static high resolution printouts on paper or as interactive yet lower resolution applications and services on hand held devises, desktop monitors, or large display walls. This talk will present recent developments in the design of interactive maps of science and technology together with possible future developments involving the semantic web.