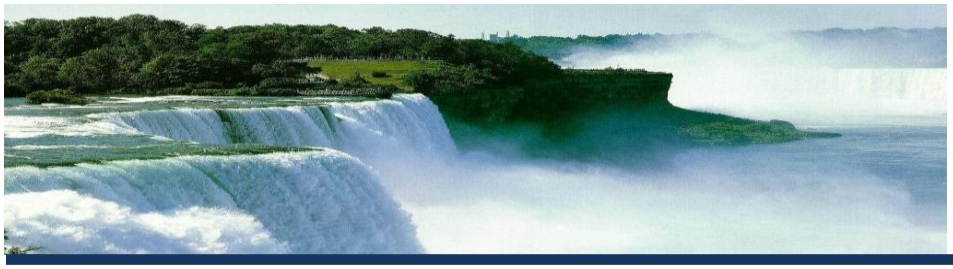

TUTORIAL C

ICBO: International Conference on Biomedical Ontology

Ontology Web Services from the National Center for Biomedical Ontology

July 27, 2011 ▪ 8:30am - 12:00pm

Instructors:

Nigam Shah and Mark Musen

Stanford University

Workshop Venue:

Marriott Buffalo Niagara, 1340 Millersport Highway ▪ Amherst, New York 14221

Room: Ballroom 5 / 1st Floor

Objective

The National Center for Biomedical Ontology (NCBO) offers a range of Web services that allow users to access biomedical terminologies and ontologies, to use ontology terms to create pick lists and lexicons, to identify terms from controlled terminologies and ontologies that can describe and index the contents of online data sets (data annotation), and to recommend particular terminologies and ontologies that would be appropriate for data-annotation tasks. An ontology repository, known as BioPortal, provides a Web-based interface that allows users to visualize ontologies, to map the terms in ontologies to one another, and to provide public comments on ontologies that can guide ontology developers and that can offer assistance to ontology users.

Our Web services have been used to create a searchable ontology-based index of elements from ClinicalTrials.gov and the Gene Expression Omnibus (GEO), to create UIMA components for concept recognition, to automatically annotate meta-genomics datasets from GeneBank and to create structured data entry interfaces for the Cardiovascular Research Grid (CVRG). This tutorial will provide hands-on experience in using the NCBO's Web services, and will offer participants in-depth understanding of how ontologies and terminologies are used to solve problems in biomedical informatics. The tutorial will demonstrate the use Web services provided by the NCBO to perform tasks such as semantic data integration, information retrieval, structured data entry, and knowledge management.

Intended Audience

Scientists and researchers seeking to understand how to optimally use ontology Web services for problem solving. Health IT System developers seeking to understand how to leverage NIH-funded infrastructure for using Ontologies

Preparation

Each participant would need a computer with Internet access and a Web browser.

AGENDA

8:00am Registration

8:30am Introduction: What is NCBO?, Guiding Principles behind Web Service Creation

8:45am Review of Five Groups of Services
- Ontology Services
- Mapping Services
- Widgets
- Annotation Services
- Data Retrieval Services

10:00am Break

10:30am Hands-On Session with Web Services Test Cases (www.bioontology.org/wiki/index.php/Tutorial_Examples)

11:00am Real Life Use Cases (with Q & A)
- Use in Data Acquisition Interfaces
- Translational Research
- Building Automated Annotation Pipelines
- Data Mining on Medical Records

12:00pm End of Tutorial