

NIH Conference on
Knowledge Environments for Biomedical Research

December 11, 2006

Session 1: Information Representation
Panel Remarks



Olivier Bodenreider

Lister Hill National Center
for Biomedical Communications
Bethesda, Maryland - USA

Which tasks?

- ◆ Information integration
- ◆ Depending on the degree of human involvement
 - Hypothesis generation / validation
 - Knowledge discovery
 - Automated reasoning
- ◆ Knowledge standardization
 - Common format
 - Common semantics



Which formalisms?

- ◆ SKOS – Thesaurus
 - Simple Knowledge Organization Schema
- ◆ RDF – Concept-Relationship-Concept triples
 - Resource Description Framework
- ◆ Description Logics / Frames
 - OWL Web Ontology Language
 - Protégé (frames / OWL)
 - OBO Open Biomedical Ontology
- ◆ Rule languages
- ◆ Formal logic



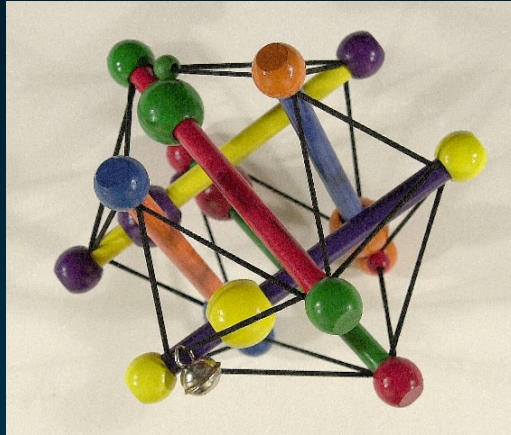
Which identifiers?

◆ For concepts

- Namespaces, ontologies, knowledge bases
 - OBO – Open Biomedical Ontologies
 - UMLS – Unified Medical Language System
 - NCBI Entrez (Entrez Gene, GenBank, UniGene, ...)
- Mappings across information sources

◆ For relationships





Medical Ontology Research

Contact: olivier@nlm.nih.gov

Web: mor.nlm.nih.gov



Olivier Bodenreider

Lister Hill National Center
for Biomedical Communications
Bethesda, Maryland - USA