

Title	Standards and Ontology
Instructors	Barry Smith Director, IFOMIS, Saarland University, Saarbrücken, Germany Werner Ceusters Director, Ontology Research Group, New York State Center of Excellence in Bioinformatics and Life Sciences, University at Buffalo, Buffalo NY, US
Date and Time	Sunday, 27 August 2006; 13.30 – 16.30 hours
Abstract	<p>As biomedical research, medical care and medical record-keeping become ever more sophisticated in their use of computers, so the standardisation of biomedical data and information becomes an ever more pressing need. Standardisation can not only help to reduce costs and promote safety in medical care, it can also provide the basis for new types of virtual biomedical research by enabling uniform data to be used for purposes of scientific reasoning in ways which transcend the confines of single institutions. To this end, however, standards must be developed which ensure not merely syntactic regimentation but also what is often called 'semantic interoperability'.</p> <p>Standards and ontologies are two distinct kinds of socio-cognitive artefacts which serve the needs of syntactic and semantic regimentation in different ways. They also confront similar difficulties in development and application, difficulties which are not only theoretical and technical, but also sociological. Standards and ontologies, if they are to be effective, must be widely used, and this means that they must be documented in ways which are clear and understandable to the relevant target audiences. Yet theoretical reflection on standards, on the conditions which must be satisfied by good standards, and on the relations between standards and ontologies, are still almost unknown.</p> <p>The present tutorial is designed to fill this gap. It will serve as an introduction to the much-needed theoretical reflection on standards and ontologies as applied in the domains of health care and biomedical research. We shall examine the work of three representative organisations influential in the realm of standardisation and ontology development in the domain of the life sciences: Health Level 7 Inc., the American College of Pathologists, and the Open Biomedical Ontologies (OBO) Consortium.</p>

	<p>The tutorial will be highly interactive. It will be divided into five parts, which can be briefly summarised as follows.</p> <ol style="list-style-type: none"> 1. Standards and Ontology: An Introduction (BS and WC) 2. HL7 (BS) <ol style="list-style-type: none"> a. Problems with HL7 V2 b. The Vision of HL7 V3 c. The RIM and Its Problems 3. SNOMED CT (WC) <ol style="list-style-type: none"> a. Overview b. The Concept Orientation in SNOMED CT c. Reforming SNOMED CT through a Coherent Upper Level Ontology of Biomedical Reality 4. The OBO Consortium (BS) <ol style="list-style-type: none"> a. The Gene Ontology b. Open Biomedical Ontologies c. OBO Core Ontologies d. The National Center for Biomedical Ontology 5. The EU RIDE Project: <ol style="list-style-type: none"> a. A Roadmap to Semantic Interoperability in E-Health Systems (WC)
<p>Who should attend</p>	<p>Developers and users of standards, developers and users of electronic health record systems, physicians and others interested in the possibilities of modern healthcare informatics systems and in the role of ontologies in biomedicine.</p>
<p>Level of contents</p>	<p>This tutorial does not require any prior detailed knowledge of standards and of the processes through which they are established, modified and applied, though some familiarity with these topics will make it easier to understand the deeper issues involved.</p>
<p>Prerequisites</p>	<p>Basic familiarity with medical informatics is required.</p>