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Presentation Details

Session Title	W04 - Workshop
Presentation Title	Biomedical Imaging Ontologies: Design Principles Enabling Interoperability for Imaging Applications, Tools, and Data
Session Type	Workshop
Axis I Classification	II.24. Representing and modeling biological structures
Axis II Classification	II.24. Representing and modeling biological structures
Axis III Classification	III. C. Biomedical Research (basic research and clinical research)
Topic Track Category	Applications of Informatics Track
Session Time	11/11/2006 7:00 PM - 9:30 PM
Site	Hilton Washington and Towers
Room	Jefferson East
Presenters	Yasser alSafadi ; Melvyn Greberman ; Barry Smith ; Daniel Rubin ; Werner Ceusters ; Ivo Dinov
Abstract Synopsis	The focus of this workshop is to educate AMIA members about biomedical imaging ontologies by 1) presenting the theoretical foundations of ontologies as well as 2) exploring recent developments and challenges in designing ontologies for the biomedical imaging domain. This workshop will bring to AMIA members the summary and conclusions of the two day workshop on Ontology of Images that was organized by the National Center for Biomedical Ontology at Stanford on March 24-25, 2006. This workshop will cover the following topics: Principles of Ontology Design and their Application to Imaging Ontologies: This workshop will describe how ontologies should be built in the imaging domain, limitations in currently available ontologies, and best practices for creating new ontologies for the imaging domain. It will also outline the OBO Foundry project, a collaboration of ontology developers from different areas of biomedicine who have agreed in advance to accept common principles of ontology design to enable interoperability. Imaging Terms and Relations: This workshop will describe the design of ontologies for radiology reporting, classification of images, describing image features, and image interpretations. It will discuss the role of a reference ontology such as the Foundational Model of Anatomy (FMA) in imaging. Furthermore, it will discuss the use of common relations (along the lines advanced in the OBO Relation Ontology), including relations among images, features, interpretations,

and the underlying biomedical reality. Finally it will describe recent efforts in the use of ontologies in reasoning in the imaging domain. Interoperability of Imaging Ontologies: Interoperability is a key enabler towards the integration of biomedical image and imaging ontologies. The aim is to enable image ontologies to be integrated with other ontologies of those biomedical entities which images represent, such as anatomy and disease ontologies. The workshop will highlight the interoperability issues which arise in the domain of imaging ontology development. Imaging Tools and Data: The workshop will address the issues related to the classification of imaging algorithms, and will highlight the potential uses of a tools ontology in supporting interoperability of bioinformatics software. This workshop will describe the efforts currently being made in this direction by the Software and Data Integration Working Group of the NIH Roadmap.