Keynote

Mark A. Musen, M.D., Ph.D: Semantic Technology Goes Mainstream: The NCBO Experience

The National Center for Biomedical Ontology (NCBO) is one of seven National Centers for Biomedical Computing in the United States supported by the National Institutes of Health. As workers in biomedicine recognize the importance of creating structured representations of the entities and the relationships among entities in experimental domains, the NCBO is developing the semantic technologies to use those representations to drive in a wide range of applications in data annotation, data integration, information retrieval, natural-language processing, and decision support. The NCBO is creating Web-based software to facilitate the archiving, peer review, and application of ontologies by workers in biomedicine. In recent years, the use of NCBO resources has been growing exponentially. Currently, more than 65,000 visitors browse the BioPortal ontology repository each month, many of whom seem to visit the site nearly every day. Each month, the NCBO handles more than 3 million Web service calls. Learning what all these users are doing with NCBO technology provides an opportunity to track the requirements of the Semantic Web community in health care and the life sciences. The NCBO continues to explore methods to obtain more information about these users and their needs in an attempt to anticipate trends in the work of biomedical scientists who are embracing semantic technology.

Dr. Musen is Professor of Biomedical Informatics at Stanford University, where he is Director of the Stanford Center for Biomedical Informatics Research. He holds an MD from Brown University and a PhD from Stanford.Dr. Musen conducts research related to intelligent systems, the Semantic Web, reusable ontologies and knowledge representations, and biomedical decision support. His long-standing work on a system known as Protégé has led to an open-source technology now used by thousands of developers around the world to build intelligent computer systems and new computer applications for e-science and the Semantic Web. He is known for his research on the application of intelligent computer systems to assist health-care workers in guideline-directed therapy and in management of clinical trials. He is principal investigator of the National Center for Biomedical Ontology, one of the eight National Centers for Biomedical Computing supported by the U.S. National Institutes of Health. He chairs the Health Informatics and Modeling Topic Advisory Group for the World Health Organization's revision of the International Classification of Diseases (ICD-11). He is a member of the National Advisory Council of the National Institute for Biomedical Imagine and Bioengineering of the U.S. National Institutes of Health.Early in his career, Dr. Musen received the Young Investigator Award for Research in Medical Knowledge Systems from the American Association of Medical Systems and Informatics and a Young Investigator Award from the National Science Foundation. In 2006, he was recipient of the Donald A. B. Lindberg Award for Innovation in Informatics from the American Medical Informatics Association. He has been elected to the American College of Medical Informatics and the Association of American Physicians. Dr. Musen sits on the editorial boards of several journals related to biomedical informatics and computer science. He is co-editor of the Handbook of Medical Informatics (Springer-Verlag, 1997) and co-editor-in-chief of the journal Applied Ontology.