April 2012 | Volume 15 Issue 1

INSIGHT

Ontology and Systems Engineering

Henson Graves, william.graves@incose.org**, and Jack Ring,** jack.ring@incose.org

INCOSE is actively participating in the Ontology Summit 2012, a virtual symposium conducted from January to April via social media. This event was co-organized by Ontolog, the US National Institute of Standards and Technology, the US National Center for Ontological Research, the US National Center for Biomedical Ontology, the International Association for Ontology and its Applications, and the US National Coordination Office for Networking and Information Technology Research and Development. The summit is organized into tracks and each track has two champions who organize and focus the work of their track. Two track cochampions are Anatoly Levenchuk, research director of the INCOSE Russian chapter; and Henson Graves, team lead for the INCOSE Model-Based System Engineering Ontology Action Team. Many of this year's participants are engineers who come from a variety of backgrounds, and many active participants are INCOSE members. Among the invited speakers is Jack Ring, who is participating in the INCOSE System Science Working Group's project that aims to discover a unified language for systems engineering and to clarify the system of relationships throughout biological science.

From the engineer's point of view, much discussion has been focused on the adequacy of engineering modeling languages to support engineering practice and in particular the languages' use of concepts such as part-hood, types, instantiation, identity, dependence, and unity. These concepts are all familiar for engineering models. There is agreement among the engineers that the choice of language and assumptions underlying the language for representing, for example, part and component structures is extremely important for effectively constructing models. Ontology in its modern engineering usage is the study of these concepts and is an important aspect of the maturity of engineering practice. Additional information is available from http://ontolog.cim3.net/cgi-bin/wiki.pl?OntologySummit2012.