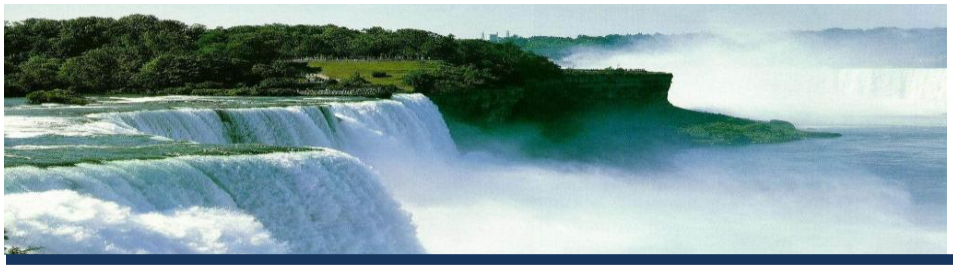

WORKSHOP C

ICBO: International Conference on Biomedical Ontology

Common Logic as a Vehicle for Expressing Ontologies

July 26, 2011 ▪ 6:30pm - 9:00pm

Workshop Venue:

Marriott Buffalo Niagara, 1340 Millersport Highway ▪ Amherst, New York 14221

Room: Ballroom 5 / 1st Floor

Common Logic (especially as represented in its CLIF notation) is the only logical language that has received international and official endorsement (ISO 24707, 2008). As a full version of First-Order Predicate Logic (FOL or FOPL), Common Logic offers a surprisingly rich and versatile way of expressing ontologies, and of utilizing widespread knowledge of First-Order (and Higher-Order) logics, as well as being able to utilize a wide array of computational tools, such as theorem-provers.

Topics will include:

- Are there ontological facts that cannot be expressed perspicuously in OWL or problems that cannot be solved using OWL technology? In what ways is Common Logic better suited for expressing an upper-level ontological framework, such as BFO?
- Are there reforms pending for Common Logic? Which extensions of Common Logic might be ontologically useful (such as IKL)? Are there additional notational standards (including sweeteners) for CLIF that might useful in ontology and agreed upon by practitioners?
- What tools exist for theorem proving and inference in Common Logic and its extensions (PrIKL)? Can the efficiency of access and theorem-proving be enhanced by restrictions or alterations, such as by Highfleet Inc.'s ECLIF?
- What tools are available for translating between ontology languages (OWL), CLIF, and the different notations required for theorem-provers (Prover9, Isabelle, etc.)? This will include a discussion of the translation algorithms for TPTP, and the multi-framework systems HETS and CASL.

AGENDA

6:30pm	Background: First-Order Logic (FOL) and KIF
6:40pm	CLIF Syntax
7:00pm	OWL and Common Logic
7:15pm	Creating Ontologies in Common Logic/CLIF
7:45pm	Break
7:55pm	Tools for Creating Ontologies in CL/CLIF ▪ Editing tools (Emacs, etc.) ▪ Using a Programming Language (LISP, Prolog,...) to generate CLIF ▪ Grammar checking tools ▪ OWL/CLIF translation
8:10pm	Tools for inference, theorem-proving and consistency-checking in Common Logic
9:00pm	End of Workshop

Organized by:

Randall R. Dipert, University at Buffalo · Fabian Neuhaus, National Institute of Standards (NIST) · Chris Mungall, Lawrence Berkeley National Laboratory

Other Participants

Bill Andersen, Highfleet Inc. · Alan Ruttenberg, University at Buffalo