

**DEPARTMENT OF COMPUTER SCIENCE
SEMINAR 2012**

WHEN: FRIDAY, JANUARY 20, 2012
WHERE: PGH 232
TIME: 11:00 AM

SPEAKER: Dr. Cameron Buckner, University of Houston

TITLE: Dynamic Ontology: Challenges and Opportunities

A computational ontology is a formally-encoded specification of the concepts relevant to a subject domain (including their properties and relations holding between them) and a hierarchical classification of those concepts into categories and subcategories. Ontologies can render the contents of a domain intelligible to humans and automated agents, supporting a variety of applications. The manual design of ontologies, however, is an expensive process that is often not feasible for smaller, open-access projects working on the kind of constantly changing, abstract domains as are found in the humanities.

To serve these projects, we have recommended an approach we call “dynamic ontology”, which focuses attention on automating as much of the design and evolution process as possible. Relying on automated methods brings new challenges, however; dynamic ontologists must be more creative in their methods of obtaining data for ontology construction and population, and problems of data inconsistency and validation loom large. In this talk, I will describe the how these challenges are addressed by the InPhO project, which uses a three-step process of statistical information retrieval, targeted solicitation of expert feedback, and machine reasoning to assemble a dynamic knowledge base for the discipline of philosophy.

Bio: Dr. Cameron Buckner received a Ph.D. in Philosophy from Indiana University, Bloomington in 2011. He also has a background in artificial intelligence, specifically in nonmonotonic logic programming and knowledge representation. His work is interdisciplinary, and he has published in the areas of philosophy of mind, computer science, and psychology. He is co-founder of the Indiana Philosophy Ontology Project, which began in 2005 to serve the information needs of the Stanford Encyclopedia of Philosophy by integrating developments from information extraction, social computing, knowledge representation, and logic programming.