

ALT INFO
(ALgebraic Tools IN Formal Ontology)
2005-2006

Collaboration and exchange project between:

- Collaborative Research Center (University of Bremen, Germany)
- Laboratory for Applied Ontology (ISTC-CNR, Italy)

Funded by:

- Programma Vigoni (Ministero dell'Università', <http://www.miur.it/>)
- Programm des Projektbezogenen Personenaustauschs (Deutscher Akademischer Austauschdienst, <http://www.daad.de/>)

The goals of this project are centred on the practical and theoretical development of methods, resources and tools in formal ontology. Formal ontology is now becoming a crucial area of concern for knowledge management and re-use, the semantic web, information systems, information brokering and theoretical and practical cognitive modelling (cf., e.g., the recent special issue on ontologies of the *Communications of the ACM*, 2002, Vol.45). Both the German and Italian research groups have been working on the development and application of computational ontologies for several years. A preliminary exchange of views in Bremen in 2003, followed by a detailed planning meeting in Trento in April 2004, convinced us that a combined research initiative would be extremely effective with a potential for considerable impact on the state of the art in ontology design and use world-wide.

The **goals** of the proposed project are:

1. the application and further development of the **algebraic methods and tools** produced in Bremen (CASL) to formal ontology specification and, in particular, to the proposed standard ontology libraries produced in Trento (e.g., the WonderWeb foundational ontology DOLCE and others).
2. the development of semi-automated and formally supported **translation procedures** between highly expressive ontological specifications (e.g., first order logic) and restricted application-targeted knowledge representations (e.g., description logics).
3. the joint development of several **sub-ontologies** or ontological domains that are of mutual concern to both partners:
 - spatial ontology
 - linguistic ontology
 - the ontology of social groups and interaction
4. the use of the algebraic methods and tool sets developed for **evaluation and dissemination** of these sub-ontologies to the broad ontological engineering community in terms of emerging standards such as the W3C recommended Web Ontology Language (OWL) and our own extensions.