Ontology management research issues
  Ontology lifecycle
    Initial ontology design: from art to science...
      reusability degree...
        becomes a challenge since the SW boundaries are open
      evaluation criteria
        competency questions
        expressivity, accuracy, cognitive adequacy....
      ontology learning
        understanding the nature of interaction between linguistic analysis
          and machine learning
        role of a priori ontological constraints in automated learning
        learning from heterogenous (multimedia) sources
      (purpose of ontology development)
        metadata annotation
        navigation structures
        personalization features
      emergent ontologies - incidental ontology acquisition
    Conceptual refinement (starts from conceptual structures)
      semi-automatic means for restructuring and enriching data resulting
        from an ontology learning process, exploiting
        already existing (upper-level) ontologies
        formal ontological principles for checking, modifying and enriching
          the conceptual structures...
      Different ways of adapt and reuse existing ontologies (different
        commitments about the actual content)
      Model re-engineering
        legacy conceptual schemas, thesauri...
      Tools and methods for consensus building and for comparing different
        conceptual views
      Ways of making modularity decisions
        optimal size of modules
        relationships between modules...
      Ways of modeling the interactions between agents engaged in verifying
        potential consensus
        degrees of consensus,
        ways of delegation, trust and control
        minimal consensus necessary for solving a certain task...
      Role of inference services in supporting incremental refinement
    Inter-ontology linking
      Alignement techniques
      Integration and merging
    Evaluation
      Ways of formally evaluating an ontology with respect to its
        requirements
      On-field evaluation of ontologies with respect to usage
        kinds of use
        reuse in different applications
        psychological adequacy (as a result of experiments)
      Experiments for checking ontological agreement
      Theoretical ways (metrics) for comparing different ontologies
        expressivity
        accuracy
        domain richness
        cognitive adequacy...
    Evolution
      Kinds of relationships between different ontology versions

> > **Recognition of change needs (usage of the ontology, new sources coming in…)**
> > **Impact of changes on metadata annotation**
> **Theoretical issues**
> > **theoretical and practical aspects of relevance**
> > **formal ontological principles, foundational ontologies**
> > **notion of identity [and unity]**
> > **unified conceptual analysis methodology (KR, DB, OO, …)**
> **Strategic domains for ontology development**
> > Ontology of *information and information processing*
> > Ontology of *social entities*
> > Ontology of *social co-operation and interaction*
> **Requirements for tools**
> > **visualization of complex ontologies**
> > **cooperative development environment**
> > **managing argumentations and design rationale**
> > **easy acquisition of arguments**
> **Relationships with other topics**
> > **User interfaces, collaborative engineering environments…**
> > **Language and inferencial services**
> > **Computational linguistics (reusing lexical resources for ontology development)**
> > **Infrastructure (ontology transformation)**
> **Links with other communities**
> > **Cognitive science (ontology validation experiments)**
> > **Agents (modeling interaction and cooperation…**

[Introductory comments]
> sloppiness…, engineering methodology
> planning for decay… (robust design techniques)