

Ontology Summit 2013:  
Ontology Evaluation Across the Ontology Lifecycle  
Launch  
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## Track A: Intrinsic Aspects of Ontology Evaluation

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# Track A: Intrinsic Aspects of Ontology

## Evaluation: **Mission** (1)

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- Ultimately an ontology's worth can be measured by the effectiveness with which it helps in solving a particular problem
- But as a designed artifact, there are a number of intrinsic characteristics that can be measured for any ontology that give an indication of how “well-designed” it is:
  - Proper use of various relations found within an ontology
  - Proper separation of concepts and facts (sometimes referred to as classes vs. instance distinctions)
  - Proper handling of data type declarations
  - Avoidance of assuming semantics in naming (sometimes called “optimistic naming”)
  - Consistent range & domain constraints
  - Better class/subclass determination
  - The sound use of principles of ontological analysis

# Track A: Intrinsic Aspects of Ontology Evaluation: **Mission** (2)

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- This Track aims to enumerate, characterize, and disseminate information on approaches, methodologies, and tools designed to identify such intrinsic characteristics, with the aim of raising the quality of ontologies in the future
- Scope:
  - Dimensions of evaluation: structure, logic, semantics, analysis
  - Methods of evaluation
  - Criteria
  - Properties to measure

# Track A: Intrinsic Aspects of Ontology Evaluation: **Making it Happen**

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- **Potential Topics on Approaches, Methods:**
  - Ontological analysis
  - Accuracy, Precision/Recall, Granularity
  - Coverage, Density, Robustness, Richness, Cohesion, Graph properties
  - Best Practices (some KR language dependencies)
  - Adherence to established ontology design patterns
  - Documentation, annotation, examples
- **Prospective Tools:**
  - Consistency-checking by Ontology Reasoners
    - Description logic reasoners: Pellet, FaCT++, HermiT, RacerPro, etc.
    - First-order logic reasoners: Otter/Prover9, Vampire, ACL2, Cyc, etc.
  - Rule-reasoning: some of the above, also logic programming, etc.
  - OntoClean, Ontology Pitfall Scanner! (OOPS!), OntoQA, etc.