

## [Ontology Alignment with Mappings published in the Purdue Research Repository](#) [1]



Submitted by Linep on Mon, 2014-12-22 14:32 **Event:** [Winter Meeting 2015](#) [2]

### **Abstract:**

A current focus of the Semantic Web Cluster is ontology reuse and ontology mapping. Currently, a new ontology tends to be created for each new project, resulting in duplication of work and lack of interoperability. In this project we are testing the ESIP ontologies by evaluating their potential for ontology mapping. In particular, we are providing mappings between the Semantic Web for Earth and Environmental Terminology (SWEET) and ENVO, the Environmental Ontology by using Agreement Maker Light, an ontology alignment algorithm that won first place in the Ontology Alignment Initiative 2014 campaign. We are also providing mappings between SWEET and the ontologies from the Semantic Sea Ice Interoperability Initiative. The mappings in the form of rdf triples are published in the Purdue University Research Repository and given a DOI. Publication in the repository guarantees open access and preservation of the mappings.

**Collaboration Area:** [Semantic Web](#) [3]

The poster is titled "Ontology Alignment with Mappings Published in the Purdue Research Repository" and is attributed to Line C. Pouchard\* and Michael N. Huhns\*\*. It features several sections:

- Objectives:**
  - Provide a community-based ontology repository
  - Provide class mappings between ESIP and other ontologies
  - Extend ontology coverage through the mappings
- Approach to Create Alignments:**
  - We use Agreement Maker Light, an algorithm from the Ontology Alignment Initiative.
  - AML uses synonym properties between labels as determined by the TF-IDF measure.
  - Ranked first among 8 aligners for OAE 2014 campaign.
- SWEET-to-ENVO Mappings:**
  - SWEET Summer 2014 version: 4549 classes, 360 properties
  - ENVO: 1911 classes, 60 properties
  - AML: 843 mappings
  - Comparison: Term mappings produced by LOGM (Bioportal): 242
- Implemented Portal:** A screenshot of a web interface showing ontology mappings.
- Semantic Sea Ice Interoperability Initiative (SSIICI):** A table showing mappings between SSIICI and other ontologies.
- Purdue University Research Repository:** A collaboration platform where participants can share files by project. It includes features like project manager, collaboration, and open access to published data.
- Dataset Publication:** A screenshot of a dataset publication interface.
- Future Research:**
  - Produce more types of mappings with latest version of SWEET
  - Add more ontologies to portal
  - Publish the mappings between SSIICI and SWEET

**Images:**

[4]

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