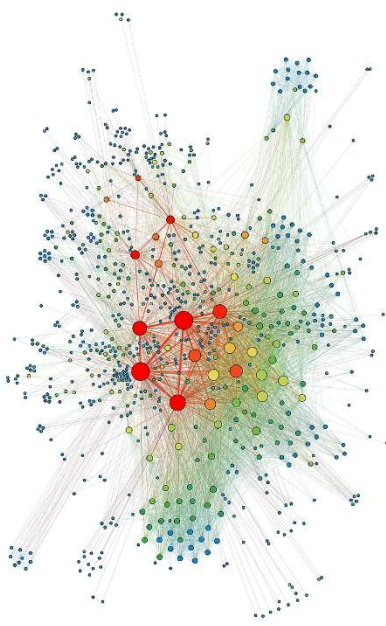


Ontology Engineering Group

The Ontology Engineering Group (OEG) is based at the Computer Science School at Universidad Politécnica de Madrid (UPM). It ranks third among the two hundred research groups from UPM and it is widely recognized in Europe in the areas of Ontology Engineering, Semantic Infrastructure, Knowledge Graphs, Natural Language Processing and Data Integration.

Advances in these areas are applied in a wide variety of domains, and with special attention to Open Science principles.

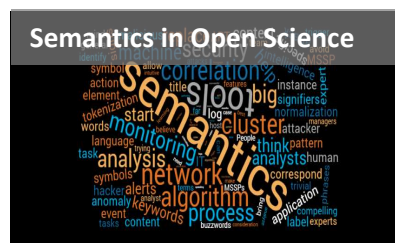
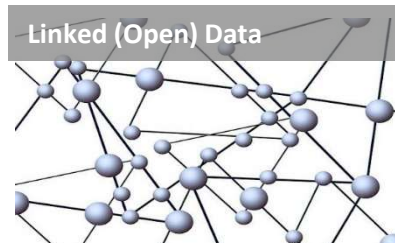
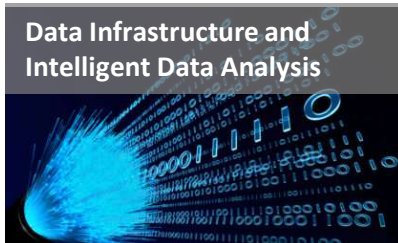
Facilities and infrastructures



- ❑ Host of the Spanish chapter of the Dbpedia knowledge graph.
- ❑ Methodology and tool support for ontology development and for the management of ontology governance in organizations. Tools include Ontology, OOPS!, Widoco, Themis, ASTREA, and vocab.
- ❑ Knowledge graphs deployed in several domains: libraries, geography, linguistic resources, legal documentation, public procurement.
- ❑ A family of tools (morph) for the transformation of structured and unstructured data sources (relational data bases, JSON, CSV) into knowledge graphs, including specialized tools for libraries, geography and biomedicine.
- ❑ Tools (library) for the treatment of large corpus of documents and their automatic processing using probabilistic topic models.
- ❑ Tools for natural language processing and chatbots.



Research areas associated with Big Science



Main projects in Big Science

- **CABAHLA**: ecosystem for the integration between HPC and large scale data analysis.
- **ENTENTE**: development of a new European experimental/modelling material database to collect and store highly-relevant data on radiation damage of Reactor Pressure Vessel steels, according to FAIR principles.
- **Wf4Ever**: management and exploitation of workflow-based Research Objects across domains.
- **ACTION**: a citizen science accelerator based on the principles of Open Science.
- **STARS4ALL**: a collective awareness platform for promoting dark skies in Europe, following Open Science principles.
- **EOSC-Hub** incubator project on light pollution.

Collaboration with Large European Scientific Facilities

- **FAIR**: creation of a common database to store highly-relevant data on radiation damage of Reactor Pressure Vessel steels (ENTENTE).
- **FAIR**: contributions to the European Open Science Cloud. Membership of the EOSC Interoperability Framework, and membership of the EOSC FAIR Working Group.

Software, tools or licenses to be applied to Big Science

- **OOPS!** – Ontology Pitfall Scanner!
- **OnToology**
- **Themis**
- **Graphless**
- **LOUPE**
- **DBpedia del español**
- **ApertiumRDF**
- **Dylan-Q**
- **Key-Q**
- **Valkyr-ie**
- **TerminotecaRDF**
- **Lemon**
- **Ontolex_lemmon**
- **librAlry**
- **NLP4Types**
- **Añotador**
- **Morph**
- **Mirror**
- **TADDA**
- **Helio**
- **Mappingpedia**

Ontology Engineering Group

The Ontology Engineering Group, founded in 1995, is ranked (2017) in the 7th position in the UPM research groups ranking (more than 200 groups). The group is internationally recognized, with members belonging to European, Latin American and Asian countries, and multidisciplinary with formation in Informatics, Linguistics and Biology, among others.

Team	Topics	R&D
<ul style="list-style-type: none"> Directors: Asunción Gómez Pérez, Oscar Corcho 30+ researchers 150+ collaborators 30+ visitors 	<ul style="list-style-type: none"> Ontology Engineering Semantic Web Linked (Open) Data Linguistic Engineering Data Integration Open Science 	<ul style="list-style-type: none"> Projects: 50+ European, 55+ national, 60+ private contracts Publications: 100+ journals, 300+ international conferences/book chapters, 7 books
Community	Ontology Engineering	
<ul style="list-style-type: none"> Standardization: 24+ @ W3C, ISO, OASIS, AENOR Events: 12+ Summer School on Semantic Web, 50+ workshops/seminars, ODI Madrid Node Services: @Diveka and @Smart Cities Head of Linked Open Vocabularies 	<ul style="list-style-type: none"> NeOn Methodology Published ontologies: http://vocab.linkedata.es Ontology evaluation: http://oee.linkedata.es OnToology: http://onontology.linkedata.es 	
Open Data and Linked Data		
<p>Collaboration with universities and companies</p>		

UPM contact:

Oscar Corcho
oscar.corcho@upm.es