# Web Search: Techniques, algorithms and Aplications

Eneko Agirre <e.agirre@ehu.edu> German Rigau <german.rigau@ehu.es>



- Introduction (German Rigau)
  - 2:30h (24/02: 15h 17:30h)
- Tools and Applications (German Rigau & Eneko Agirre)
  - Tools: 2:30h (26/02: 15h 17:30h)
  - Applications: 5h (03/03, Wednesday 21: 15h 17:30h)
- NLP for Ontologies & large-scale Knowledge Bases (Eneko Agirre)
  - 5h (05/03, 10/03: 15h 17:30h)
- Ontologies & large-scale Knowledge Bases for NLP (German Rigau)
  - 5h (24/03, 26/03: 15h 17:30h)

- Introduction (German Rigau)
- Tools and Applications
  - Basic Tools (German Rigau)
    - Tokenization
    - Sentence Splitting
    - Language Identifiers
    - Lemmatization, POS tagging
    - Named Entity Recognizers and Categorizers (NERC)
    - Parsing
    - Word Sense Disambiguation (WSD)
    - Semantic Role Labelling (SRL)

- Applications (Eneko Agirre)
  - Information Retrieval (IR)
    - Cross-lingual Information Retrieval (CLIR)
    - Question Answering (Q\A)
  - Information Extraction (IE)
  - Classification
  - Summarization
  - Machine Translation

- NLP for ontologies (Eneko Agirre)
  - Ontology learning
    - Terminology extraction
    - Learning hierarchies
    - Learning semantic relations
    - Specific domains: biomedicine

- Ontologies & Knowledge-based for NLP (German Rigau)
  - Words & Works
  - Ontologies:
    - Mikrokosmos
  - Large-scale Knowledge Bases:
    - WordNet & EuroWordNet
  - More large-scale resources
    - ConceptNet, Framenet, VerbNet, PropBank, ...
  - Building Wordnets
  - WordNet extensions:
    - SUMO ontology, eXtended WordNet, Meaning project
  - Reasoning