

# Table of Contents

## Knowledge Engineering: Alignment and Identity

|                                                                                                 |    |
|-------------------------------------------------------------------------------------------------|----|
| Pattern-Based Mapping Refinement .....                                                          | 1  |
| <i>Fayçal Hamdi, Chantal Reynaud, and Brigitte Safar</i>                                        |    |
| Practical Considerations on Identity for Instance Management in Ontological Investigation ..... | 16 |
| <i>Kouji Kozaki, Satoshi Endo, and Riichiro Mizoguchi</i>                                       |    |

## Knowledge Acquisition

|                                                                                                             |    |
|-------------------------------------------------------------------------------------------------------------|----|
| Involving Business Users in Formal Modeling Using Natural Language Pattern Sentences .....                  | 31 |
| <i>Jeroen van Grondelle, Ronald Heller, Emiel van Haandel, and Tim Verburg</i>                              |    |
| Knowledge Acquisition from Sources of Law in Public Administration .....                                    | 44 |
| <i>Alexander Boer and Tom van Engers</i>                                                                    |    |
| Enriching the Gene Ontology via the Dissection of Labels Using the Ontology Pre-processor Language .....    | 59 |
| <i>Jesualdo Tomas Fernandez-Breis, Luigi Iannone, Ignazio Palmisano, Alan L. Rector, and Robert Stevens</i> |    |

## Collaboration in Knowledge Engineering

|                                                                                                                                       |    |
|---------------------------------------------------------------------------------------------------------------------------------------|----|
| Ontology Development for the Masses: Creating ICD-11 in WebProtégé .....                                                              | 74 |
| <i>Tania Tudorache, Sean Falconer, Natalya F. Noy, Csongor Nyulas, Tevfik Bedirhan Üstün, Margaret-Anne Storey, and Mark A. Musen</i> |    |
| RDFauthor: Employing RDFa for Collaborative Knowledge Engineering .....                                                               | 90 |
| <i>Sebastian Tramp, Norman Heino, Sören Auer, and Philipp Frischmuth</i>                                                              |    |

## Knowledge Engineering: Patterns

|                                                                                 |     |
|---------------------------------------------------------------------------------|-----|
| Pattern-Based Ontology Transformation Service Exploiting OPPL and OWL-API ..... | 105 |
| <i>Ondřej Šváb-Zamazal, Vojtěch Svátek, and Luigi Iannone</i>                   |     |

|                                                                         |     |
|-------------------------------------------------------------------------|-----|
| Experimenting with eXtreme Design .....                                 | 120 |
| <i>Eva Blomqvist, Valentina Presutti, Enrico Daga, and Aldo Gangemi</i> |     |

## Social Aspects and Tagging

|                                                                             |     |
|-----------------------------------------------------------------------------|-----|
| Weaving a Social Data Web with Semantic Pingback .....                      | 135 |
| <i>Sebastian Tramp, Philipp Frischmuth, Timofey Ermilov, and Sören Auer</i> |     |
| Social People-Tagging vs. Social Bookmark-Tagging .....                     | 150 |
| <i>Peyman Nasirifard, Sheila Kinsella, Krystian Samp, and Stefan Decker</i> |     |
| FOLCOMor the Costs of Tagging .....                                         | 163 |
| <i>Elena Simperl, Tobias Bürger, and Christian Hofer</i>                    |     |

## Semantic Web, Web of Data and Linked Data

|                                                                                                     |     |
|-----------------------------------------------------------------------------------------------------|-----|
| Epiphany: Adaptable RDFa Generation Linking the Web of Documents to the Web of Data .....           | 178 |
| <i>Benjamin Adrian, Jörn Hees, Ivan Herman, Michael Sintek, and Andreas Dengel</i>                  |     |
| Scaling Up Question-Answering to Linked Data .....                                                  | 193 |
| <i>Vanessa Lopez, Andriy Nikolov, Marta Sabou, Victoria Uren, Enrico Motta, and Mathieu d'Aquin</i> |     |

## Ontology Evolution / Refinement

|                                                                                              |     |
|----------------------------------------------------------------------------------------------|-----|
| Using Semantic Web Resources for Data Quality Management .....                               | 211 |
| <i>Christian Fürber and Martin Hepp</i>                                                      |     |
| Using Ontological Contexts to Assess the Relevance of Statements in Ontology Evolution ..... | 226 |
| <i>Fouad Zablith, Mathieu d'Aquin, Marta Sabou, and Enrico Motta</i>                         |     |
| What Is Concept Drift and How to Measure It? .....                                           | 241 |
| <i>Shenghui Wang, Stefan Schlobach, and Michel Klein</i>                                     |     |

## Knowledge Access

|                                                                                                             |     |
|-------------------------------------------------------------------------------------------------------------|-----|
| Mobile Cultural Heritage Guide: Location-Aware Semantic Search .....                                        | 257 |
| <i>Chris van Aart, Bob Wielinga, and Willem Robert van Hage</i>                                             |     |
| Semantic Scout: Making Sense of Organizational Knowledge .....                                              | 272 |
| <i>Claudio Baldassarre, Enrico Daga, Aldo Gangemi, Alfio Gliozzo, Alberto Salvati, and Gianluca Troiani</i> |     |

## Annotation, Retrieval and Natural Language Processing

|                                                                                                                                               |     |
|-----------------------------------------------------------------------------------------------------------------------------------------------|-----|
| Authoring Technical Documents for Effective Retrieval .....                                                                                   | 287 |
| <i>Jonathan Butters and Fabio Ciravegna</i>                                                                                                   |     |
| A Methodology towards Effective and Efficient Manual Document<br>Annotation: Addressing Annotator Discrepancy and Annotation<br>Quality ..... | 301 |
| <i>Ziqi Zhang, Sam Chapman, and Fabio Ciravegna</i>                                                                                           |     |
| Towards Better Ontological Support for Recognizing Textual<br>Entailment .....                                                                | 316 |
| <i>Andreas Wotzlaw</i>                                                                                                                        |     |

## Short Papers

|                                                                                                                                      |     |
|--------------------------------------------------------------------------------------------------------------------------------------|-----|
| Making Sense of Design Patterns.....                                                                                                 | 331 |
| <i>Rinke Hoekstra and Joost Breuker</i>                                                                                              |     |
| Acquiring and Modelling Legal Knowledge Using Patterns: An<br>Application for the Dutch Immigration and Naturalisation Service ..... | 341 |
| <i>Patries Kordelaar, Freek van Teeseling, and Edwin Hoogland</i>                                                                    |     |
| A Model-Driven Approach for Using Templates in OWL Ontologies ....                                                                   | 350 |
| <i>Fernando Silva Parreiras, Gerd Gröner, Tobias Walter, and<br/>Steffen Staab</i>                                                   |     |
| Specialization and Validation of Statecharts in OWL .....                                                                            | 360 |
| <i>Gerd Gröner and Steffen Staab</i>                                                                                                 |     |
| Temporal Knowledge Acquisition and Modeling .....                                                                                    | 371 |
| <i>Cyril Faucher, Charles Teissèdre, Jean-Yves Lafaye, and<br/>Frédéric Bertrand</i>                                                 |     |
| Using Machine Learning to Support Continuous Ontology<br>Development .....                                                           | 381 |
| <i>Maryam Ramezani, Hans Friedrich Witschel, Simone Braun, and<br/>Valentin Zacharias</i>                                            |     |
| Handling Markup Overlaps Using OWL.....                                                                                              | 391 |
| <i>Angelo Di Iorio, Silvio Peroni, and Fabio Vitali</i>                                                                              |     |
| Ontology Learning for Cost-Effective Large-Scale Semantic Annotation<br>of Web Service Interfaces .....                              | 401 |
| <i>Shahab Mokarizadeh, Peep Küngas, and Mihhail Matskin</i>                                                                          |     |
| Towards Hybrid Reasoning for Verifying and Validating Multilevel<br>Models .....                                                     | 411 |
| <i>Nophadol Jekjantuk, Gerd Gröner, Jeff Z. Pan, and Edward Thomas</i>                                                               |     |

|                                                                                                                     |     |
|---------------------------------------------------------------------------------------------------------------------|-----|
| Representing, Proving and Sharing Trustworthiness of Web Resources<br>Using <i>Veracity</i> .....                   | 421 |
| <i>Grégoire Burel, Amparo E. Cano, Matthew Rowe, and Alfonso Sosa</i>                                               |     |
| Enhancing Content-Based Recommendation with the Task Model of<br>Classification .....                               | 431 |
| <i>Yiwen Wang, Shenghui Wang, Natalia Stash, Lora Aroyo, and<br/>Guus Schreiber</i>                                 |     |
| Extending Open Rating Systems for Ontology Ranking and Reuse .....                                                  | 441 |
| <i>Holger Lewen and Mathieu d'Aquin</i>                                                                             |     |
| HyperTwitter: Collaborative Knowledge Engineering via Twitter<br>Messages.....                                      | 451 |
| <i>Martin Hepp</i>                                                                                                  |     |
| TagSorting: A Tagging Environment for Collaboratively Building<br>Ontologies .....                                  | 462 |
| <i>Leyla Jael García-Castro, Martin Hepp, and Alexander García</i>                                                  |     |
| QuiKey – An Efficient Semantic Command Line .....                                                                   | 473 |
| <i>Heiko Haller</i>                                                                                                 |     |
| Kali-ma: A Semantic Guide to Browsing and Accessing Functionalities<br>in Plugin-Based Tools .....                  | 483 |
| <i>Alessandro Adamou, Valentina Presutti, and Aldo Gangemi</i>                                                      |     |
| Constructing Understandable Explanations for Semantic Search<br>Results .....                                       | 493 |
| <i>Björn Forcher, Thomas Roth-Berghofer, Michael Sintek, and<br/>Andreas Dengel</i>                                 |     |
| Ontology Engineering with Rough Concepts and Instances .....                                                        | 503 |
| <i>C. Maria Keet</i>                                                                                                |     |
| Building Large Lexicalized Ontologies from Text: A Use Case in<br>Automatic Indexing of Biotechnology Patents ..... | 514 |
| <i>Claire Nédellec, Wiktoria Golik, Sophie Aubin, and Robert Bossy</i>                                              |     |
| ReBEC: A Method for Capturing Experience during Software<br>Development Projects .....                              | 524 |
| <i>Gerardo Matturro and Andrés Silva</i>                                                                            |     |
| Reasoning by Analogy in the Generation of Domain Acceptable<br>Ontology Refinements .....                           | 534 |
| <i>Laura Moss, Derek Sleeman, and Malcolm Sim</i>                                                                   |     |
| Evaluations of User-Driven Ontology Summarization .....                                                             | 544 |
| <i>Ning Li and Enrico Motta</i>                                                                                     |     |

|                                                                                                   |     |
|---------------------------------------------------------------------------------------------------|-----|
| A Visualization Service for the Semantic Web .....                                                | 554 |
| <i>Sean M. Falconer, Chris Callendar, and Margaret-Anne Storey</i>                                |     |
| How Much Semantic Data on Small Devices? .....                                                    | 565 |
| <i>Mathieu d'Aquin, Andriy Nikolov, and Enrico Motta</i>                                          |     |
| A Semantic Approach for Learning Objects Repositories with<br>Knowledge Reuse .....               | 576 |
| <i>Isabel Azevedo, Rui Seiça, Adela Ortiz, Eurico Carrapatoso, and<br/>Carlos Vaz de Carvalho</i> |     |
| <b>Author Index</b> .....                                                                         | 587 |