A Summary of the Workshop and Tutorial Program at ESWC 2013

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Abstract. ESWC 2013 was held in Montpellier in May 2013 and the main program was preceded by two days of workshops and tutorials. This short report gives an overview of the 11 workshops and 7 tutorials that were attended by over 170 researchers before the start of the main conference, and describes the procedure adopted to select the proposals.

1 Introduction

The pre-conference program of ESWC 2013 was held on 26th and 27th of May, the two days preceding the main conference program. In the beautiful surroundings of the École Politechnique of the University of Montpellier 2, more than 170 registered participants spent two days on learning and discussing hot and upcoming topics relevant to the Semantic Web. There were 11 workshops and 7 tutorials, as well as the PhD symposium, the papers of which have appeared already in the main conference proceedings.

Acceptance of workshops and tutorials was decided on the basis of quality and relevance to ESWC. This selection resulted in a broad and varied program that covered many recent and emerging topics in Semantic Web research. There were two tutorials on newly proposed **standards**; one on *the W3C Provenance standard*, the other on the *R2RML and Direct Mapping Standards*. Three events focused on **infrastructure**, with the tutorial on *Semantic Data Management in Graph Databases* and the two workshops on *Benchmarking RDF Systems (BeRSys)* as well as another one on *Services and Applications over Linked APIs and Data* (SALAD). For quite some time up to now, analysing, mining and visualising have become core topics of interest in the community, and this year's preconference program had a highly visited tutorial on *Analyzing and Visualizing Linked Data with R (LODR2013)* as well as two workshops: *Knowledge Discovery and Data Mining meets Linked Open Data (Know@LOD)* and *Artifical Intelligence meets the Web of Data (AImWD)*. On the crossroad of Natural Language processing and data analysis there was a tutorial on *Cross-language text mining*.

The topics of **ontologies and reasoning** have traditionally had a strong presence at ESWC conferences, and 2013 has been no exception in this respect. With the *OWL: Experiences and Directions (OWLED)* a major two-day

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event was organised, in addition to the tutorial on *OWL plus Rules=.. ?* and a shorter workshop on *Debugging Ontologies and Ontology Mappings*. A newer addition to the conference program is work on **the Social Semantic Web** which contributed the workshop *Semantic Web Collaborative Spaces* and the tutorial *Crowdsourcing for the Semantic Web* to the program.

A great feature of this year's program was the upcoming of new **application domains** and work on **applications** of Semantic Technologies, nicely balanced with 4 workshops on *Usage Analysis and the Web of Data (USEWOD)*, *Biodiversity*, *Social Media and Linked Data for Emergency Response (SMILE)* and *Semantic Publications (SePublica)*.

2 Workshops

The members of the workshop program committee helped us to select the best out of 16 submitted proposals, and to create a rich and diverse workshop program. Five half-day workshops, four full-day workshops were held, as well as OWLED, which was held during both pre-conference days. Together, they offered participants the possibility to learn about state-of-the-art research, engage in lively discussions, and get in contact with colleagues from other institutions:

AImWD. *Artificial Intelligence meets the Web of Data* (Antonis Bikakis, Christophe Guéret, Dino Ienco, Francois Scharffe, Robert Tolksdorf and Serena Villata)

BeRSys. *Benchmarking RDF Systems* (Irini Fundulaki, Ioana Manolescu and Ioan Toma)

BioDiv. *Semantics for Biodiversity* (Pierre Larmande, Isabelle Mougenot, Clement Jonquet and Therese Libourel)

OWLED. *OWL Experiences and Directions* (Mariano Rodríguez-Muro, Simon Jupp and Kavitha Srinivas)

Know@LOD. *Knowledge Discovery and Data Mining meets Linked Open Data* (Jens Lehmann, Mathias Niepert, Heiko Paulheim, Harald Sack and Johanna Völker)

SALAD. *Services and Applications over Linked APIs and Data* (Maria Maleshkova, Craig Knoblock, Ruben Verborgh, and Steffen Stadtmüller)

SePublica. *Semantic Publications* (Alexander Garcia, Christoph Lange, Robert Stevens and Phillip Lord)

SMILE. *Social Media and Linked Data for Emergency Response* (Vitaveska Lanfranchi, Suvodeep Mazumdar, Eva Blomqvist and Christopher Brewster)

SWCS. *Semantic Web Collaborative Spaces* (Pascal Molli, John Breslin, Hideaki Takeda and Sebastian Schaffert)

USEWOD. *Usage Analysis and the Web of Data* (Bettina Berendt, Laura Hollink, Markus Luczak-Rösch, Knud Möller and David Valet)

WoDOOM. *Debugging Ontologies and Ontology Mappings* (Patrick Lambrix, Guilin Qi, Matthew Horridge and Bijan Parsia)

The high quality of the individual workshop programs is reflected by the selection of contributions in this volume. From a total of 19 papers proposed as best paper candidates by the workshop organizers, we selected 10 for being included in this ESWC post-proceedings volume. In addition, the authors of these papers received the opportunity to present their work in a lightning presentation at the main conference. The corresponding session was well attended and allowed people who had not been able to attend the pre-conference events to catch a glimpse on what they missed during the first two days.

We thank the members of the committee for their great support (Chris Bizer, Dieter Fensel, Aldo Gangemi, Asuncion Gomez Perez, Frank van Harmelen, Pascal Hitzler and Enrico Motta).

3 Tutorials

The tutorial program committee consisted of 8 senior researchers from different institutions and research areas. Based on recommendations of the program committee, the best proposals were selected. Five half-day and two full-day tutorials were held during both pre-conference days, offering a diverse program centered around some core technologies and methods for Semantic Web research and usage:

OWL Plus Rules = .. ? Organised by David Carral Martinez and Adila Alfa Krisnadhi (Kno.e.sis Center, Wright State University) and Matthias Knorr (CENTRIA, Universidade Nova de Lisboa), this tutorial introduced new developments to combine rule-based and ontology-based paradigms for modeling knowledge on the Semantic Web.

Crowdsourcing for the Semantic Web. This tutorial, presented by Elena Simperl (University of Southampton), Gianluca Demartini (University of Fribourg) and Maribel Acosta (AIFB Karlsruhe) described a selection of state-of-the-art methods in crowdsourcing research and their implementation in various platforms. It also analyzed the motivation and incentive mechanisms that are used in crowdsourcing-driven projects, and introduced guidelines and best practices.

Semantic Data Management in Graph Database. This tutorial, organised by Maria Esther Vidal, Edna Ruckhaus (Universidad Simon Bolivar, Venezuela), Maribel Acosta (Institute AIFB, Karlsruhe Institute of Technology) and Cosmin Basca (University of Zurich, Switzerland), described existing approaches to model graph databases and different techniques implemented in RDF and database engines. It introduced specific graph algorithms and discussed their applicability in the context of the Semantic Web as well as solutions that have been proposed in the context of the Semantic Web to manage large graphs.

RDB2RDF. This tutorial on the new R2RML and Direct Mapping Standards, presented by Juan F. Sequeda (University of Texas at Austin), Barry Norton (The University of Sheffield), Daniel P. Miranker (University of Texas) and

Maria Maleshkova (Karlsruhe Institute of Technology) introduced these. In particular, the suitability of each approach was characterized by both architectural concerns of the larger system, and the skill sets that exist in the supporting organizations.

Cross-Language Text. This tutorial, organised by Marta Ruiz Costa-Jussa (Universitat Politecnica de Catalunya (UPC, Barcelona)) and Patrik Lambert (Le Mans University), covered translation techniques used in several cross-language topics such as cross-language knowledge extraction or opinion mining, focusing on the use of semantic resources or contextual information for machine translation.

Getting to Know PROV - The W3C Provenance Specifications. This tutorial, presented by Paul Groth (VU University Amsterdam), Jun Zhao (University of Oxford) and Olaf Hartig (University of Waterloo), provided an in-depth dive into the new specifications including hands-on information on how to publish, query and access provenance information, and model provenance data using the PROV data model and ontology. It also showed how to produce provenance information that enables integrity checking and inferences, as well as how to expose and acquire provenance information using PROV access mechanisms and services.

LODR2013. This tutorial on Analyzing and Visualizing Linked Data with R 2013 was organised by Tomi Kauppinen (Aalto University) and Willem Robert van Hage (VU University Amsterdam) and introduced the idea and concepts about Linked Science, and showed via illustrative examples how to practically query and analyze Linked Data from within an R environment for visual and statistical analysis.

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