

The 19th International Conference on Knowledge Engineering and Knowledge Management

> 24-28 November, 2014 Linköping, Sweden



From the General Chairs

As general chairs we would like to welcome you to the first EKAW conference in a Nordic country. EKAW conferences are concerned with all aspects of eliciting, acquiring, modeling, and managing knowledge, and the construction of knowledge-intensive systems and services for various areas. The special focus of EKAW 2014 is *Diversity*.

The main scientific program comprises invited talks by Pascal Hitzler, Oscar Corcho and Arianna Betti. Further, there are 45 paper presentations from the research and in-use tracks as well as a poster and demonstration session. During the first two days of EKAW there are two tutorials, three workshops (EKM1, VISUAL2014 and ARCOE-Logic 2014) as well as a doctoral consortium. We thank the organizers of these events as well as the invited speaker Mathieu D'Aquin and the mentors for the PhD students in the doctoral consortium.

We would like to thank everyone who has been involved in the organization of EKAW 2014. Our PC chairs Krzysztof Janowicz and Stefan Schlobach, poster and demo chairs Guilin Qi and Uli Sattler, doctoral consortium chairs Chiara Ghidini and Ying Ding, workshop and tutorial chairs Eva Blomqvist and Valentina Presutti, web presence chairs Zlatan Dragisic and Valentina Ivanova, sponsorship chair Axel-Cyrille Ngonga Ngomo and local organization co-chair Henrik Eriksson did a great job. We also would like to thank the members of the local organization committe and in particular Karin Hendry as well as Tina Malmström from Grand Travel Group Sweden AB.

We thank the Semantic Web Journal for the great cooperation concerning a combined conference/journal submission track, where selected EKAW papers receive a fast track submission for extended versions of their papers. We also thank our publisher Springer for the excellent cooperation. The proceedings of the main conference are published as volume 8876 in the LNAI series. Also an EKAW satellite events volume containing poster, demonstration, doctoral consortium and tutorial papers as well as revised best papers of the workshops will be published as a post-conference proceedings in the LNAI series.

We are grateful to our sponsors Linköping University, Aalto University, Vetenskapsrådet, Linköpings kommun as well as our award sponsor IOS Press.

Finally, thank you for participating in EKAW 2014 and we wish you an excellent conference.

Patrick Lambrix Eero Hyvönen

From the Program Chairs

A warm welcome to EKAW 2014 also from us program chairs. For almost a year we have been working hard together with the other members of the organization committee to make this year's conference an exciting scientific event.

We would like to thank the authors for the large number of high quality submissions and the program committee for their strong support and timely reviews. All papers received at least 3 reviews, which means that more than 100 colleagues from all over the world provided between 5 and 6 reviews each during the summer break. They deserve a special thanks for their effort and great work. Representative for those, Matthew Horridge, Matteo Palmonari, and Aidan Hogan deserve a special mentioning for their particularly excellent reviews and will be awarded the best EKAW 2014 reviewer award. Finally, several /emergency/ reviewers helped us by providing additional last minute reviews. Representative for those, we would like to mention Wouter Beek here who provided several high quality reviews on short notice.

Out of 138 submissions, 45 got accepted either as full papers (24), short papers (17), or position papers (4). We are especially glad to report that 45 papers were submitted to the combined journal/conference track, for which the reviews and papers were publicly available on the Web. From these papers, 7 were accepted for submission to a fast-track process at the Semantic Web Journal. Three papers are nominated for the EKAW's Best Research Paper award which has been sponsored by IOS Press.

Krzysztof Janowicz Stefan Schlobach

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Patrick Lambrix Eero Hyvönen

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Linköping University, Sweden

STLab ISTC-CNR, Italy

University of California, USA Vrije Universiteit Amsterdam, The Netherlands

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Demo & Posters Chairs

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Doctoral Consortium Chairs

Ying Ding Chiara Ghidini

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Program Committees

Research Track

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Poster and demonstrations

Stefan Dietze Tudor Groza Stuart Wrigley Miriam Fernandez Christopher Thomas Boris Villazón-Terrazas Matthew Horridge Pascal Molli

Doctoral Consortium

Sören Auer Eva Blomqvist Stefano Borgo Elena Cabrio Michelle Cheatham Paolo Ciancarini Oscar Corcho Mauro Dragoni Aldo Gangemi Mathieu d'Aquin Nicolas Matentzoglu Liang Chang Bernhard Schandl Pierre-Antoine Champin Alessandro Adamou Hala Skaf-Molli Haofen Wang Yue Ma

Giancarlo Guizzardi Maria Keet Juanzi Li Diana Maynard Marco Rospocher Satya Sahoo Guus Schreiber Vojtech Svatek Valentina Tamma Jun Zhao

Program

Monday, November 24 - room Sonaten

Workshop - VISUAL: International Workshop on Visualizations and User Interfaces

for Knowledge Engineering and Linked Data Analytics

09.15 - 09.25	Opening
09.25 - 10.30	Session 1: Ontology Visualization (Session Chair: Valentina Ivanova)
09.25 - 09.50	A Vision for Diagrammatic Ontology Engineering (full paper) Gem Stapleton, John Howse, Adrienne Bonnington and Jim Burton
09.50 - 10.15	OntoViBe – An Ontology Visualization Benchmark (full paper) Florian Haag, Steffen Lohmann, Stefan Negru and Thomas Ertl
10.15 - 10.30	Discussion Session 1
10.30 - 11.00	Coffee Break
11.00 - 12.30	Session 2: User-Oriented Ontology Alignment (Session Chair: Steffen Lohmann)
11.00 - 11.20	What Can the Ontology Describe? Visualizing Local Coverage in PURO Modeler (short paper) Marek Dudas, Tomas Hanzal and Vojtech Svatek
11.20 - 11.45	User Involvement for Large-Scale Ontology Alignment (full paper) Valentina Ivanova and Patrick Lambrix
11.45 - 12.00	Discussion Session 2
12.00 - 12.30	Wrap Up Sessions 1 + 2
12:30 - 14.00	Lunch Break
14.00 - 15.00	Session 3: Visual Approaches to Linked Data (Session Chair: Valentina Ivanova)
14.00 - 14.25	Sensemaking on Wikipedia by Secondary School Students with SynerScope (full paper) Willem Robert Van Hage, Fernando Nunez-Serrano, Thomas Ploeger and Jesper Hoeksema
14.25 - 14.45	Towards a Visual Annotation Tool for End-User Semantic Content Authoring (short paper) Torgeir Lebesbye and Ahmet Soylu
14.45 - 15.00	Discussion Session 3
15.00 - 15.30	Coffee Break
15.30 - 17.00	Session 4: Demo Jam (Session Chair: Steffen Lohmann)
15.30 - 16.30	Impromptu demos (everyone is invited to join and present)
16.30 - 17.00	Wrap Up Sessions 3 + 4

Monday, November 24 - room Solot

Tutorial - K4D: Managing and sharing knowledge in rural parts of the world

09.00 - 09.45	Session 1 Scenarios: Knowledge Sharing for developing countries
09.45 - 10.30	Session 2
	Challenges and solutions: Knowledge Sharing in development practice
10:30 - 11.00	Coffee Break
11.00 - 11.45	Session 3
	K(E/A/M)4D: Enabeling Knowledge for Empowerment?
11.45 - 12.30	Session 4
	Development Informatics

Workshop - EKM1: The 1st International Workshop on Educational Knowledge Management

13.30 - 13.35	Welcome
13.35 - 15.05	Paper presentations
13.35 - 14.05	Discovering Educational Potential Embedded in Community Question Answering
	Ivan Srba and Mária Bieliková
14.05 - 14.35	An Agent Based Approach to Annotate Ideas during Creativity Challenges in an Engineering School of Innovatior
	Davy Monticolo, T. K. Chang and Inaya Lahoud
14.35 - 15.05	Generating Multiple Questions From Ontologies: How Far Can We Go?
	Tahani Alsubait, Bijan Parsia, Uli Sattler

Tuesday, November 25 - room Sonaten

Workshop - ARCOE-Logic: The 6th International Workshop on Acquisition,

Representation and Reasoning about Context with Logic

09.30 - 12.30	Paper presentations
09.30 - 10.00	Knowledge Propagation in Contextualized Knowledge Repositories: an Experimental Evaluation
	Loris Bozzato and Luciano Serafini
10.00 - 10.30	Adding Context to Knowledge and Action Bases
10.00 - 10.30	Diego Calvanese, Ismail Ilkan Ceylan, Marco Montali and Ario Santoso
10.00 - 10.30	Coffee Break
10.20 11.00	Different types of conflicting knowledge in AmI environments
10.30 - 11.00	Martin Homola and Theodore Patkos
11.00 - 11.30	Reasoning for Improved Sensor Data Interpretation in a Smart Home
	Marjan Alirezaie and Amy Loutfi
12.00 - 12.30	Context-aware Analytics in MOM Applications
	Martin Ringsquandl, Steffen Lamparter and Raffaello Lepratti

Doctoral Consortium

13.30 - 14.15	Welcome and invited talk
	Invited speaker: Mathieu d'Aquin
	"The many ways of research in semantic technologies"
14.15 - 16.45	Full presentations (15' talk + 10' feedback)
14.15 - 14.40	Linked Data Cleansing and Change Management
14.15 - 14.40	Magnus Knuth (mentor Martin Homola)
14.40 - 15.05	Versatile Visualization, Authoring and Reuse of Ontological Schemas Leveraging on Dataset
14.40 - 15.05	Marek Dudas (mentor Valentina Tamma)
15.05 - 15.30	Coffee Break
15.30 - 15.55	Towards Ontology Refinement by Combination of Machine Learning and Attribute
15.50 - 15.55	Jędrzej Potoniec (mentor Mathieu d'Aquin)
15.55 - 16.20	RDF based management, syndication and aggregation of web content
15.55 - 10.20	Niels Ockeloen (mentor Marco Rospocher)
16.20 - 16.45	Culture-aware music similarity measures
10.20 - 10.45	Gopala Krishna Koduri (mentor Alessio Palmonari)
16.45 - 17.05	Short presentations (10' talk + 10' feedback)
16.45 - 17.05	Assessing the spatio-temporal Fitness of Information Supply and Demand on an Adaptive Ship Bridge
10.45 - 17.05	Christian Denker (mentor Anna Perini)

Tuesday, November 25 - room Solot

Tutorial - Language Resources and Linked Data

09.00 - 09.10	Welcome and introduction
09.10 - 09.30	Session 1: Foundations
09.30 - 10.30	Session 2: Modelling lexical resources on the Web of Data: the lemon model (intro)
10:30 - 11.00	Coffee Break
11.00 - 11.45	Session 2: Modelling lexical resources on the Web of Data: the lemon model (hands-on)
11.45 - 12.30	Session 3: Methodology and tools for Multilingual Linked Data generation (intro + hands-on)
12:30 - 13.30	Lunch Break
13.30 - 14.00	Session 3: Methodology and tools for Multilingual Linked Data generation (hands-on)
14.00 - 15.00	Session 4: Integrating NLP with Linked Data and RDF: the NIF format (intro + hands-on)
15.00 - 15.30	Coffee Break
15.30 - 15.45	Session 4: Integrating NLP with Linked Data and RDF: the NIF format (hands-on)
15.45 - 17.00	Session 5. Multilingual Word Sense Disambiguation and Entity Linking on the Web based on BabelNet (intro + hands-on)

Wednesday, November 26 - room Operan

Main Conference - Day 1

08.30 - 09.00	Registration
09.00 - 09.20	Opening ceremony
09.20 - 10.20	Keynote: Pascal Hitzler (Session Chair: Krzysztof Janowicz)
	"Ontology Design Patterns for Large-Scale Data Interchange and Discovery"
10.20 - 10.50	Break
10.50 - 12.10	Session 1: Knowledge and Data Integration (Session Chair: Frank van Harmelen)
10.50 - 11.10	Pay-As-You-Go Multi-User Feedback Model for Ontology Matching
	Isabel Cruz, Matteo Palmonari, Francesco Loprete, Cosmin Stroe and Aynaz Taheri
11.10 - 11.30	Querying the Global Cube: Integration of Multidimensional Datasets from the Web
	Benedikt Kämpgen, Steffen Stadtmüller and Andreas Harth
11.30 - 11.50	A Dialectical Approach to Selectively Reusing Ontological Correspondences
	Terry Payne and Valentina Tamma
11.50 - 11.57	Feasibility of Automated Foundational Ontology Interchangeability
	Zubeida Khan and C. Maria Keet
11.57 - 12.04	aLDEAS: a Language to Define Epiphytic Assistance Systems
	Blandine Ginon, Stéphanie Jean-Daubias, Pierre-Antoine Champin and Marie Lefevre Information Flow within Relational Multi-context Systems
12.04 - 12.11	Luís Cruz-Filipe, Graca Gaspar and Isabel Nunes
12.10 - 13.30	Lunch
13.00 - 13.30	Ice Hockey 101
13.30 - 15.00	Session 2: Semantics (Session Chair: Oscar Corcho)
15.50 - 15.00	Temporal Semantics: time-varying hashtag sense clustering
13.30 - 13.50	Paola Velardi and Giovanni Stilo
	What is Linked Historical Data?
13.50 - 14.10	Albert Meroño-Peñuela and Rinke Hoekstra
	Uncovering the semantics of Wikipedia wikilinks
14.10 - 14.30	Valentina Presutti, Sergio Consoli, Andrea Giovanni Nuzzolese, Diego Reforgiato, Aldo Gangemi, Ines Bannour and Haïfa
	Zarqayouna
44.20 44.50	Inferring Semantic Relations by User Feedback
14.30 - 14.50	Francesco Osborne and Enrico Motta
1450 1457	Feeling the Pulse of Linked Data
14.50 - 14.57	Laurens Rietveld and Rinke Hoekstra
15.00 - 15.15	Break
15.15 - 16.00	Minute Madness: Demos and Posters
16.00 - 18.00 Nibbles	Posters and Demos Session
18:00	Extra social event (ice hockey game)

Thursday, November 27 - room Operan

Main Conference - Day 2

09.00 - 09.15	Registration
09.15 - 9.20	Announcements
09.20 - 10.20	Keynote: Oscar Corcho (Session Chair: Eero Hyvönen)
09.20 - 10.20	"Ontology engineering for and by the masses: are we already there?"
10.20 - 10.40	Break
10.40 - 12.10	Session 3: Knowledge Engineering: Applications (Session Chair: Eva Blomqvist)
10.40 - 11.00	A Core Ontology of Macroscopic Stuff C. Maria Keet
11.00 - 11.20	On the collaborative development of application ontologies: a practical case study with a SME Marco Rospocher, Elena Cardillo, Ivan Donadello and Luciano Serafini
44.00 44.00	Futures Studies Methods for Knowledge Management in Academic Research
11.20 - 11.30	Sabine Kadlubek, Stella Schulte-Cörne, Florian Welter, Anja Richert and Sabina Jeschke
11.30 - 11.50	A Hybrid Semantic Approach to Building Dynamic Maps of Research Communities
11.50 - 11.50	Francesco Osborne, Giuseppe Scavo and Enrico Motta
	A knowledge driven approach towards the validation of externally acquired traceability datasets in supply chain business
11.50 - 12.10	processes (In-Use track)
	Monika Solanki and Christopher Brewster
12.10 - 13.20	Lunch
13.20 - 14.20	Session 4: Ontologies: usage and visualisation (Session Chair: Mathieu d'Aquin)
13.20 - 13.40	VOWL 2: User-Oriented Visualization of Ontologies
13.20 - 13.40	Steffen Lohmann, Stefan Negru, Florian Haag and Thomas Ertl
13.40 - 14.00	Roadmapping and Navigating in the Ontology Visualization Landscape
13.40 14.00	Marek Dudas, Ondrej Zamazal and Vojtěch Svátek
14.00 - 14.07	Using ontologies - understanding the user experience
1100 1107	Paul Warren, Paul Mulholland, Trevor Collins and Enrico Motta
14.07 - 14.14	Measuring similarity in ontologies: a new family of measures
	Tahani Alsubait, Bijan Parsia and Uli Sattler
14.14 - 14.21	Question Generation from a Knowledge Base (In-Use track)
	Vinay Chaudhri, Peter Clark, Aaron Spaulding and Adam Overholtzer
14.20 - 14.40	Short Break
14.40 - 16.10	Session 5: Reasoning, Inference and Search (Session Chair: Chiara Ghidini)
14.40 - 15.00	Inconsistency Monitoring in a Large Scientific Knowledge Base
	Vinay Chaudhri, Rahul Katragadda, Jeff Shrager and Michael Wessel
15.00 - 15.20	Adaptive Knowledge Propagation in Web Ontologies (Best Paper nominee)
	Pasquale Minervini, Claudia D'Amato, Nicola Fanizzi and Floriana Esposito
15.20 - 15.40	Relationship-based Top-K Concept Retrieval for Ontology Search Anila Sahar Butt, Armin Haller and Lexing Xie
	Testing OWL Axioms Against RDF Facts: A possibilistic approach based on falsifiability
15.40 - 15.47	Andrea Tettamanzi, Catherine Faron Zucker and Fabien Gandon
	Automating Cross-Disciplinary Defect Detection in Multi-Disciplinary Engineering Environments
15.47 - 15.54	Olga Kovalenko, Estefania Serral, Marta Sabou, Fajar J. Ekaputra, Dietmar Winkler and Stefan Biffl
15.54 - 16.01	Methods of Using Partial Data in Disambiguating Web Tables Ziqi Zhang
	Logical Detection of Invalid SameAs Statements in RDF Data
16.01 - 16.08	Laura Papaleo, Nathalie Pernelle, Fatiha Sais and Cyril Dumont
16.15 - 17.00	Town Hall
17.15 - 22.45	Dinner
17.15	Bus leaves for Norrköping
22.45	Bus leaves for Linköping
22.75	

Friday, November 28 - room Operan

Main Conference - Day 3

09.00 - 09.15	Registration
09.15 - 09.30	Announcements
09.30 - 10.30	Keynote: Arianna Betti (Session Chair: Stefan Schlobach)
05100 10100	"Concepts in Motion"
10.30 - 11.00	Break
11.00 - 12.20	Session 6: Knowledge Extraction and Learning (Session Chair: Valentina Presutti)
11.00 - 11.20	Relation Extraction from the Web using Distant Supervision (Best Paper nominee)
	Isabelle Augenstein, Diana Maynard and Fabio Ciravegna Adaptive Concept Vector Space Representation using Markov Chain Model
11.20 - 11.30	Zenun Kastrati and Ali Shariq Imran
	Tackling the Class-Imbalance Learning Problem in Semantic Web Knowledge Bases
11.30 - 11.50	Giuseppe Rizzo, Claudia D'Amato, Nicola Fanizzi and Floriana Esposito
44.50 44.57	Inductive Lexical Learning of Class Expressions
11.50 - 11.57	Lorenz Bühmann, Daniel Fleischhacker, Jens Lehmann, Andre de Oliveira Melo and Johanna Völker
11.57 - 12.04	Automatic ontology population from a product catalog
11.57 12.04	Céline Alec, Chantal Reynaud-Delaître, Brigitte Safar, Zied Sellami and Uriel Berdugo
12.04 - 12.11	Closed-World Concept Induction for Learning in OWL Knowledge Bases
	David Ratcliffe and Kerry Taylor Using event spaces, setting and theme to assist the interpretation and development of museum stories
12.11 - 12.18	Paul Mulholland, Annika Wolff, Eoin Kilfeather and Evin McCarthy
12.20 - 13.30	Lunch
13.30 - 15.00	Session 7: Knowledge Engineering: Methods (Session Chair: Eero Hyvönen)
	A Conceptual Model for Detecting Interactions among Medical Recommendations in Clinical Guidelines
13.30 - 13.50	Veruska Zamborlini, Marcos Da Silveira, Cédric Pruski, Rinke Hoekstra, Annette Ten Teije and Frank Van Harmelen
	A Quality Assurance Workflow for Ontologies based on Semantic Regularities
13.50 - 14.10	Eleni Mikroyannidi, Manuel Quesada-Martínez, Dmitry Tsarkov, Jesualdo Tomas Fernandez Breis, Robert Stevens and Ignazio
	Palmisano
14.10 - 14.30	Ontology Design Pattern Property Specialisation Strategies
	Karl Hammar Functional Logic Programming for Web Knowledge Representation, Sharing and Querying
14.30 - 14.40	Matthias Nickles
	The uComp Protege Plugin: Towards Embedded Human Computation for Ontology Engineering
14.40 - 15.00	Florian Hanika, Gerhard Wohlgenannt and Marta Sabou
15.00 - 15.20	Short Break
15.20 - 16.35	Session 8: Linked Data (Session Chair: Stefan Schlobach)
15.20 - 15.40	Quantifying the bias in data links
15.20 15.40	Ilaria Tiddi, Mathieu D'Aquin and Enrico Motta
15.40 - 16.00	A Neural Network-based Approach for Linked Data Rules Aggregation (Best Paper nominee)
	Ilaria Tiddi, Mathieu D'Aquin and Enrico Motta
16.00 - 16.20	Personalised Access to Linked Data Milan Dojchinovski and Tomas Vitvar
	Using Linked Data to diversify search results: a case study in cultural heritage
16.20 - 16.27	Chris Dijkshoorn, Lora Aroyo, Jan Wielemaker and Guus Schreiber
16.27 16.24	Integrating Know-How into the Linked Data Cloud
16.27 - 16.34	Paolo Pareti, Benoit Testu, Ryutaro Ichise, Ewan Klein and Adam Barker
16.35 - 17.15	Closing
10.33 - 17.15	closing

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