November 11–15 Boston, USA

The 11th International Semantic Web Conference

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ISWC 2013 is the premier international forum for the Semantic Web / Linked Data Community. Here, scientists, industry specialists, and practitioners meet to discuss the future of practical, scalable, user-friendly, and game changing solutions.

Paper Submissions:	May, 2013
Doctoral Submissions:	May, 2013
Tutorial Proposals:	May, 2013
Workshop Proposals:	March, 2013
Posters & Demos:	July, 2013

Harbour Bridge, Sydney

The ISWC will be held in Australia's leading business events venue, the Sydney Convention and Exhibition Centre, which is superbly located on the **Darling Harbour waterfront**, adjacent to the bustling Sydney central business district.

General Chair	Chris Welty, IBM Research
Vice Chair	Dimitrios Georgakopoulos, CSIRO
Local Chair	Kerry Taylor, CSIRO
Local Organisers	Armin Haller, CSIRO Renate Hays, CSIRO Maxine Sherrin, Web Directions
Program Chairs	Harith Alani, KMI Lalana Kagal, MIT
In-Use Track	Paul Groth, VU Amsterdam Aditya Kalyanpur, IBM Research
Industry Track	Eric Franzon, WebMediaBrands Glenn Wightwick, IBM Research Mary-Anne Williams, UTS
Posters and Demos	Eva Blomqvist , Linköping University Tudor Groza , University of Queensland
Doctoral Consortium	Lora Aroyo , VU Amsterdam Natasha Noy , Stanford University
Workshops / Tutorials	Ben Johnston, UTS Marta Sabou, MODUL University Vienna
Sponsorship Chairs	Pascal Hitzler, Wright State University Anni Rowland-Campbell, Fuji Xerox
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WELCOME TO THE INTER-NATIONAL SEMANTIC WEB CONFERENCE IN BOSTON!

Dear ISWC Participant,

It is my great pleasure to welcome you to the Eleventh International Semantic Web Conference – the major international forum where the latest research results and technical innovations on all aspects of the Semantic Web and Linked Data are presented. This past year has been incredibly exciting with regards to developments. In particular in practice, we see adoption of Semantic Web/Linked Data like technology by both large corporations in their product lines and smaller companies that offer custom tailored solutions. An ever increasing number of people are using software that is relying on technology invented by our community. This is an incredible success that bears witness to the vibrancy of the community and its ability to balance research rigor with practical relevance.

ISWC 2012 will kick off the second decade of this our community's flagship conference and we, therefore, tried to take our goals to the next level. As always, the conference will start with workshops and tutorials. This year we will have 18 workshops that will pave the way with groundbreaking discussions about what will be important in the future and 8 tutorials that introduce crucial advances in our and related fields. In addition, the Code for Science data-thon will provide a platform to show what you can do in good of science.

If you are a student, then there are two events you will not want to miss: the Doctoral Consortium on Monday, where senior researchers of the field will provide practical advice on how to improve their research and the Mentoring Lunch, a fun and informative event where you can get answers to many questions on how to go about your research career in an informal discussion with senior members of the community from both research and practice. The main conference will begin on Tuesday. In addition to the traditional program items – including three keynote talks; presentations of the papers accepted to the research and in-use tracks; an industry track; poster presentations and demos; and the Semantic Web Challenge – we added the evaluation and experiments track, where detailed experimentation and analysis of key challenges are in the focus.

How will our community meet the challenge of the Data Tsunami? In the Big Graph Data Panel Sir Tim Berners-Lee, John Gianandera, Frank van Harmelen, Michael Stonebreaker, and Bryan Thompson will discuss their ideas in how we can address the upcoming challenges.

Putting together such a massive event requires an outstanding and hard-working team. I owe all members of the Organizing Committee my gratitude for doing such an excellent job. If you see them in the hallways please take a minute and thank them too. They invested scores of hours of hard volunteer work into making ISWC 2012 happen. I would like to especially thank Lalana Kagal, without whose dedicated work this conference would have never come together.

But now: Please fasten your seatbelts and get ready for the ride of the year as ISWC 2012 is about to kick off. I hope you will enjoy the conference and the interactions with the amazing and interesting people that you will meet here!

Avi Bernstein General Conference Chair, ISWC 2012



KEY

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SYMBOLS

WOR	Workshops
TUT	Tutorials
RES	Research Track
EVA	Evaluations and Experiments Track
USE	In use Track
IND	Industry Track
KEY	Keynotes
P/D	Poster/Demo
PAN	Panel
DOC	Doctoral Consortium
OTH	Other Events
2	Session Chair

IN USE PAPERS

Eight papers have been marked as spotlight (*) papers. These papers have been highlighted for one or more of the following reasons: they offer a viewpoint that is different from most Semantic Web research, they were papers that generated interesting debates among the reviewers, or they were among the best papers as determined by the senior program committee.

ORGANIZATION

General Chair	Abraham Bernstein, University of Zurich
Local Chair	Lalana Kagal, MIT
Program Chairs	Philippe Cudré-Mauroux, University of Fribourg Jeff Heflin, Lehigh University
In Use Track Chairs	Tania Tudorache, Stanford University Evren Sirin, Clark&Parsia
Evaluation Track Chairs	Manfred Hauswirth, DERI, NUI Galway Jérôme Euzenat, INRIA & LIG Josiane Xavier Parreira, DERI, NUI Galway
Industry Track	Tim Berners-Lee, W3C Tom Heath, Talis Ivan Herman, W3C
Doctoral Consortium	Guus Schreiber, VU University Amsterdam Jim Hendler, RPI
Fellowship Chair	Jennifer Golbeck, University of Maryland
Posters and Demos	David Huynh, Google Birte Glimm, University of Ulm
Workshops and Tutorials	Claudia d'Amato, University of Bari Thomas Scharrenbach, University of Zurich
Semantic Web Challenge	Diana Maynard, University of Sheffield Andreas Harth, KIT

Sponsorship Chairs	Peter Mika, Yahoo! Research David Wood, 3roundstones
Metadata Chair	Li Ding, RPI
Webmaster	Stéphane Corlosquet, MGH
Proceedings Chair	Eva Blomqvist, Linköping University
Publicity Chair	Oshani Seneviratne, MIT

SPONSORING ORGANIZATION



SATURDAY

CODE FOR SCIENCE LINKED DATA-THON

OTH Saturday, November 10

MIT Stata Center

The world is changing fast and so is Elsevier. To build and deploy future research tools we need to seriously collaborate in a linked and distributed environment. Building on earlier developer events such as Executable Paper Challenge, Life Sciences Challenge and Apps for Science, Elsevier and the 11th International Semantic Web Conference are co-hosting CodeForScience Boston, a competition for building a tool that best extends how scientific researchers search, process, integrate and share. The application concept formulation and submission will take place online, followed by a live coding day on Saturday, November 10th at MIT Stata Center in Cambridge, MA.

Prizes will be awarded. Registration for CodeForScience Boston will open in early October.

SUNDAY

FIRST WORKSHOP ON PROGRAMMING THE SEMANTIC WEB

WOR Sunday, November 11, 9.00–12.30/14.00–17.30

Cabot

The Semantic Web is growing at an enormous pace. However, the development of semantic web software applications is not yet mainstream. Reasons for that include one (or more) of the following research issues: lack of integrated development environments (IDEs, such as Visual Studio and Eclipse), poor programming language support, lack of standard testbeds and/or benchmarks, inadequate training, and perhaps the need for curricula revision. Properly addressing these issues requires interdisciplinary skills, and the collaboration between academia and industry.

The First Workshop on Programming the Semantic Web invites submissions that explore the gap between today's semantic web challenges, particularly the ones related to dealing with large amounts of data, with the lack of adequate tools. We are looking for contributions that discuss, promote and further advance the programming facet of the semantic web, including the development of new languages, extension of existing ones, and the inclusion of semantic enabled capabilities into existing IDEs.

Organizers

Karin Breitman (EMC R&D Brazil) Steffen Staab (University of Koblenz-Landau) Evelyne Viegas (Microsoft Research) Jan Vitek (Purdue University)

Website

http://www.inf.puc-rio.br/~psw12/

THE 7TH INTERNATIONAL WORKSHOP ON ONTOLOGY MATCHING

WOR Sunday, November 11, 9.00–12.30/14.00–17.30 Statler

Ontology matching is a key interoperability enabler for the Semantic Web, as well as a useful tactic in some classical data integration tasks dealing with the semantic heterogeneity problem. It takes the ontologies as input and determines as output an alignment, that is, a set of correspondences between the semantically related entities of those ontologies. These correspondences can be used for various tasks, such as ontology merging, data translation, query answering or navigation on the web of data. Thus, matching ontologies enables the knowledge and data expressed in the matched ontologies to interoperate.

Organizers

Pavel Shvaiko (TasLab, Informatica Trentina) Jérôme Euzenat (INRIA) Anastasios (Tasos) Kementsietsidis (IBM Research) Ming Mao (SAP Labs) Natasha Noy (Stanford Center for Biomedical Informatics Research) Heiner Stuckenschmidt (University of Mannheim)

Website

http://om2012.ontologymatching.org/

8TH INTERNATIONAL WORKSHOP ON UNCERTAINTY REASON-ING FOR THE SEMANTIC WEB

WOR Sunday, November 11, 9.00–12.30/14.00–17.30 Cambridge

This workshop will discuss different approach to deal with uncertainty (in a wide sense) in the Semantic Web. Uncertainty is an unavoidable factor in several processes, such as knowledge interchange and application interoperability, and Semantic Web data, which are usually incomplete, inconsistent, and inaccurate. This suggests the need to apply different formalisms (probability, fuzzy logic, decision theory etc.) to enrich Semantic Web technologies and applications.

Organizers

Fernando Bobillo (Universidad de Zaragoza) Rommel N. Carvalho (George Mason University) Paulo Costa (George Mason University) Nicola Fanizzi (University of Bari) Kathryn Laskey (George Mason University) Thomas Lukasiewicz (University of Oxford) Matthias Nickles (Technical University of Munich)

Website

http://c4i.gmu.edu/ursw/2012

WHAT WILL THE SEMANTIC WEB LOOK LIKE 10 YEARS FROM NOW?

WOR Sunday, November 11, 9.00–12.30/14.00–17.30 White Hill

The Semantic Web, as a field, is undergoing a major shift. After 10 years of mainly foundations-driven research, we now see strong indicators that Semantic Web methods are entering mainstream technology, in a number of forms. The consequent rise in commercial interest will likely have a fundamental impact on the field. Some established research results will make it into mainstream applications. Others will become obsolete. Radically new ideas will emerge. It is thus the right time for the community to contemplate the way ahead. In this workshop, we will provide an exciting forum for the discussion of the future of the Semantic Web. Researchers and practitioners from all corners of the field are invited to provide their insights and projections. The event will focus on discussions and the exchange of ideas, and will use a mix of different styles of interaction between the participants. It is always good to try to look ahead and anticipate the development of a field. For the Semantic Web, it is now particularly important because recent developments indicate that Semantic Web technologies are entering the industrial mainstream. Schema.org and the Facebook Open Graph Protocol are bringing metadata to bear on the Web large-scale. IBM's Watson and Apple's Siri incorporate Semantic Technologies. Google is revamping its search approach and is going more semantic in implementing their knowledge graph. And these are just a few of the prominent examples. The commercial uptake will be a game-changer for the field. It seems that only a fraction of the research results of the past ten years are currently being picked up. It seems that shallow semantics brings added value in many, but not all, application areas. In others it seems that there are roadblocks for which deep semantics is required for added value - but current approaches are still limited. Linked Data and Big Data are popular buzzwords right now, but could they be hitting a peak on the expectation curve? If so, what is going to happen in the subsequent dive? If not, how will those areas affect the field's future? In this workshop, we intend to bring together researchers from all corners of the broader Semantic Web community, to share and discuss projections of the way ahead in Semantic Web technologies and knowledge engineering in general.

Organizers

Frank van Harmelen (Vrije Universiteit Amsterdam) James A. Hendler (RPI) Pascal Hitzler (Wright State University) Krzysztof Janowicz (UC Santa Barbara) Denny Vrandecic (AIFB, Karlsruhe Institute of Technology)

Website

http://stko.geog.ucsb.edu/sw2022/

JOINT WORKSHOP ON SCALABLE AND HIGH-PERFORMANCE SEMANTIC WEB SYSTEMS

WOR Sunday, November 11, 9.00–12.30/14.00–17.30 Stuart

The 2012 Joint Workshop on Scalable and High-Performance Semantic Web Systems (SSWS+HPCSW 2012) focuses on addressing the scalability issue with respect to the development and deployment of systems on the Semantic Web. Typically, such systems deal with information described in Semantic Web languages like OWL and RDF(S), and provide services such as storing, reasoning, guerying, analysis, etc. There are two basic requirements for these systems. First, they have to satisfy an application's semantic requirements. Second, they must scale well in order to be of practical use. Given the sheer size and distributed nature of the Semantic Web, these requirements impose new challenges beyond those addressed by previous systems. This joint workshop consists of two tracks regarding scalability: one for knowledge base systems, and another for high-performance computing. We expect that the issue of scalability is going to challenge the Semantic Web for a long period of time and significant effort is needed in order to tackle the problem. This joint workshop seeks to bring together researchers and practitioners to share their recent ideas and progress towards building scalable systems for the Semantic Web; participants from related disciplines such as Supercomputing, and High-Performance Computing, Artificial Intelligence, Databases, Information Integration, are welcome.

Organizers

Achille Fokoue (IBM research) Thorsten Liebig (Ulm University) Eric Goodman (Sandia National Laboratories) Jesse Weaver (RPI) Jacopo Urbani (Vrije Universiteit Amsterdam) David Mizell (YarcData)

Website

http://tw.rpi.edu/ssws.hpcsw.2012/index.html

INTERNATIONAL WORKSHOP ON SEMANTIC TECHNOLOGIES MEET RECOMMENDER SYSTEMS & BIG DATA

WOR Sunday, November 11, 9.00–12.30

St. James

More and more semantic data are published following the Linked Data principles, that enable to set up links between objects in different data sources, by connecting information in a single global data space: the Web of Data. Today, Web of Data includes different types of knowledge represented in a homogeneous form: sedimentary one (encyclopedic, cultural, linguistic, common-sense) and real-time one (news, data streams, ...). This data might be useful to interlink diverse information about users, items, and their relations and implement reasoning mechanisms that can support and improve the recommendation process.

The challenge is to investigate whether and how this large amount of wide-coverage and linked semantic knowledge can be automatically introduced into systems that perform tasks requiring human-level intelligence. Examples of such tasks include understanding a health problem in order to make a medical decision, or simply deciding which laptop to buy. Recommender systems support users exactly in those complex tasks.

The primary goal of the workshop is to showcase cutting edge research on the intersection of Semantic Technologies and Recommender Systems, by taking the best of the two worlds. This combination may provide the Semantic Web community with important real-world scenarios where its potential can be effectively exploited into systems performing complex tasks.

Organizers

Marco de Gemmis (University of Bari) Tommaso Di Noia (Technical University of Bari) Pasquale Lops (University of Bari) Thomas Lukasiewicz (University of Oxford) Giovanni Semeraro (University of Bari)

Website

http://sisinflab.poliba.it/sersy2012/

RDF QUERY PROCESSING IN THE CLOUD

TUT	Sunday, November 11, 9.00–12.30/14.00–17.30	Charles River
2	Presenters: Kemafor Anyanwu, Padmashree Ravindra	

Cloud computing platforms such as Amazon's EC2 and Hadoop have had significant adoption as large scale data processing platforms. Their attraction is the possibility of fault-tolerant execution and elastic scaling up or down of resources based on user requirements with minimal administrative burden to users. The rapid surge in volume of available RDF data has sharpened focus on the issue of large scale processing of RDF, making RDF query processing in the cloud an important topic. RDF data processing in the cloud requires considerations about appropriate storage models and computing environments and the impact of their underlying assumptions on RDF's schema-last and join-intensive workloads. Some example considerations are the absence of indexes and statistics usually relied on by traditional query optimization techniques and the heavy materialization in runtime execution environments such as Hadoop vs. pipelined execution plans used in traditional data processing systems.

This tutorial will cover RDF query processing in the cloud, particularly MapReduce execution platforms such as Hadoop. It will overview the basics of cloud computing and cloud data storage systems, optimization issues and the state-of-the-art in RDF query optimization for cloud systems. It will also discuss future directions and open issues in query optimization for MapReduce environments.

LL-NLP TUTORIAL: WHAT TO DO WITH LONG LITERALS? ASK THE NLP COMMUNITY ...

TUT	Sunday, November 11, 9.00 – 12.30/14.00 – 17.30	Beacon Hill
2	Presenter: Caroline Barrière	

In this tutorial, we will start with the basics of natural language processing (NLP) and will explain different levels of analysis (segmentation, morphology, lexicon, syntax, semantic). We will then look at the specific tasks involved in mining sentences to extract resource description framework (RDF) triples and show the importance that each level of language analysis can play in such tasks. NLP researchers have been working on such tasks for many years and have developed many algorithms to perform part-of-speech tagging, parsing, semantic disambiguation, named entity recognition and relation extraction. We will present baseline algorithms for these tasks to show expected results from state-of-the-art research. As many algorithms use machine learning (ML) techniques, we will provide a simple introduction to the aims and general principles behind such techniques and explain why they are so important to the NLP community. We will also explore problems that arise when extracting knowledge from multiple sentences and how that is closely related to concept mapping problems, which are familiar to the semantic web community. Since fully automatic text mining is guite a difficult task, we will emphasize that semi-automatic approaches can be effective and viable solutions for facilitating the RDFization of textual data.

WEB OF LINKED ENTITIES

Most of the knowledge available on the Web is encoded in natural language texts or Web documents aimed primarily at human consumption. A promising approach to have programmatic access to such knowledge uses information extraction techniques that aim to extract machine readable structures from free texts, from which it is possible to retrieve entities and categories. These entities can potentially be linked to each other, creating de facto a global knowledge graph of linked entities.

The WoLE2012 workshop envisions the Web as a Web of Linked Entities (WoLE), which transparently connects the World Wide Web (WWW) and the Giant Global Graph (GGG) using methods from Information Retrieval (IR) and Natural Language Processing (NLP). The focus of this workshop is to bring together the Information Retrieval, Semantic Web and NLP communities. The primary goal is to strengthen research techniques that provide access to textual information published on the Web to further improve the adoption of Semantic Web technology.

Organizers

Giuseppe Rizzo (EURECOM) Pablo Mendes (Freie Universität Berlin) Eric Charton (CRIM) Sebastian Hellmann (AKSW) Aditya Kalyanpur (IBM)

Website

http://wole2012.eurecom.fr/

3RD WORKSHOP ON THE MULTILINGUAL SEMANTIC WEB

WOR Sunday, November 11, 14.00–17.30 St. James

The vision of the Multilingual Semantic Web workshop series is the creation of a Semantic Web where semantically structured information can be aligned, integrated and used across languages. The workshops are concerned with research questions on how current Semantic Web infrastructure can and should be extended to support this vision.

Ontologies and linked data vocabularies are defined often in one language only (English), with a biased semantics and a corresponding world view. An infrastructure should be in place for defining ontologies and vocabularies in multiple languages with a transparent semantics across them. Current Semantic Web representation languages (RDF, OWL, SKOS) are limited in regard of the representation of natural language semantics, leaving much of the semantics hidden in textual web content out of scope for the developing Web of Data.

NLP and machine learning for Linked Data can benefit from exploiting linguistic resources such as annotated corpora, Wordnets etc. if they are themselves formally represented and linked by use of Linked Data principles. In addressing such research questions, the workshop aims at providing a forum for researchers at the intersection of NLP, multilingual information access, Linked Data and the Semantic Web to exchange ideas on realizing the Multilingual Semantic Web.

Organizers

Paul Buitelaar (DERI) Philipp Cimiano (University of Bielefeld) James Pustejovsky (Brandeis University) Felix Sasaki (DFKI) David Lewis (Trinity College Dublin)

Website

http://msw3.deri.ie/

MACHINE LEARNING ON LINKED DATA: TENSORS AND THEIR APPLICATIONS IN GRAPH-STRUCTURED DOMAINS

TUT	Sunday, November 11, 14.00 – 17.30	Alcott
2	Presenters: Maximilian Nickel, Volker Tresp	

Machine learning has become increasingly important in the context of Linked Data as it is an enabling technology for many important tasks such as link prediction, information retrieval or group detection. The fundamental data structure of Linked Data is a graph. Graphs are also ubiquitous in many other fields of application, such as social networks, bioinformatics or the World Wide Web. Recently, tensor factorizations have emerged as a highly promising approach to machine learning on graph-structured data, showing both scalability and excellent results on benchmark data sets, while matching perfectly to the triple structure of RDF. This tutorial will provide an introduction to tensor factorizations and their applications for machine learning on graphs. By the means of concrete tasks such as link prediction we will discuss several factorization methods indepth and also provide necessary theoretical background on tensors in general. Emphasis is put on tensor models that are of interest to Linked Data, which will include models that are able to factorize large-scale graphs with millions of entities and known facts or models that can handle the open-world assumption of Linked Data. Furthermore, we will discuss tensor models for temporal and sequential graph data, e.g. to analyze social networks over time.

SEMANTIC WEB RULES: FUNDAMENTALS, APPLICATIONS, AND STANDARDS

TUT	Sunday, November 11, 14.00 – 17.30	Lexington
2	Presenters: Benjamin Grosof, Mike Dean, Michael Kifer	

The area of semantic rules is perhaps the most important frontier today for the Semantic Web's core technology and standards. Recent progress includes major initial industry standards from W3C and OMG, and fundamental advances in the underlying knowledge representation techniques in declarative logic programs, including most recently for efficient higher-order defaults with sound integration of first order logic ontologies (OWL). Recent progress also includes methods to use rules for, or with, more expressive OWL ontologies; increasing integration of rules with guery/search in SPARQL and relational databases: substantive translations between heterogeneous types of commercial rule engines; development of open-source tools for inferencing and interoperability; performance benchmarking of rule systems; a wide range of emerging applications including in business, science, and trust; and accelerating industry investments/acquisitions in the technology including by integrated software companies such as Oracle, IBM, and Microsoft. This tutorial will provide a comprehensive and up-to-date introduction to these developments and to the fundamentals of the key technologies and outstanding research issues involved. It will explore example application scenarios, overall requirements and challenges, and touch upon business/social value and strategy considerations.

MONDAY

3RD INTERNATIONAL WORKSHOP ON CONSUMING LINKED DATA

WOR Monday, November 12, 9.00 – 12.30 / 14.00 – 17.30 White Hill

The quantity of published Linked Data is increasing dramatically. However, applications that consume Linked Data are not yet widespread. Current approaches lack methods for seamless integration of Linked Data from multiple sources, dynamic discovery of available data and data sources, provenance and information guality assessment, application development environments, and appropriate end user interfaces. Addressing these issues requires well-founded research, including the development and investigation of concepts that can be applied in systems which consume Linked Data from the Web. Following the success of the 1st and the 2nd International Workshop on Consuming Linked Data, we organize the third edition of this workshop in order to provide a platform for discussion and work on these open research problems. The main objective is to provide a venue for scientific discourse - including systematic analysis and rigorous evaluation - of concepts, algorithms and approaches for consuming Linked Data.

Organizers

Olaf Hartig (Humboldt-Universität zu Berlin) Andreas Harth (AIFB, Karlsruhe Institute of Technology) Juan Sequeda (University of Texas)

Website

http://km.aifb.kit.edu/ws/cold2012/

5TH INTERNATIONAL TERRA COGNITA WORKSHOP 2012

WOR Monday, November 12, 9.00 – 12.30/14.00 – 17.30 Charles River

The wide availability of technologies such as GPS, map services and social networks has resulted in the proliferation of geospatial data on the Web. In addition to material produced by professionals (e.g., maps), the public has also been encouraged to make geospatial content, including their geographical location and a record of their outdoor activities, available online. The volume of such user-generated geospatial content is constantly growing. Similarly, the amount of data extracted from the Web and published as Linked Open Data is increasing. Linked Open Data include many data sets with geospatial properties such as coordinates, feature class or topological relations.

The geo-referencing of Web resources and users has given rise to various services and applications that exploit it. With the location of users being made available widely, new issues such as those pertaining to security and privacy arise. Likewise, emergency response, context sensitive user applications, and complex GIS tasks all lend themselves toward solutions that combine both the Geospatial Web and the Semantic Web.

The workshop will bring together researchers and practitioners from various disciplines, as well as interested parties from industry and government, to advance the frontiers of this exciting research area.

Organizers

Dave Kolas (Raytheon BBN Technologies) Matthew Perry (Oracle) Rolf Grütter (Swiss Federal Institute for Forest, Snow and Landscape Research) Manolis Koubarakis (National and Kapodistrian University of Athens)

Website

http://www.strabon.di.uoa.gr/terracognita/

2ND JOINT WORKSHOP ON KNOWLEDGE EVOLUTION AND ONTOLOGY DYNAMICS

WOR Monday, November 12, 9.00 – 12.30/14.00 – 17.30 Cambridge

EvoDyn 2012 continues the tradition of EvoDyn 2011 and the IWOD workshop series in being the core annual event to discuss advances in the broad area of ontology dynamics, and to track recent work directly or indirectly related to the problem of evolving knowledge. The workshop focuses on analysis of trends and change in formal descriptions, but also in associated raw sources of knowledge (scientific publications, unstructured or semi-structured Web content, traditional data stores, e-mail or on-line discussion threads, etc.). We are especially interested in research targeted on various states of knowledge evolution, such as (a) conflicts, (b) consolidation, (c) discovery, (d) paradigm shifts, and (e) breakthroughs. We would like to trigger a comprehensive and coherent approach to studying the process of knowledge evolution by bringing together researchers and practitioners from the following fields: (i) Data mining and knowledge discovery in dynamic resources; (ii) Ontology dynamics and versioning; (iii) Trend analysis (in multiple applications, including internet search, corpus evaluation, etc.); (iv) Natural Language Processing (evolution of terminology, language use, semantics); (v) Knowledge Representation (temporal ontologies, temporal logics, belief revision, etc.); (vi) Discourse Analysis and Philosophy of Science (the definition and understanding of what particular phases of the knowledge evolution are, and how can we delimit, identify or even trigger them).

Organizers

Tudor Groza (The University of Queensland) Dimitris Plexousakis (University of Crete) Vit Novacek (DERI)

Website

http://www.ontologydynamics.org/od/index.php/evodyn2012

5TH INTERNATIONAL WORKSHOP ON SEMANTIC SENSOR NETWORKS

WOR Monday, November 12, 9.00 – 12.30/14.00 – 17.30 Stuart

The workshop aims to provide an inter-disciplinary forum to explore and promote the technologies related to a combination of semantic web and sensor networking. Specifically, to develop an understanding of the ways semantic web technologies can contribute to the growth, application and deployment of large-scale sensor networks on the one hand, and the ways that sensor networks can contribute to the emerging semantic web, on the other.

Organizers

Cory Henson (Knoesis) Kerry Taylor (Australian National University) Oscar Corcho (Universidad Politécnica de Madrid) Amit Sheth (Knoesis) Manfred Hauswirth (DERI)

Website

http://knoesis.org/ssn2012/

THE 2ND INTERNATIONAL WORKSHOP ON LINKED SCIENCE 2012 — TACKLING BIG DATA

WOR Monday, November 12, 9.00–12.30/14.00–17.30 St. James

Scientific communication has traditionally relied upon publications and presentations, with an estimate of millions of publications worldwide per year; the growth rate of PubMed alone is now 1 paper per minute. The results described in these articles are often backed by large amounts of diverse data produced by complex experiments, computer simulations, and observations of physical phenomena. Because of this avalanche of data, it is increasingly hard to validate, reproduce, reuse and leverage scientific data. In addition, although publications, methods and datasets are very related, they are not easily accessible and interlinked. The notable exception is omics research where journals require deposit of sequences in databanks as a condition of publication. Even where data is discoverable and accessible, significant challenges remain in data reuse and sharing, in facilitating the necessary correlation, integration and synthesis of data across levels of theory, techniques and disciplines.

In the 2nd International Workshop on Linked Science (LISC2012) we will discuss and present results of new ways of publishing, sharing and linking scientific data together, and reasoning over such data to discover interesting new links to validate research. The theme of this year's workshop will focus on research addressing these issues with respect to big data. Big Data is loosely characterized by the size and/ or number of individual files, the number of represented variables, a range of physical scales, a range of scientific disciplines, hetero-geneous metadata and data formats, in short data that cannot easily be accessed and manipulated from a thumb-drive.

Organizers

Tomi Kauppinen (University of Münster) Line C. Pouchard (Oak Ridge National Laboratory) Carsten Keßler (University of Münster)

Website

http://linkedscience.org/events/lisc2012/

JOINT WORKSHOP ON SEMANTIC TECHNOLOGIES APPLIED TO BIOMEDICAL INFORMATICS AND INDIVIDUALIZED MEDICINE

WOR Monday, November 12, 9.00 – 12.30/14.00 – 17.30 Franklin

The Joint Workshop on Semantic Technologies Applied to Biomedical Informatics and Individualized Medicine, co-located with the 11th International Semantic Web Conference, will bring together researchers, developers and practitioners actively applying Semantic technologies to Biological and Medical Informatics problems.

The workshop aims to attract researchers from Computer Science, Information Science, Biomedicine, Bioinformatics, and related areas to share research challenges, results, methods and advances in the appliance of Semantic Web technologies to two domains within Clinical and Translational research – bioinformatics and individualized medicine.

Organizers

González Alejandro Rodríguez (University Carlos III of Madrid) Jyotishman Pathak (Mayo Clinic College of Medicine) Mark Wilkinson (Centre for Plant Biotechnology and Genomics) Nigam Shah (Stanford Center for Biomedical Informatics Research) Robert Stevens (University of Manchenster) Richard Boyce (University of Pittstburgh) Crespo Angel García (University Carlos III of Madrid)

Website

http://nadir.uc3m.es/satbi+swim2012/

JOINT WORKSHOP ON LARGE AND HETEROGENEOUS DATA AND QUANTITATIVE FORMALIZATION IN THE SEMANTIC WEB

WOR Monday, November 12, 9.00 – 12.30

Back Bay

One part of this workshop (LHD) is designed to bring together people from different fields working in the area of dynamic matching, interpretation, and integration of heterogeneous data, so that ideas, techniques and problems can be shared and discussed in a broad context. A key part of this workshop is bringing together those from industry and government as well as those from academia. In order to interact successfully in an open and heterogeneous environment, being able to dynamically and adaptively integrate data from other systems "on the go" is necessary. This may not be a precise process but a matter of finding a good enough understanding to allow interaction to proceed successfully. With the advent of the Web, there are massive amounts of information available online that can assist in this task, but this information is often chaotically organised, stored in a wide variety of data-formats, and difficult to interpret.

The other part of this workshop (SemQuant) aims to unlock a new paradigm in Semantic Web research, and even in KR research in general, by adding a quantitative research paradigm to the traditionally predominant qualitative logic-based paradigm. This is motivated in part by the significant growth in Semantic Web data, including ontologies and Linked Data, over recent years. To efficiently manage the vast quantities of knowledge and data on the Semantic Web, we need theories and tools to address questions like:

- How can we measure knowledge?
- How are these measurements different from measurements of information?
- How can we efficiently store knowledge?
- How can we efficiently and accurately transform knowledge on noisy channels like the Web?
- How can we measure the quality of ontologies and other forms of knowledge?
- How can we determine the quality of approximate methods for inference, similarity, soundness, completeness, etc.?
- How can such quantitative formalization help the engineering and realization of the Semantic Web?

Organizers

Fiona McNeill (University of Edinburgh) Harry Halpin Andriana Gkaniatsou (University of Edinburgh) Mike Dean (Raytheon BBN Technologies) James Hendler (Rensselaer Polytechnic Institute) Frank van Harmelen (Vrije Universiteit Amsterdam) Jie Bao (Samsung Information Systems America)

Website

http://dream.inf.ed.ac.uk/events/lhd-12/index.html (LHD) http://asio.bbn.com/semquant2012/ (SemQuant)

3RD WORKSHOP ON ONTOLOGY PATTERNS

WOR	Monday, November 12, 9.00 – 12.30	Statler
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The Workshop on Ontology Patterns is an arena for sharing ideas, innovations, and novel research results concerning patterns for semantic technologies. Patterns for ontology engineering is a large part, but we also welcome reports on other kinds of knowledge and data patterns, design patterns for Semantic Web applications, as well as best practices in general. Patterns need to be shared by a community in order to provide a common language, and to stimulate pattern usage and development – therefore we hope to see you at WOP to discuss your patterns!

Organizers

Aldo Gangemi (Semantic Technology Laboratory) Eva Blomqvist (Linköping University) Mari Carmen Suárez-Figueroa (Universidad Politécnica de Madrid) Karl Hammar (Jönköping University)

Website

http://ontologydesignpatterns.org/wiki/WOP:2012

LINKED DATA FOR DEVELOPMENT (LD4D)

TUT	Monday, November 12, 9.00 – 12.30/14.00 – 17.30	Beacon Hill
2	Presenters: Christophe Guéret, Stefan Schlobach, Victor	de Boer,
	Walter Bender, Bernie Innocenti	

Linked Data have by-and-large been designed around centralized, powerful Web servers and the (mobile) clients accessing them. As a direct consequence of these design decisions, the usage of data-sharing technologies depends on the availability of a Web infrastructure comprised of data-centers, high-speed, reliable Internet connections, and modern client devices. Four-billion people currently have no access to such an infrastructure and are thus deprived of the benefits Linked (Open) Data provides.

This tutorial will show how the design principles and technologies of Linked Data can be adapted to distributed networks, and thus contribute to closing this "digital data divide". Join us to learn how not to forget the majority of the world population when thinking of the potential users of Linked Data and discuss the challenges this represents for the research community.

DOCTORAL CONSORTIUM PROGRAM

The ISWC 2012 Doctoral Consortium will take place as part of the 11th International Semantic Web Conference in Boston, US. This forum will provide PhD students an opportunity to share and develop their research ideas in a critical but supportive environment, get feedback from mentors who are senior members of the Semantic Web research community, explore issues related to academic and research careers, and build relationships with other Semantic Web PhD students from around the world.

The Consortium aims to broaden the perspectives and improve the research and communication skills of these students as a way to contribute both to the individuals as well as to the broader research community.

ACCEPTED LONG PAPERS

DOC Monday, November 12, 09.00–12.30/14.00–17.30

Whittier

Nitish Aggarwal Cross Lingual Semantic Search by Improving Semantic Similarity and Relatedness Measures

Chris Baillie Quality Reasoning in the Semantic Web

Valentina Maccatrozzo Burst the Filter Bubble: Using Semantic Web to Enable Serendipity

Sara Magliacane Reconstructing Provenance

Raghava Mutharaju Very Large Scale OWL Reasoning through Distributed Computation

Laurens Rietveld Replication for Linked Data

Dezhao Song Scalable and Domain-Independent Entity Coreference: Establishing High Quality Data Linkages Across Heterogeneous Data Sources

ACCEPTED SHORT PAPERS

DOC Monday, November 12, 09.00 – 12.30 / 14.00 – 17.30 Whittier

Rehab Albeladi

Distributed Reasoning on Semantic Data Streams

Thomas Bosch

Reusing XML Schemas' Information as a Foundation for Designing Domain Ontologies

Bojan Bozic

A Multi-Domain Framework for Community Building Based on Data Tagging

Enrico Daga Towards a theoretical foundation for the harmonization of linked data

Andrea Giovanni Nuzzolese

Knowledge Pattern Extraction and their usage in Exploratory Search

Mikko Rinne SPARQL Update for Complex Event Processing

Jennifer Sleeman Online Unsupervised Coreference Resolution for Semi-Structured Heterogeneous Data

Steffen Stadtmüller Composition of Linked Data-based RESTful Services

ISWC 2012 TUTORIAL: THE WEB OF DATA FOR E-COMMERCE IN BRIEF

TUT	Monday, November 12, 9.00 – 12.30	Lexington
2	Presenters: Martin Hepp, Alex Stolz, Laszlo Török	

A Hands-on Introduction to the GoodRelations Ontology, Schema. org, RDFa and Microdata Authoring, Google Rich Snippets for Products, Yahoo, Bing, and Linked Open Commerce.

The Good Relations ontology (http://purl.org/goodrelations/) is one huge success story of applying Semantic Web technology to business challenges. In this tutorial, we will (1) give a comprehensive overview and hands-on training on the conceptual structures of the GoodRelations ontology including patterns for ownership and demand, (2) present the full tool chain for producing and consuming GoodRelations-related data, (3) explain the long-term vision of linked open commerce, (4) describe the main challenges for future research in the field, and (5) discuss advanced topics, like access control, identity and authentication (e.g. with WebID); micropayment services (like Payswarm), and data management issues from the publisher and consumer perspective.

GETTING TO KNOW PROV - THE W3C PROVENANCE SPECIFICATIONS

TUT	Monday, November 12, 9.00 – 12.30	Alcott
\mathbf{R}	Presenters: Paul Groth, Luc Moreau, Jun Zhao, Timothy Lebo	

Provenance (the origin or source) of information is critical in deciding whether information is to be trusted, how it should be integrated with other diverse information sources, and how to give credit to its originators when reusing it. In order to promote the widespread publication of provenance information on the Web, the W3C is producing the W3C PROV set of specifications. These specifications provide a basis for the common exchange of provenance information on the Web. This half-day tutorial provides you with an in depth dive into these specifications including hands on information on how to publish, query and access provenance information. You will learn how to model your provenance data using the PROV data model and ontology, 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.

KNOWLEDGE EXTRACTION AND CONSOLIDATION FROM SOCIAL MEDIA

WOR Monday, November 12, 14.00 – 17.30

This workshop aims to gather innovative approaches for knowledge extraction and consolidation from unstructured social media,

Back Bav

in particular from degraded user-generated content (text, images, video) such as tweets, blog posts, forums and user-generated visual media. KECSM will gather novel works from the fields of (a) data analysis and knowledge extraction, and (b) data enrichment, interlinking and consolidation. It will equally consider the application perspective, such as the innovative use of extracted knowledge to navigate, explore or visualise previously unstructured and disparate Web content. The workshop will provide a highly interactive forum for researchers in the fields of semantic and social Web, text mining and NLP, multimedia data analysis, clustering and integration, and ontology and data mapping.

Organizers

Diana Maynard (University of Sheffield) Stefan Dietze (L3S Research Center) Wim Peters (University of Sheffield) Jonathon Hare (University of Southampton)

Website

http://blogs.ecs.soton.ac.uk/knowledgeextraction/

DETECTION, REPRESENTATION, AND EXPLOITATION OF EVENTS IN THE SEMANTIC WEB

WOR Monday, November 12, 14.00 – 17.30

The goal of this workshop is to strengthen the participation of the semantic web community in the recent surge of research on the use of events as a key concept for representing knowledge and organising and structuring media on the web. The workshop invites contributions to three central themes: event detection, event representation, and event exploitation. Its goal is to formulate answers to questions in these themes that advance and reflect the current state of understanding. Each submission will be expected to address at least two themes explicitly, if possible including a system demonstration. This year, we specifically invite contributions that address both event and conversation semantics in multimedia and social media.

Organizers

Marieke Van Erp (VUA) Laura Hollink (VUA) Willem Robert Van Hage (VUA) Raphael Troncy (EURECOM: School of Engineering & Research Center) David Shamma (Yahoo! Research Silicon Valley)

Website

http://semanticweb.cs.vu.nl/derive2012

Statler

SCALABLE SEMANTIC PROCESSING OF HUGE, DISTRIBUTED REAL-TIME STREAMS: SEMANTICS BETWEEN EVENT PROCESSING AND CLOUD COMPUTING

Monday, November 12, 14.00–17.30

Alcott

Presenters: Opher Etzion, Francoise Baude,

Nenad Stojanovic, Ljiljana Stojanovic

TUT

Processing of real-time data streams has become a very important mechanism in many application areas: Smart cities, Smart grid, eHealth, to name but a few. Although semantic technologies have been recognized as one of very important enablers for this type of applications, there are still several challenges to be resolved in order to apply them in real-world applications. Two most important challenges are: an expressive guery language that enables the description of complex situations to be detected (considering real-time and historical data) and an efficient asynchronous retrieval mechanism for the large distributed data streams. Beside elaborating on the importance of these challenges for the real-time aware applications, in this tutorial we give an overview of existing approaches for the semantic processing of real-time streams and present a novel approach based on the recent development in two emerging research areas, Complex Event Processing, that enables an efficient in memory processing of huge real-time data and Cloud Computing, that supports an elastic storage of enormous data volumes.

Two studies will be demonstrated:

We will show conceptual and technical details of the public-available Platform PLAY, that realizes presented approach. We will demonstrate its usage through two applications that combine real-time events coming from Smartphone (geo position, incoming/outgoing/ missing calls), Social media (Facebook wall updates and recent tweets) and real-time sensors. The approach for writing semantic adapters for new event sources and semantic patterns to be detected in event streams will be introduced. Since modeling of complex situations to be detected is time-consuming and error-prone activity, we will present a methodology (and corresponding tools) for business users with lightweight technical skills to define, evolve and manage relevant business situations where a timely action is of paramount importance. We will demonstrate the application of the methodology for Active support and real-time coordination based on Event Processing in open source software development (ALERT) by considering real-time events coming from issue tracking systems, source code management systems, discussion forums, mailing lists, Wikis, etc.

TUESDAY

THE SEMANTIC WEB AND COLLECTIVE INTELLIGENCE

KEY Tuesday, November 13, 08.30-10.30

MIT

Imperial



Thomas Malone

Thomas W. Malone from MIT's Sloan School of Management has been confirmed as the first keynote speaker for ISWC 2012. Tom heads the Center for Collective Intelligence at MIT, where he investigates how new organizations can be designed to take advantage of the possibilities provided by information technology. Tom's more recent research work studies the future or work and, in particular, the transformative capabilities of collective intelligence.

The original vision of the Semantic Web was to encode semantic content on the web in a form with which machines can reason. But in the last few years, we've seen many new Internet-based applications (such as Wikipedia, Linux, and prediction markets) where the key reasoning is done, not by machines, but by large groups of people.

This talk will show how a relatively small set of design patterns can help understand a wide variety of these examples. Each design pattern is useful in different conditions, and the patterns can be combined in different ways to create different kinds of collective intelligence. Building on this foundation, the talk will consider how the Semantic Web might contribute to - and benefit from - these more human-intensive forms of collective intelligence.

LINKED DATA

RES Tuesday, November 13, 11.00 – 12.30 Georgian Session Chair: Tom Heath

On the Diversity and Availability of Temporal Information in Linked Open Data

Anisa Rula, Palmonari Matteo, Andreas Harth, Steffen Stadtmüller and Andrea Maurino

Rapidly Integrating Services into the Linked Data Cloud Mohsen Taheriyan, Craig Knoblock, Pedro Szekely and José Luis Ambite

Link Discovery with Guaranteed Reduction Ratio in Affine Spaces with Minkowski Measures Axel-Cyrille Ngonga Ngomo

DESCRIPTION LOGIC

RES

Tuesday, November 13, 11.00 – 12.30	
Session Chair: Pascal Hitzler	

* The Not-So-Easy Task of Computing Class Subsumptions in OWL RL Markus Krötzsch

MORe: Modular Combination of OWL Reasoners for **Ontology Classification**

Ana Armas. Bernardo Cuenca Grau and Ian Horrocks

Concept-Based Semantic Difference in Expressive Description Logics

Rafael S. Gonçalves, Bijan Parsia and Ulrike Sattler



Plaza

INFRASTRUCTURE

USE Tuesday, November 13, 11.00 – 12.30 Session Chair: Tudor Groza

Statler

ourSpaces – Design and Deployment of a Semantic Virtual Research Environment

Peter Edwards, Edoardo Pignotti, Alan Eckhardt, Kapila Ponnamperuma, Chris Mellish, Thomas Bouttaz

Using SPARQL to Query BioPortal Ontologies and Metadata

Manuel Salvadores, Matthew Horridge, Paul Alexander, Ray W. Fergerson, Mark A. Musen, Natasha F. Noy

Managing the life-cycle of Linked Data with the LOD2 Stack

Sören Auer, Lorenz Bühmann, Christian Dirschl, Orri Erling, Michael, Hausenblas, Robert Isele, Jens Lehmann, Michael Martin, Pablo Mendes, Bert van Nuffelen, Claus Stadler, Sebastian Tramp and Hugh Williams

SEARCH, QUESTION ANSWERING AND ENTITY SUMMARIZATION

EVA	Tuesday, November 13, 11.00–12.30	Arlington
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Session Chair: Manfred Hauswirth

Evaluating Semantic Search Query Approaches with Expert and Casual Users

Khadija Elbedweihy, Stuart Wrigley and Fabio Ciravegna

Evaluation of a Layered Approach to Question Answering over Linked Data

Sebastian Walter, Christina Unger, Philipp Cimiano and Daniel Bär

Evaluating Entity Summarization Using a Game-Based Ground Truth

Andreas Thalhammer, Magnus Knuth and Harald Sack

USER INTERFACES AND PERSONALIZATION

RES	Tuesday, November 13, 14.00 – 15.30	Plaza
2	Session Chair: Natasha Noy	

* Semantic Enrichment by Non-Experts: Usability of Manual Annotation Tools

Annika Hinze, Ralf Heese, Markus Luczak-Rösch and Adrian Paschke

*** Personalised Graph-based Selection of Web APIs** Milan Dojchinovski, Jaroslav Kuchar, Tomas Vitvar and Maciej Zaremba

Collaborative Filtering by Analyzing Dynamic User Interests Modeled by Taxonomy

Makoto Nakatsuji, Yasuhiro Fujiwara, Toshio Uchiyama and Hiroyuki Toda

QUERIES

RES	Tuesday, November 13, 14.00–15.30	Georgian

Session Chair: Maria-Esther Vidal

Efficient Execution of Top-k SPARQL Queries

Sara Magliacane, Alessandro Bozzon and Emanuele Della Valle

Cost Based Query Ordering over OWL Ontologies Ilianna Kollia and Birte Glimm

Hybrid SPARQL queries: fresh vs. fast results Jürgen Umbrich, Marcel Karnstedt, Aidan Hogan and Josiane Xavier Parreira

EVALUATION OF REASONING WITH ONTOLOGIES

Arlington

EVA	Tuesday, November 13, 14.00–15.30

Session Chair: Jérôme Euzenat

Evaluation of Techniques for Inconsistency Handling in OWL 2 QL Ontologies

Riccardo Rosati, Marco Ruzzi, Mirko Graziosi and Giulia Masotti

Extracting Justifications from BioPortal Ontologies Matthew Horridge, Bijan Parsia and Ulrike Sattler

Tag Recommendation for Large-Scale Ontology-Based Information Systems

Roman Prokofyev, Alexey Boyarsky, Oleg Ruchayskiy, Karl Aberer, Gianluca Demartini and Philippe Cudré-Mauroux

eGOV AND SMART CITIES

U	SE	Tuesday, November 13, 14.00 – 15.30	Statler
	R	Session Chair: Tom Heath	

QuerioCity: A Linked Data Platform for Urban Information Management

Vanessa Lopez, Spyros Kotoulas, Marco Luca Sbodio, Martin Stephenson, Aris Gkoulalas-Divanis, Pol Mac Aonghusa

Trentino government linked open geo-data: a case study

Pavel Shvaiko, Feroz Farazi, Vincenzo Maltese, Alexander Ivanyukovich, Veronica Rizzi, Daniela Ferrari, Giuliana Ucelli

Linking Smart Cities Datasets with Human Computation – the case of UrbanMatch

Irene Celino, Simone Contessa, Marta Corubolo, Daniele Dell'Aglio, Emanuele Della Valle, Stefano Fumeo, Thorsten Krueger

KNOWLEDGE DISCOVERY

RES	Tuesday, November 13, 16.00 – 17.30	Plaza
2	Session Chair: Jens Lehmann	

Automatic typing of DBpedia entities Aldo Gangemi, Andrea Giovanni Nuzzolese, Valentina Presutti, Francesco Draicchio, Alberto Musetti and Paolo Ciancarini

Who will follow whom? Exploiting Semantics for Link Prediction in Attention-Information Networks Matthew Rowe, Milan Stankovic and Harith Alani

Feature LDA: a Supervised Topic Model for Automatic Detection of Web API Documentations from the Web Chenghua Lin, Yulan He, Carlos Pedrinaci and John Domingue

FEDERATED AND STREAM QUERY PROCESSING

EVA	Tuesday, November 13, 16.00 – 17.30	Arlingtor
•	Session Chair: Josiane Xavier Parreira	

Linked Stream Data Processing Engines: Facts and Figures

Danh Le Phuoc, Minh Dao-Tran, Minh-Duc Pham, Peter Boncz, Thomas Eiter and Michael Fink

Benchmarking Federated SPARQL Query Engines: Are Existing Testbeds Enough?

Gabriela Montoya, Maria-Esther Vidal, Oscar Corcho, Edna Ruckhaus and Carlos Buil-Aranda

APPLICATIONS

USE	Tuesday, November 13, 16.00–17.30	Statler
•	Session Chair: Peter Mika	

Special Session: schema.org

Peter Mika, Alexander Shubin

Applying Semantic Web Technologies for Diagnosing Road Traffic Congestions Freddy Lecue, Anika Schumann, Marco Sbodio

Toward an ecosystem of LOD in the field: LOD content generation and its consuming service

Takahiro Kawamura

POSTER, DEMO, AND SWC MINUTE MADNESS

In this session, authors of a submission to the posters and demonstration track as well as the Semantic Web Challenge provide a 1 minute teaser for their poster or demo. This year, we have an exciting mix of submissions treating questions such as "How can we interact efficiently with Linked Data?", "How can we visualize data in the Semantic Web?" or "How can we query and analyze Semantic Web data?".

JOURNAL WORKSHOP SESSION

OTH Tuesday, November 13, 16:00 – 17:30 Berkley/Clarendon

Workshop participants will discuss sketches of their papers with editors and editorial board members of the top Semantic Web journals as well as other workshop participants. The goal is to help attendees to turn the sketches into successful submissions and avoid common stumbling blocks.

People who wish to participate will be asked to submit a paper sketch (see cfp). The accepted sketches will be read by the editors and the other chosen participants prior the workshop. Prior to the workshop, participants whose sketches have been accepted to will receive one to three other sketches to read and review. During the workshop, participants will meet in small groups which includes an editorial board member. During this discussion, participants will receive specific feedback on the possible issues to address in order to turn the sketch into a possibly successful submission.

Selection for the Journal Workshop Session is competitive. Papers currently under review or revision are excluded.

P/D Tuesday, November 13, 18.30 – 21.00

Imperial

- 1 **ourSpaces A Semantic Virtual Research Environment** Peter Edwards, Edoardo Pignotti, Alan Eckhardt, Kapila Ponnamperuma, Chris Mellish and Thomas Bouttaz
- 2 Demonstrating Blank Node Matching and RDF/S Comparison Functions Christina Lantzaki, Yannis Tzitzikas and Dimitris Zeginis
- 3 **TwikiMe! User profiles that make sense** Patrick Siehndel and Ricardo Kawase
- 4 Semantic Vernacular System: an Observation-based, Community-powered, and Semantics-enabled Naming System for Organisms Han Wang, Nathan Wilson, Kathryn Dunn and

Deborah L. McGuinness

5 Demo: Efficient Human Attention Detection in Museums based on Semantics and Complex Event Processing Yongchun Xu, Nenad Stojanovic, Ljiljana Stojanovic and Tobias Schuchert

DEMO & POSTER

P/D Tuesday, November 13, 18.30 – 21.00

Imperial

- Mining Patterns from Clinical Trial Annotated Datasets by Exploiting the NCI Thesaurus Joseph Benik, Guillermo Palma, Louiqa Raschid, Andreas Thor and Maria-Esther Vidal
- 2 **The Linked Data Visualization Model** Josep Maria Brunetti Fernández, Sören Auer and Roberto Garcia
- 3 QAKiS: an Open Domain QA System based on Relational Patterns

Elena Cabrio, Julien Cojan, Alessio Palmero Aprosio, Bernardo Magnini, Alberto Lavelli and Fabien Gandon

- 4 DiscOU: A Flexible Discovery Engine for Open Educational Resources Using Semantic Indexing and Relationship Summaries Mathieu D'Aquin, Carlo Allocca and Trevor Collins
- 5 SPARQLoid a Querying System using Own Ontology and Ontology Mapings with Reliability Takahisa Fujino and Naoki Fukuta
- 6 Simplifying MIREOT; a MIREOT Protege Plugin Josh Hanna, Chen Cheng, Alex Crow, Roger Hall, Jie Liu, Tejaswini Pendurthi, Trent Schmidt, Steven Jennings, Mathias Brochhausen and William Hogan
- 7 **Browsing Causal Chains in a Disease Ontology** Kouji Kozaki, Hiroko Kou, Yuki Yamagata, Takeshi Imai, Kazuhiko Ohe and Riichiro Mizoguchi
- 8 Real Time Fire Monitoring Using Semantic Web and Linked Data Technologies

Kostis Kyzirakos, Manos Karpathiotakis, George Garbis, Charalampos Nikolaou, Konstantina Bereta, Michael Sioutis, Ioannis Papoutsis, Themistoklis Herekakis, Dimitrios Michail, Manolis Koubarakis and Charis Kontoes

- 9 Creating Enriched YouTube Media Fragments With NERD Using Timed-Text Yunjia Li, Giuseppe Rizzo and Raphaël Troncy
- 10 Linked Data Fusion in ODCleanStore Framework Jan Michelfeit and Tomáš Knap
- 11 **Making Sense of Research with Rexplore** Enrico Motta and Francesco Osborne
- 12 Quest: Efficient SPARQL-to-SQL for RDF and OWL Mariano Rodriguez-Muro, Josef Hardi and Diego Calvanese
- A Prototype for Semantic based Diagnosis of Road
 Traffic Congestions
 Marco Luca Sbodio, Freddy Lecue and Anika Schumann
- 14 Adding Realtime Coverage to the Google Knowledge Graph

Thomas Steiner, Ruben Verborgh, Raphaël Troncy, Joaquim Gabarro and Rik Van de Walle

15 **Everything is Connected: Using Linked Data for Multimedia Narration of Connections between Concepts** Miel Vander Sande, Ruben Verborgh, Sam Coppens, Tom De Nies, Pedro Debevere, Laurens De Vocht, Pieterjan De Potter, Davy Van Deursen, Erik Mannens and Rik Van de Walle

POSTER

P/D Tuesday, November 13, 18.30 – 21.00

Imperial

- 1 **Extracting Relevant Subgraphs from Graph Navigation** Valeria Fionda, Claudio Gutierrez and Giuseppe Pirró
- Jena-HBase: A Distributed, Scalable and Efficient RDF Triple Store
 Vaibhav Khadilkar, Murat Kantarcioglu, Bhavani Thuraisingham and Paolo Castagna
- Applying Multidimensional Navigation and Explanation in Semantic Dataset Summarization James Michaelis, Deborah L. McGuinness, Cynthia Chang, Joanne Luciano and Jim Hendler
- 4 **Building Large Scale Relation KB from Text** Junfeng Pan, Haofen Wang and Yong Yu
- 5 **Reasoning in RDFS is Inherently Serial, at least in the** worst case Peter Patel-Schneider
- 6 INSTANS: High-Performance Event Processing with Standard RDF and SPARQL Mikko Rinne, Esko Nuutila and Seppo Törmä
- 7 **RIO: Minimizing User Interaction in Ontology Debugging** Patrick Rodler, Kostyantyn Shchekotykhin, Philipp Fleiss and Gerhard Friedrich
- 8 **Direct computation of diagnoses for ontology alignment** Kostyantyn Shchekotykhin, Patrick Rodler, Philipp Fleiss and Gerhard Friedrich
- 9 **Queries, the Missing Link in Automatic Data Integration** Aibo Tian, Juan F. Sequeda and Daniel Miranker
- 10 MeDetect: Domain Entity Annotation in Biomedical References Using Linked Open Data Li Tian, Weinan Zhang, Haofen Wang, Chenyang Wu, Yuan Ni, Feng Cao and Yong Yu
- 11 Towards Licenses Compatibility and Composition in the Web of Data

Serena Villata and Fabien Gandon

WEDNESDAY

DRIVING INNOVATION WITH OPEN DATA AND INTEROPERABILITY

KEY Wednesday, November 14, 9.00–10.30

Imperial



Jeanne Holm

Data.gov

As the Evangelist for Data.Gov (an open government flagship project for the White House managed by GSA), Jeanne Holm leads collaboration and builds communities with the public, educators, developers, and international and state governments in using open government data. Jeanne is the Chief Knowledge Architect at NASA's Jet Propulsion Laboratory, driving innovation through social media, virtual worlds, gaming, ontologies, and collaborative systems, including the award-winning NASA public portal (www.nasa.gov) and pioneering knowledge architectures within DoD. She is a Fellow of the United Nations International Academy of Astronautics and a Distinguished Instructor at UCLA, with more than 130 publications on information systems, knowledge management, and innovation.

Data.gov, a flagship open government project from the US government, opens and shares data to improve government efficiency and drive innovation. Sharing such data allows us to make rich comparisons that could never be made before and helps us to better understand the data and support decision making. The adoption of open linked data, vocabularies and ontologies, the work of the W3C, and semantic technologies is helping to drive Data.gov and US data forward. This session will help us to better understand the changing global landscape of data sharing and the role the semantic web is playing in it.

This session highlights specific data sharing examples of solving mission problems from NASA, the White House, and many other governments agencies and citizen innovators.

ALTERNATIVE KNOWLEDGE REPRESENTATION APPROACHES

RES	Wednesday, November 14, 11.00–12.30	Georgian
2	Session Chair: Jeff Pan	

*** Ontology-Based Access to Probabilistic Data with OWL QL** Jean Christoph Jung and Carsten Lutz

Ontology Constraints in Incomplete and Complete Data Peter Patel-Schneider and Enrico Franconi

Scalable Geo-thematic Query Answering Özgür Lütfü Özcep and Ralf Möller

PROVENANCE AND VERIFICATION

RES	Wednesday, November 14, 11.00 – 12.30	Plaza
2	Session Chair: Paul Groth	

Formal Verification of Data Provenance Records

Szymon Klarman, Stefan Schlobach and Luciano Serafini

Provenance for SPARQL queries

Carlos Viegas Damásio, Anastasia Analyti and Grigoris Antoniou

* DeFacto – Deep Fact Validation

Jens Lehmann, Daniel Gerber, Mohamed Morsey and Axel-Cyrille Ngonga Ngomo

INDUSTRY TRACK I.

 IND
 Wednesday, November 14, 11.00 – 12.30
 Arlington

 Session Chair: Ivan Herman
 Arlington

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The Curious Case for Semantics and Linked Data at the Enterprise Jay Myers (BestBuy)

Financial Market Sensing via Querying a Time-Dependent RDF Graph of Sentiment Indicators Aggregated from Web-Based News Articles.

Montiago Labute, Archana Venbakam, Sean Felten and Venkat Krishnamurthy (YarcData)

Using Linked Data To Improve Investment Performance Chito Jovellanos (forward look, inc)

INDUSTRY TRACK II.

IND	Wednesday, November 14, 11.00–12.30	Berkley
2	Session Chair: Tom Heath	

On Demand Access to Big Data through Semantic Technologies

Peter Haase and Michael Schmidt (Fluid Operations AG.)

Fortifying a SPARQL Endpoint for Enterprise Usage Scenarios

Zhe Wu, Karl Rieb, Jay Banerjee, Vladimir Mikhailov and Sakthi Sundaram (Oracle and Cisco)

Drupal as a Semantic Web platform

Stéphane Corlosquet, Sudeshna Das, Emily Merrill, Paolo Ciccarese and Tim Clark (Massachusetts General Hospital and Harvard Medical School)

SEMANTIC WEB CHALLENGE

OTH Wednesday, November 14, 11.00 – 12.30 Statler

The Semantic Web Challenge, now in its 10th year, aims to demonstrate practical progress towards achieving the vision of the Semantic Web. The competition, organised in 3 rounds, enables practitioners and scientists to showcase leading-edge real world applications of Semantic Web technology.

MENTORING LUNCH

ОТН	Wednesday, November 14, 12.30–14.00	Terrace Room
	(in the Lower Lol	oby of the Park Plaza)

In its fourth year, the Mentoring Lunch at the International Semantic Web Conference brings together graduate students and early-career researchers with senior faculty and researchers, who are volunteers from the speakers, chairs, and other senior participants at the conference, for a lively discussion and question-answering session on a variety of topics including choosing a graduate school, starting a lab, preparing for tenure/promotion, and balancing work and life.

BIG GRAPH DATA PANEL

The Semantic Web/Linked Data has grown immensely over the past years. When the Semantic Web community started working over a decade ago the main question was where to get the data from. By now the question of how to process ever increasing amount of semantic/linked data has come to people's utmost attention. The goal of this panel is to shed light on the various approaches /options for Big Graph Data processing. Possible questions include:

- Does the Semantic Web need any central infrastructures? (It's a Web, after all?)
- Or will a handful of large single-owner infrastructures dominate the Semantic Web, just as they now dominate the current Web?
- And if so, will such infrastructures be based on the standard relational model?
- Or on MapReduce-centric key/value-pairs?
- Is Google's (centralised) Knowledge Graph anathema to the Semantic *Web* ?
- Are triplestore vendors just reinventing the old database wheels?
- What is the role of clustered MapReduce-like solutions and where are their limits for processing semantic web data?

To discuss this issue we were fortunate enough to gather an esteemed panel of scientists and practitioners – each having a unique viewpoint on this kind of processing. The panelists will include:

- Tim Berners-Lee, W3C, USA
- John Gianandrea, Google, USA
- Frank van Harmelen, VU, The Netherlands (Moderator)
- Mike Stonebreaker, MIT, USA
- Bryan Thompson, Systap, USA

We believe that the panel will be an exceptional event and are looking forward to an exciting discussion.

PANELIST

PAN Wednesday, November 14, 14.00-15.30

Georgian



Bryan Thompson

Bryan Thompson is the co-founder and Chief Scientist of SYSTAP, LLC and the lead architect of the bigdata® database platform. He is a visionary and entrepreneur working on cutting edge efforts in web architecture, the semantic web, machine learning, natural language processing, artificial intelligence, cognitive modeling, and decision-support systems.

He believes that web scale graph databases, GPU accelerated graph processing, and Web 2.0 authoring models will make it possible to capture metadata about the relationships between evidence and conclusions within and across communities and offer services and user experiences that encourage and facilitate collaboration across communities when their areas of expertise touch on shared concerns.

Mr. Thompson is a National Merit Scholar. He has been recognized for his contributions under the Small Business Innovation Research (SBIR) program and by the Federal Semantic Interoperability Community of Practice (SICoP). He recently presented at the prestigious Schloss Dagstuhl Seminar on Semantic Data Management. He is a past member of the W3C Advisory Committee and participated the standardization efforts for SPARQL 1.0, Web Services Architecture, and XML Topic Maps. **PAN** Wednesday, November 14, 14.00 – 15.30

Georgian



Michael Stonebreaker

Michael Stonebraker has been a pioneer of data base research and technology for more than a quarter of a century. He was the main architect of the INGRES relational DBMS, and the object-relational DBMS, POSTGRES. These prototypes were developed at the University of California at Berkeley where Stonebraker was a Professor of Computer Science for twenty five years. More recently at M.I.T. he was a co-architect of the Aurora/Borealis stream processing engine, the C-Store column-oriented DBMS, and the H-Store transaction processing engine.

Currently, he is working on science-oriented DBMSs, OLTP DBMSs, and scalable data curation. He is the founder of five venture-capital backed startups, which commercialized his prototypes. Presently he serves as Chief Technology Officer of VoltDB and Paradigm4, Inc.

Professor Stonebraker is the author of scores of research papers on data base technology, operating systems and the architecture of system software services. He was awarded the ACM System Software Award in 1992, for his work on INGRES. Additionally, he was awarded the first annual Innovation award by the ACM SIGMOD special interest group in 1994, and was elected to the National Academy of Engineering in 1997. He was awarded the IEEE John Von Neumann award in 2005, and is presently an Adjunct Professor of Computer Science at M.I.T, where he is co-director of the new Intel Science and Technology Center focused on big data.

PANELIST

PAN Wednesday, November 14, 14.00–15.30

Georgian



Frank van Harmelen

Frank van Harmelen is a professor in Knowledge Representation & Reasoning in the AI department (Faculty of Science) at the Vrije Universiteit Amsterdam. After studying mathematics and computer science in Amsterdam, he moved to the Department of AI in Edinburgh, where he was awarded a PhD in 1989 for his research on meta-level reasoning. While in Edinburgh, he co-developed a logic-based toolkit for expert systems, and worked with Prof. Alan Bundy on proof planning for inductive theorem proving. After his PhD research, he moved back to Amsterdam where he worked from 1990 to 1995 in the SWI Department under Prof. Wielinga, on the use of reflection in expert systems, on the formal underpinnings of the CommonKADS methodology for Knowledge-Based Systems. In 1995 he joined the Al research group at the Vrije Universiteit Amsterdam, where he co-lead the On-To-Knowledge project, on of the first Semantic Web projects. He was appointed full professor in 2002, and is leading the Knowledge Representation and Reasoning Group. He was one of the co-designers of the OWL Web Ontology Language. He is currently scientific director the LarKC project (http://www.larkc.eu), aiming to develop the Large Knowledge Collider, a platform for very large scale semantic web reasoning.

PANELIST

PAN Wednesday, November 14, 14.00–15.30

Georgian



Tim Berners-Lee

A graduate of Oxford University, Tim Berners-Lee invented the World Wide Web, an internet-based hypermedia initiative for global information sharing while at CERN, the European Particle Physics Laboratory, in 1989. He wrote the first web client and server in 1990. His specifications of URIs, HTTP and HTML were refined as Web technology spread.

He is the 3Com Founders Professor of Engineering in the School of Engineering with a joint appointment in the Department of Electrical Engineering and Computer Science at the Laboratory for Computer Science and Artificial Intelligence (CSAIL) at the Massachusetts Institute of Technology (MIT) where he also heads the Decentralized Information Group (DIG). He is also a Professor in the Electronics and Computer Science Department at the University of Southampton, UK.

He is the Director of the World Wide Web Consortium (W3C), a Web standards organization founded in 1994 which develops interoperable technologies (specifications, guidelines, software, and tools) to lead the Web to its full potential. He was a Director of the Web Science Trust (WST) launched in 2009 to promote research and education in Web Science, the multidisciplinary study of humanity connected by technology.

Tim is a Director of the World Wide Web Foundation, launched in 2009 to coordinate efforts to further the potential of the Web to benefit humanity.

PANELIST

PAN Wednesday, November 14, 14.00 – 15.30

Georgian



John Giannandrea

John Giannandrea, Director of Engineering at Google, leads the http://www.freebase.com/ project, an open database of knowledge which anyone can contribute to. Freebase was created by Metaweb Technologies, which John founded and which was acquired by Google in 2010. Prior to Metaweb, John co-founded Tellme Networks and was the chief technologist of Netscape's browser group where he contributed to many industry standards including HTML, HTTP, SSL, Java and RDF. John is originally from Scotland and graduated from Strathclyde University, Glasgow.

STREAMING AND GEOSPATIAL DBMSS

RES	Wednesday, November 14, 16.00–17.30	Statler
2	Session Chair: Freddy Lecue	

Strabon: A Semantic Geospatial DBMS

Kostis Kyzirakos, Manos Karpathiotakis and Manolis Koubarakis

An Efficient Bit Vector Approach to Semantics-based Machine Perception in Resource-Constrained Devices Cory Henson, Krishnaprasad Thirunarayan and Amit Sheth

SRBench: A Streaming RDF/SPARQL Benchmark

Ying Zhang, Minh-Duc Pham, Oscar Corcho and Jean Paul Calbimonte

INSTANCE MATCHING

RES	Wednesday, November 14, 16.00–17.30	Plaza
2	Session Chair: Matthieu d'Aquin	

A Machine Learning Approach for Instance Matching Based on Similarity Metrics

Shu Rong, Xing Niu, Evan Wei Xiang, Haofen Wang, Qiang Yang and Yong Yu

Instance-Based Matching of Large Ontologies Using Locality-Sensitive Hashing

Songyun Duan, Achille Fokoue, Oktie Hassanzadeh, Anastasios Kementsietsidis, Kavitha Srinivas and Michael Ward

Blank Node Matching and RDF/S Comparison Functions

Yannis Tzitzikas, Christina Lantzaki and Dimitris Zeginis

INDUSTRY TRACK III.

IND	Wednesday, November 14, 16.00 – 17.30	Arlington
2	Session Chair: Ivan Herman	

Customer Adoption of Semantic Web Technologies – Sharing our Experience at Oracle

Souripriya Das, Jagannathan Srinivasan, Matthew Perry and Seema Sundara (Oracle)

Linked Data at The Open University: From Technical Challenges to Organizational Innovation

Mathieu D'Aquin and Stuart Brown (The Open University)

Linked Enterprise Data: leveraging the Semantic Web stack in a corporate IS environment Fabrice Lacroix (Antidot)

INDUSTRY TRACK IV.

IND Wednesday, November 14, 16.00–17.30

Berkley

Session Chair: Tom Heath

Fairtrace – Tracing the textile industry Bruno Alves and Michael Schumacher (University of Applied Sciences Western Switzerland)

Semantic Web Success Story: Practical Integration of Semantic Web Technology and Linked Data Principles in the Architecture and Implementation of an Enterprise Product

Chris Chaulk (EMC Corporation)

Stardog Linked Data Catalog Evren Sirin and Kendall Clark (Clark & Parsia, LLC)

LIGHTNING TALKS

OTH Wednesday, November 14, 16.00 – 17.30

Georgian

Georgian

This session provides an open forum for participants to present a topic of their choosing. Each presenter is limited to one slide and two minutes time. Presenters must submit the title and one pdf slide to an email address announced in the conference's opening session. Limited presentation slots will be awarded on a first-come-first-served basis.

TOWN HALL MEETING

OTH	Wednesday, November 14, 17.45–18.45	
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Introduced at ISWC 2009 it has become a tradition at ISWC to come together in a town hall meeting to have conference participants share ideas on what they would like to see at the future ISWCs and to discuss what works and what does not work at the conference. Please join the members of the conference organizing committee in an informal discussion about all the new events that we added to the conference program this year and tell us what you would like to see in the future and what you liked and didn't like this year.

Moderator: Abraham Bernstein, General Chair for ISWC 2012

THE TRIALS AND TRIBULATIONS OF A SEMANTIC TECHNOL-OGY EVANGELIST

KEY Wednesday, November 14, during Dinner (19.30 – 01.00) Imperial



Nigel Shadbolt

Professor of Artificial Intelligence and Head of the Web and Internet Science Group at the University of Southampton

Nigel Shadbolt, Professor of Artificial Intelligence and Head of the Web and Internet Science Group at the University of Southampton has been confirmed as the dinner speaker. He is a Director of the Web Science Trust, and of the Web Foundation - both organisations have a common commitment to advance our understanding of the Web and promote the Web's positive impact on society.

In June 2009 together with Sir Tim Berners-Lee he was appointed an Information Advisor by the Prime Minister to help transform public access to Government information. A major output of this work has been the widely acclaimed data.gov.uk site - a single point of access for all Government non-personal public data. In May 2010 he was appointed by the Coalition Government to the Public Sector Transparency Boardresponsible for setting open data standards across the public sector and developing the legal Right to Data. He also Chairs the Local Data Panel seeking to promote and develop open data approaches within Local Government.

This talk will attempt to be a humorous reprise of attempts to realise the web of Open Linked Data. What have been the great successes and failures and what does the future hold? Will the empire strike back? All will be revealed in the banquet after Dinner speech.

THURSDAY

TACKLING CLIMATE CHANGE: UNFINISHED BUSINESS FROM THE LAST "WINTER"

KEY Thursday, November 15, 9.00 – 10.30

Imperial



Mark A. Musen

Stanford Center for Biomedical Informatics Research, Stanford University

Mark A. Musen from Stanford's Center for Biomedical Informatics research has been confirmed as the second keynote speaker for ISWC 2012. Mark conducts research related to intelligent systems, the Semantic Web, reusable ontologies and knowledge representations, and biomedical decision support. His long-standing work on a system known as Protégé has led to an open-source technology now used by thousands of developers around the world to build intelligent computer systems and new computer applications for e-science and the Semantic Web. He is known for his research on the application of intelligent computer systems to assist health-care workers in guideline-directed therapy and in management of clinical trials. He is principal investigator of the National Center for Biomedical Ontology, one of the seven National Centers for Biomedical Computing supported by the Roadmap of the U.S. National Institutes of Health.

In the 1990s, as the World Wide Web became not only world wide but also dense and ubiquitous, workers in the artificial intelligence community were drawn to the possibility that the Web could provide the foundation for a new kind of AI. Having survived the Al Winter of the 1980s, the opportunities that they saw in the largest, most interconnected computing platform imaginable were obviously compelling. With the subsequent success of the Semantic Web, however, our community seems to have stopped talking about many of the issues that researchers believe led to the Al Winter in the first place: the cognitive challenges in debugging and maintaining complex systems, the drift in the meanings ascribed to symbols, the situated nature of knowledge, the fundamental difficulty of creating robust models. These challenges are still with us; we cannot wish them away with appeals to the open-world assumption or to the law of large numbers. Embracing these challenges will allow us to expand the scope of our science and our practice, and will help to bring us closer to the ultimate vision of the Semantic Web.

ONTOLOGY MAPPING

RES	Thursday, November 14, 11.00 – 12.30	Georgian
2	Session Chair: Raphael Troncy	

Discovering Concept Coverings in Ontologies of Linked Data Sources

Rahul Parundekar, Craig Knoblock and José Luis Ambite

*** A formal semantics for weighted ontology mappings** Manuel Atencia, Alexander Borgida, Jérôme Euzenat, Chiara Ghidini and Luciano Serafini

Domain-aware Ontology Matching

Kristian Slabbekoorn, Laura Hollink and Geert-Jan Houben

SCALABILITY AND PARALLEL PROCESSING

RES	Thursday, November 15, 11.00–12.30
2	Session Chair: Andreas Harth

Plaza

Robust Runtime Optimization and Skew-Resistant Execution of Analytical SPARQL Queries on Pig

Spyros Kotoulas, Jacopo Urbani, Peter Boncz and Peter Mika

SPLODGE: Systematic Generation of SPARQL Benchmark Queries for Linked Open Data Olaf Görlitz, Matthias Thimm and Steffen Staab

RDFS Reasoning on Massively Parallel Hardware Norman Heino and Jeff Z. Pan

QUESTION ANSWERING AND NLP

USE	Thursday, November 15, 11.00–12.30	Statler
2	Session Chair: Amal Zouaq	

DEQA: Deep Web Extraction for Question Answering

Jens Lehmann, Tim Furche, Giovanni Grasso, Axel-Cyrille Ngonga Ngomo, Christian Schallhart, Andrew Sellers, Christina Unger, Lorenz Bühmann, Daniel Gerber, Konrad Höffner, David Liu, Sören Auer

A Comparison of Hard Filters and Soft Evidence for Answer Typing in Watson Chris Welty, J William Murdock, Aditya Kalyanpur, James Fan

Query Driven Hypothesis Generation for Answering Queries over NLP Graphs

Chris Welty, Ken Barker, Lora Aroyo, Shilpa Arora

SEMANTIC WEB IN BIOMEDICINE

Thursday, November 15, 11.00 – 12.30	Arlington
	Thursday, November 15, 11.00–12.30

Session Chair: Natasha Noy

Experiences with modeling composite phenotypes in the SKELETOME project Tudor Groza, Andreas Zankl, Jane Hunter

Semantic similarity-driven decision support in the skeletal dysplasia domain Razan Paul, Tudor Groza, Andreas Zankl, Jane Hunter

Semantic Reasoning in Context-Aware Assistive Environments to Support Ageing with Dementia Thibaut Tiberghien, Hamdi Aloulou, Mounir Mokhtari, Jit Biswas

ONTOLOGY ENGINEERING AND OPTIMIZATION

RES	Thursday, November 15, 14.00 – 15.30	Plaza
2	Session Chair: Peter F. Patel–Schneider	

Hitting the Sweetspot: Economic Rewriting of Knowledge Bases

Nadeschda Nikitina and Birte Glimm

Performance Heterogeneity and Approximate Reasoning in Description Logic Ontologies Rafael S. Gonçalves, Bijan Parsia and Ulrike Sattler

***** Predicting Reasoning Performance Using Ontology Metrics

Yong-Bin Kang, Yuan-Fang Li and Shonali Krishnaswamy

INFORMATION EXTRACTION

RES	Thursday, November 15, 14.00–15.30	Georgian
2	Session Chair: Diana Maynard	

An Evidence-based Verification Approach to Extract Entities and Relations for Knowledge Base Population Naimdjon Takhirov, Fabien Duchateau and Trond Aalberg

Large-Scale Learning of Relation-Extraction Rules with Distant Supervision from the Web

Sebastian Krause, Hong Li, Hans Uszkoreit and Feiyu Xu

Mining Semantic Relations between Research Areas Francesco Osborne and Enrico Motta

SOCIAL AND COLLABORATIVE SEMANTICS

RES	Thursday, November 15, 14.00–15.30	Arlington
2	Session Chair: Gianluca Demartini	

Semantic Sentiment Analysis of Twitter Hassan Saif, Yulan He and Harith Alani

CrowdMAP: Crowdsourcing Ontology Alignment with Microtasks Cristina Sarasua, Elena Simperl and Natasha F. Noy

APPLIED REASONING AND QUERYING

JSE	Thursday, November 15, 14.00–15.30	Statle
2	Session Chair: Pascal Hitzler	

Embedded EL+ Reasoning on Programmable Logic Controllers

Stephan Grimm, Michael Watzke, Thomas Hubauer, Falco Cescolini

Incorporating Semantic Knowledge into Dynamic DataProcessing for Smart Power Grids Qunzhi Zhou, Yogesh Simmhan, Viktor Prasanna

Achieving Interoperability through Semantics-based Technologies: The Instant Messaging Case Amel Bennaceur, Valerie Issarny, Romina Spalazzese, Shashank Tyagi

GENERAL HINTS

The International Semantic Web Conference (ISWC) 2012 will take place in the heart of Boston – the unofficial capital of New England and the cradle of the American revolution. In Boston you will find history next to novelty, renowned academic institutions next to cool bars, and beautiful scenery alongside modern architecture such as the Zakim bridge.

MEALS

On Sunday and Monday, the lunches and breaks will be held in the Georgian room on the Mezzanine Level. During the main conference, the lunches, the poster session and the social event and dinner will be held in Imperial Ballroom on the Mezzanine Level. Coffee breaks will be held in the Mezzazine rail. Those who opted into the Tuesday evening poster session, as part of the registration process, will receive two drink tickets upon check-in at the registration desk. Those who opted into the dinner will receive a dinner ticket, which also indicates their meal selection, for presentation to the wait staff at dinner on Wednesday evening.

WIRELESS INTERNET

SSID: PSAV_meeting Password: 4675mit

PROCEEDINGS

In the interest of environment and the ubiquity of electronic devices among ISWC attendees we decided to forego physical proceedings (both in its paper and its USB-stick form). The proceedings are available:

- on loaner USB sticks at registration
- on loaner DVDs at registration
- as a complete download from the web-site (http://http://iswc2012. semanticweb.org/iswc2012.semanticweb.org/proceedings) and as always all papers are linked from the web-site

SCHEDULE

Along with printed programs available as part of the registration materials, this year we will have an iPhone and Android app that will provide details of the conference schedule as well. More information about the app is available on the website.

REGISTRATION DESK

Located on the Mezzanine Level in the lobby.

Sunday – Wednesday: Open from 8.00am to end of program + 30 min Thursday: Open from 8.00am to end of program Email: conferences-www@mit.edu MIT Conference services staff will be available at the registration/information desk during session hours.

CLOSEST PHARMACY

CVS Pharmacy (Pharmacy and Store OPEN 24 HOURS) 587 Boylston Steet Boston, MA 02116 617-437-8414

CLOSEST HOSPITAL

Tufts New England Medical Center 800 Washington Street Boston, MA 02111 (617) 636-5000

ATM MACHINE

Located on the Lobby Level next to the Shoeshine

TAXI SERVICE

Boston Cab: 617-536-5010 or 617-262-CABS (2227) Ask for a taxi at the hotel reception

MBTA (SUBWAY)

The hotel is 1 block from the Arlington T Stop off of the Green Line and 3 blocks from the Back Bay T Stop off of the Orange line.

EMERGENCY

For any emergency: 911





The Boston Park Plaza Hotel & Towers 50 Park Plaza at Arlington Street Boston, MA 02116-3912



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WORKSHOPS: SUNDAY, NOVEMBER 11, 2012

	STUART	CABOT	CAMBRIDGE	ST.JAMES	WHITE HILL	FRANKLIN	STATLER
9:00-10:30 11:00-12:30	Scalable and High-Performance Systems	Programming the Semantic Web (PSW)	Uncertainty Reasoning (URSW)	Recommender Systems (SeRSy)	The Semantic Web in 2022 (SW2022)	I	Ontology Matching (OM)
12:30-14:00							
14:00-15:30 16:00-17:30	Scalable and High-Performance Systems	Programming the Semantic Web (PSW)	Uncertainty Reasoning (URSW)	Multilingual Seman- tic Web (MSW3)	The Semantic Web in 2022 (SW2022)	Web of Linked Entities (WoLE)	Ontology Matching (OM)

TUTORIALS: SUNDAY, NOVEMBER 11, 2012

	BEACON HILL	LEXINGTON	ALCOTT	CHARLES RIVER
0:30 2:30	LL-NLP	I	ı	CLOUD
4:00				
5:30 7:30	LL-NLP	SW Rules	Learning on LD	CLOUD

WORKSHOPS: MONDAY, NOVEMBER 12, 2012

	STUART	CAMBRIDGE	ST.JAMES	WHITE HILL	FRANKLIN	BACK BAY	CHARLES RIVER	STATLER
9:00-10:30 11:00-12:30	Semantic Sensor Networks (SSN)	Knowledge Evolution and Ontology Dynamics (EvoDyn)	Linked Science (LISC)	Consuming Linked Data (COLD)	Biomedical Informatics and Individualized Medicine	Large and Het- erogeneous Data and Quantitative Formalization	Terra Cognita	Ontology Patterns (WOP)
12:30-14:00								
14:00-15:30 16:00-17:30	Semantic Sensor Networks (SSN)	Knowledge Evolution and Ontology Dynamics (EvoDyn)	Linked Science (LISC)	Consuming Linked Data (COLD)	Biomedical Informatics and Individualized Medicine	Knowledge Extraction and Consolidation from Social Media (KECSM)	Terra Cognita	Events (De RiVE)

TUTORIALS: MONDAY, NOVEMBER 12, 2012

	BEACON HILL	LEXINGTON	ALCOTT
9:00-10:30 11:00-12:30	LD4D	WoD E-Commerce	Provenance
12:30-14:00			
14:00-15:30 16:00-17:30	LD4D		Streams

DOCTORAL CONSORTIUM

	WHITTIER
9:00-10:30 11:00-12:30	Accepted Papers
12:30-14:00	
14:00-15:30 16:00-17:30	Accepted Papers

	IMPERIAL	PLAZA	ARLING	TON	GEORG	AN	STATL	ER BEI	RKLEY/CLARENDO
8:30-10:30	Opening K	eynote T. Malone							
11:00-12:30		Description Logic	Search, questior and entity sum	n answering marization	Linked D	ata	Infrastruc	cture	
2:30-14:00	Lunch	T	1		1		1		
4:00-15:30		User Interfaces and Personalization	Evaluation of r with ontol	reasoning logies	Querie	S	eGov and Sma	art Cities	
6:00-17:30		Knowledge Discover	y Federated an	ld stream essing	Pre-poster sess presentations (posters, demos, al Web Challenges s	ion Minute of the the nd Semantic ubmissions	Applicati	suoj	Journal Workshop Session
8:30-21:00	Poster/Demo								
IMETAB	SLE: WEDNE	ESDAY, NOVEN	MBER 14, 201	12					
	IMPERIAL	PLAZA	ARLINGTON	GEO	DRGIAN	STAI	rLER	BERKLE	TERRACE ROOI
9:00-10:30	Keynoté	e J. Holm							
11:00-12:30		Provenance and Verification	Industry Track I.	Alternati Representa	ive Knowledge ition Approaches	Seman Challenge pi	tic Web resentations	Industry Track	II.
2:30-14:00	Lunch	Ţ							Mentoring Lunch
14:00-15:30				L.	Panel				
16:00-17:30		Instance matching	Industry Track III.	Lightening T during	Falks (submission conference)	Stream Geospatia	ing and al DBMSs	Industry Track	N.
7:45-18:45				Town H	Hall Meeting				
19:30-1:00	Dinner / Keyn	ote M. Shadbolt							
IMETAB	SLE: THURS	ΔΑΥ, ΝΟ ΥΕΜΕ	3ER 15, 2012						
	IMPER	IAL	PLAZA		ARLINGTON		GEORGIAN		STATLER
9:00-10:30		Keynote M. Muse	E						
11:00-12:30		Ľ	Scalability and arallel Processing	S	Semantic Web in Biomedicine	0	Jntology Mappi	bu	Question Answering and NLP
2:30-14:00	Lunch	_	ı		ı		I		I
4:00-15:30		Onte	ology Engineering and Optimization	d Soci	ial and Collaborativ Semantics	e Info	ormation Extra	ction	Applied Reasoning and Querying
6:00-17:30						0	closing & Award	ds	





