14th ESWC 2017
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ESWC 2017 Introduction

At this year’s ESWC we have an exciting mix of presentations of research results, demonstrations and industry experiences to look forward to. This year’s two special tracks on multilinguality and transparency put emphasis on two important areas where Semantic Web technologies really can make an impact in today’s society.

Emerging from its roots in AI and Web technology, the Semantic Web today is mainly a Web of linked data, upon which a plethora of services and applications for all possible domains is being proposed. Some of the core challenges that the Semantic Web aims at addressing are the heterogeneity of content and its volatile and rapidly changing nature, its uncertainty, provenance, and varying quality. This in combination with more traditional disciplines, such as logical modelling and reasoning, natural language processing, databases and data storage and access, machine learning, distributed systems, information retrieval and data mining, social networks, Web science and Web engi-
neering, shows the span of topics covered by this conference. The nine regular tracks, in combination with an in-use and applications track, and the two special tracks, constitute the main technical program of ESWC 2017.

The program also contains three exciting invited keynotes. Lora Aroyo (Professor Human Computer Interaction Vrije Universiteit Amsterdam, NL, and Visiting Professor at Columbia University in the City of New York, US) will focus on the notion of ambiguity, discussing how ambiguity can be captured and even taken advantage of by allowing for a diversity of interpretations. In particular she discusses how to represent this diversity and how to allow machines to deal with it. Kevin Crosbie (Chief Product Officer, RavenPack) will discuss the role of semantic intelligence in financial markets. In particular, he focuses on the challenges of turning unstructured content into structured data, given that many new kinds of alternative data (social media, satellite imagery, etc.) are being used to complement traditional data for use in predictive modelling for financial trading algorithms. John Sheridan (Digital Director, The National Archives) will discuss the use and benefits of semantic web technologies for digital archiving, in particular for managing heterogeneous metadata, dealing with uncertainty, and in areas such a provenance and trust.

The main scientific program of the conference comprises 51 papers. This program is complemented by a demonstration and poster session, in which researchers have the chance to present their latest results and advances in the form of live demos. In addition, the PhD Symposium program includes 10 contributions, describing research proposals and early results of PhD students in the field. This year’s edition of ESWC’s main scientific program presents a significant number of research papers with a focus on solving typical Semantic Web problems, such as entity linking, discoverability, etc., by using methods and techniques from areas such as machine learning and natural language processing, and reflecting in particular the current interest in deep learning. Work on both the fundamental development and use of Semantic Web technologies in relation to transparency is particularly interesting in view of current governmental and institutional open data initiatives.
The conference program also contains 12 workshops, 6 tutorials, and an EU Project Networking session. This year, an open call also allowed us to select and support five challenges. These associated events create an even more open, multidisciplinary, and cross-fertilizing environment at the conference, allowing for work-in-progress and practical results to be discussed. Workshops range from domain-focused topics, including the biomedical, scientific publishing, e-science, robotics, distributed ledgers, and scholarly fields, to more technology focused topics ranging from RDF stream processing, query processing, data quality and data evolution, to sentiment analysis and semantic deep learning. Tutorial topics span NLP, ontology engineering, and linked data, including specific tutorials on knowledge graphs and rule-based processing of data.

The General and Program Committee chairs would like to thank the many people who have been involved in preparing the ESWC 2017 event. First of all, our thanks go to the 24 track chairs and 360 reviewers, including 49 external reviewers, for ensuring a rigorous blind review process that led to an excellent scientific program and an average of four reviews per article. The scientific program was completed by an exciting selection of posters and demos chaired by Katja Hose and Heiko Paulheim. A special thanks goes also to our process improvement chair, Derek Dorian, who helped us establish an improved quality assurance process during paper selection, ensuring the originality and quality of the research papers that were accepted to the conference.

Another special thanks go to the PhD symposium chairs, Rinke Hoekstra and Pascal Hitzler, who manages one of the key events at ESWC, the PhD symposium. The brilliant PhD students will become the future leaders of our field, and deserve both encouragement and mentoring, which Rinke and Pascal make sure we can provide. We also have a great selection of workshops and tutorials, as mentioned earlier, thanks to the commitment of our workshop chairs, Agnieszka Ławrynowicz and Fabio Ciravegna, and tutorial chairs, Anna Lisa Gentile and Sebastian Rudolph.
Thanks to our EU Project Networking session chairs, Lyndon Nixon and Maria Maleshkova, we have the opportunity to facilitate meetings and exciting discussions between leading European research projects, and between those projects and the general ESWC audience. Networking and sharing ideas between projects is a crucial success factor for such large research projects.

We are additionally grateful for the work and commitment of Monika Solanki, Mauro Dragoni, and all the individual challenges chairs, who successfully established a challenge track. The five challenges provide researchers and practitioners with the opportunity to compare their latest solutions in these challenge areas, ranging from topic-focused tasks such as Question Answering and Semantic Sentiment Analysis, to practical tasks such as Storage, Semantic Publishing and open Knowledge Extraction.

We thank STI International for supporting the conference organization, and particularly Alexander Wahler as the conference treasurer. YouVivo GmbH and Katharina Vosberg deserve special thanks for the professional support of the conference organization, and for solving all practical matters. Our local chair Marko Grobelnik also deserves a special thanks for selecting the venue and for together with his local organisers, Marija Kokelj, Monika Kropej, and Spela Sitar, arranging a great on-site experience for our conference attendees.

Further, we are very grateful to Ruben Verborgh, our publicity chair, who is keeping our community informed, and Venislav Georgiev, who administers the website. Of course we also thank our sponsors listed on the next pages, for their vital support of this edition of ESWC. We would like to stress the huge work achieved by the Semantic Technologies coordinators Lionel Medini and Luigi Asprino, who maintains and updates our ESWC mobile app, and published our conference dataset. A special thanks also to our proceedings chair, Olaf Hartig, who did an excellent job in preparing the proceedings volume, which can be downloaded from the conference website, with the kind support of Springer.
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STI Innsbruck is a founding member of STI International, a collaborative association of leading European and worldwide initiatives, ensuring the success and sustainability of semantic technology development. STI Innsbruck utilizes this network, as well as contributing to it, in order to increase the impact of the research conducted within the institute. For more details on Semantics, check this interview with Frank Van Harmelen: “Search and you will find”.

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Ontotext provides a complete set of semantic technology transforming how organizations identify meaning across massive amounts of unstructured data. Ontotext blends text mining, powerful SPARQL queries, semantic annotation and semantic search with an RDF graph database (GraphDB™) that infers new meaning at scale. Today, Ontotext is used to power the world’s largest media websites and supports knowledge management applications using tens of billions of semantic facts. Ontotext’s Dynamic Semantic Publishing platform provides solutions for news, eLearning and scientific publishers. The Ontotext Insights platform addresses the needs of the life sciences market including pharmaceuticals, health care and insurance. Additional solutions are available for financial services, government, museums and archives. Ontotext technology delivers highly relevant search results for improved decision making – all in real time. Ontotext also provides S4 – The Self Services Semantic Suite - allowing developers to build text mining and semantic applications in the cloud. S4 includes text mining, reliable access to Linked Open Data for entity enrichment, GraphDB™ and developer tools. S4 is available in a hosted environment with a pay-as-you-go model. To find out more about Ontotext visit www.ontotext.com

http://www.ontotext.com/
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VideoLectures.NET is an award-winning free and open access educational video lectures repository. The lectures are given by distinguished scholars and scientists at the most important and prominent events like conferences, summer schools, workshops and science promotional events from many fields of Science. The portal is aimed at promoting science, exchanging ideas and fostering knowledge sharing by providing high quality didactic contents not only to the scientific community but also to the general public. All lectures, accompanying documents, information and links are systematically selected and classified through the editorial process taking into account also users' comments.

http://videolectures.net/
Note
Keynote Speakers

Kevin Crosbie

Biography: Kevin is the head of product development at RavenPack where he leads the team that brings big data analytics to financial institutions, including the world’s top banks and hedge-funds. Kevin has over 17 years of professional experience building data products in the fintech industry and has participated in multiple successful technology startups in Silicon Valley, Ireland and Spain. Kevin has a first-class honors degree in Computer Engineering, specializing in cryptography, from the University of Limerick and an Executive MBA from the IE Business School in Spain.

Bringing Semantic Intelligence to Financial Markets

The most successful hedge-funds in today’s financial markets are consuming large amounts of alternative data, including satellite imagery, point-of-sale data, news, social media and publications from the web. This new trend is driven by the fact that traditional factors have become less predictive in recent years, requiring sophisticated investors to explore new data sources. The majority of this new alternative content is unstructured and hence must first be converted into structured analytics data in order to be used systematically. Instead of building such capabilities themselves, financial firms are turning towards companies that specialize in this field. In this talk, Kevin will discuss some of the practical challenges of giving structure to unstructured content, how entities and ontologies may be used to link data and the ways in which semantic intelligence can be derived for use in financial trading algorithms.
Lora Aroyo

Biography: Lora Aroyo is a Full Professor at the Web & Media group, Department of Computer Science, VU University Amsterdam, The Netherlands. Within the framework of the Network Institute she is involved in several research projects focussing on semantic search, recommendation systems and event-driven access to multimedia collections online. Typical application domains of digital humanities, cultural heritage, and interactive TV. She is also collaborating with the IBM Watson team in NY on crowdsourcing ground truth data for the adaptation of the Watson system in medical domains.

Disrupting the Semantic Comfort Zone

Ambiguity in interpreting signs is not a new idea, yet the vast majority of research in machine interpretation of signals such as speech, language, images, video, audio, etc., tend to ignore ambiguity. This is evidenced by the fact that metrics for quality of machine understanding rely on a ground truth, in which each instance (a sentence, a photo, a sound clip, etc) is assigned a discrete label, or set of labels, and the machine's prediction for that instance is compared to the label to determine if it is correct. This determination yields the familiar precision, recall, accuracy, and f-measure metrics, but clearly presupposes that this determination can be made. CrowdTruth is a form of collective intelligence based on a vector representation that accommodates diverse interpretation perspectives and encourages human annotators to disagree with each other, in order to expose latent elements such as ambiguity and worker quality. In other words, CrowdTruth assumes that when annotators disagree on how to label an example, it is because the example is ambiguous, the worker isn’t doing the right thing, or the task itself is not clear. In previous work on CrowdTruth, the focus was on how the disagreement signals from low quality workers and from unclear tasks can be isolated. Recently, we observed that disagreement can also signal ambiguity. The basic hypothesis is that, if workers disagree on the correct label for an example, then it will be more difficult for a machine to classify that example. The elaborate data analysis to determine if the source of the disagreement is ambiguity supports our intuition that low clarity signals ambiguity, while high clarity sentences quite obviously express one or more of the target relations. In this talk I will share the experiences and lessons learned on the path to understanding diversity in human interpretation and the ways to capture it as ground truth to enable machines to deal with such diversity.
John Sheridan

Biography: As Digital Director, John is responsible for digital services, enabling The National Archives to fulfil its ambitions to become a digital archive by instinct and design. His role is to provide strategic direction, transform our digital offer, and to shape and drive forward our web-based services.

Prior to this role, John was Head of Legislation Services at The National Archives where he led the team responsible for creating the legislation.gov.uk website, as well overseeing the operation of the official Gazette. A former co-chair of the W3C e-Government Interest Group, John has a strong interest in web and data standards. He serves on the UK Government’s Open Standards Board which sets data standards for use across government. John was an early pioneer of open data and remains active in that community.

John’s academic background is in mathematics and information technology, with a degree in Mathematics and Computer Science from the University of Southampton and a Master’s Degree in Information Technology from the University of Liverpool. John recently led, as Principal Investigator, an Arts and Humanities Research Council funded project, ‘big data for law’, exploring the application of data analytics to the statute book, winning the Halsbury Legal Award for Innovation.

Semantic Web technologies for Digital Archives

What will people in the future know of today? As the homes for our collective memory archives have a special role to play. Semantic Web technologies address some important needs for digital archives and are being ever more embraced by the archival community.

Archives face a big challenge. The use of digital technologies has profoundly shaped what types of record are created, captured, shared and made available. Digital records are not just documents or email but all sorts of content such as websites, threaded discussions, video, websites, structured datasets and even computer code. Yet, in the digital era, when so much is encoded as 0s and 1s there is no long term solution to the challenge of preservation. All archives can do is make the institutional commitment to continue to invest, through generations of technological change, in the engineering effort required for records to continue to be available.
The National Archives is one of the world’s leading digital archives. Our Digital Records Infrastructure, which makes extensive use of RDF and SPARQL, is capable of safely, securely and actively preserving large quantities of data. Our Web Archive provides a comprehensive record of government on the web. We also lead the maintenance of a register of file format signatures that is used relied on by archives and other memory institutions around the world.

As a digital archive we provide value by preserving digital records, keeping them safe for the future. We maintain the context for the records so their evidential value can be understood in the context of their creation and continuing use. We produce records so that they are available for others to access, and we also enable use.

Semantic Web technologies play a key role in each of these areas and are integral to our approach for preserving, contextualising, presenting and enable use of digital records. This presentation will explain why and how we have used semantic web technologies for digital archiving and the benefits we have seen, for managing heterogeneous metadata and also in areas such a provenance and trust. It will explore new opportunities for archives from using Semantic Web technologies in particular around contextual description, with digital records increasingly contextualising each other. This is part of a shift to a more fluid approach where context grows with an archives collection and in relation to other collections. Finally it will also look at the challenges for archives with using Semantic Web technologies in particular around how best to manage uncertainty in our data as we increasingly use probabilistic approaches.
Programme Summary
## Workshops, Tutorials

**Sunday, May 28th, 2017**

<table>
<thead>
<tr>
<th>Time</th>
<th>Adria I</th>
<th>Adria II</th>
<th>Mediterranea I</th>
<th>Mediterranea II</th>
<th>Aurora I</th>
<th>Aurora II</th>
<th>Aurora III</th>
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<tbody>
<tr>
<td>09:00</td>
<td>Modular Ontology Modeling with Ontology Design Patterns (tutorial, 09:00 -17:30)</td>
<td>Link Discovery - Algorithms, Approaches and Benchmarks (tutorial, 09:00 -12:30)</td>
<td>MEPDaW 2017 (workshop, 09:00 -17:30)</td>
<td>Semantic Web solutions for large-scale biomedical data analytics (SeWeBMeDA) (workshop, 09:00 -17:30)</td>
<td>Scientometrics Workshop (workshop, 09:00 -17:30)</td>
<td>3rd International Workshop at ESWC on Emotions, Modality, Sentiment Analysis and the Semantic Web (workshop, 09:00 -17:30)</td>
<td>2nd RDF Stream Processing Workshop (workshop, 09:00 -17:30)</td>
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<tr>
<td>14:00</td>
<td>Tutorial on Rule-based Processing of Dynamic Linked Data (tutorial, 14:00-17:30)</td>
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10:30 Coffee break

11:00-12:30 Lunch

14:00-15:30 Tutorial on Rule-based Processing of Dynamic Linked Data (tutorial, 14:00-17:30)
# Workshops, Tutorials

**Monday, May 29th, 2017**

<table>
<thead>
<tr>
<th>Time</th>
<th>Adria I</th>
<th>Adria II</th>
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<th>Aurora I</th>
<th>Aurora II</th>
<th>Aurora III</th>
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</thead>
<tbody>
<tr>
<td>09:00</td>
<td>Linked Open Data for Semantics</td>
<td>How and Why Computers Read the Web</td>
<td>Applications of Semantic Web technologies</td>
<td>LDQ: 4th Workshop on Linked Data Quality</td>
<td>Enabling Decentralised Scholarly Communication</td>
<td>PhD Symposium (09:20 -17:15)</td>
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<tr>
<td>10:00</td>
<td>- aware Recommender Systems</td>
<td>(tutorial, 09:00 -12:30)</td>
<td>in Robotics - ANSWER 17</td>
<td>(workshop, 09:00 -12:30)</td>
<td>(workshop, 09:00 -12:30)</td>
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<td><strong>Lunch</strong></td>
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<tr>
<td>14:00</td>
<td>Getting Started With Knowledge Graphs</td>
<td>Semantic Deep Learning, SemDeep-17</td>
<td>3rd international workshop on Semantic Web</td>
<td>2nd Workshop on Semantics and Distributed</td>
<td>Querying the Web of Data (QuWeDa 2017,</td>
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<tr>
<td>15:30</td>
<td>(tutorial, 14:00 -17:30)</td>
<td>(workshop, 14:00 -17:30)</td>
<td>for Scientific Heritage, SW4SH 2017</td>
<td>Ledgers (workshop, 14:00 -17:30)</td>
<td>14:00 -17:30)</td>
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# PhD Symposium

**Monday, May 29th, 2017**

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
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<tbody>
<tr>
<td>9:20</td>
<td>Welcome</td>
</tr>
<tr>
<td>9:30</td>
<td><strong>Sheeba Samuel.</strong> <em>Integrative Data Management for Reproducibility of Microscopy Experiments</em></td>
</tr>
<tr>
<td>10:00</td>
<td><strong>Sebastian Bader.</strong> <em>Automating the Dynamic Interactions of Semantic Web Components in Distributed Architectures</em></td>
</tr>
<tr>
<td>10:30</td>
<td>Coffee break</td>
</tr>
<tr>
<td>11:00</td>
<td><strong>Ruth Frimpong.</strong> <em>Ontology Matching Algorithms for Data Model Alignment in Big Data</em></td>
</tr>
<tr>
<td>11:30</td>
<td><strong>Pieter Heyvaert.</strong> <em>Ontology-Based Data Access Mapping Generation using Data, Schema, Query, and Mapping Knowledge</em></td>
</tr>
<tr>
<td>12:00</td>
<td><strong>Lucy McKenna.</strong> <em>Interlinking of Linked Data Resources for Domain Expert Users</em></td>
</tr>
<tr>
<td>13:00</td>
<td>Networking lunch</td>
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<tr>
<td>14:00</td>
<td><strong>Lama Saeeda.</strong> <em>Iterative Approach for Information Extraction and Ontology Learning from Textual Aviation Safety Reports</em></td>
</tr>
<tr>
<td>14:30</td>
<td><strong>Jens Pelzetter.</strong> <em>A Knowledge-Based Framework for Improving Accessibility of Web Sites</em></td>
</tr>
<tr>
<td>15:00</td>
<td><strong>Harsh Thakkar.</strong> <em>Towards an Open Extensible Framework for Empirical Benchmarking RDF Data Management Solutions: LITMUS</em></td>
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<tr>
<td>15:30</td>
<td>Coffee break</td>
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<tr>
<td>16:00</td>
<td><strong>Gilles Vandewiele.</strong> <em>Enhancing white-box machine learning processes by incorporating semantic background knowledge</em></td>
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<tr>
<td>16:30</td>
<td><strong>Erwin Filtz.</strong> <em>Building and Processing a Knowledge-Graph for Legal Data</em></td>
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<tr>
<td>17:00</td>
<td>Closing</td>
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<td>17:15</td>
<td>End of session</td>
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</table>
# Main Conference Day

**Tuesday, May 30th, 2017**

<table>
<thead>
<tr>
<th>Time</th>
<th>Track 1 - Room: Emerald</th>
<th>Track 2 Room: Mediteranea</th>
<th>Track 3 - Room: Adria</th>
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<tbody>
<tr>
<td>09:00-09:30</td>
<td>ESWC Opening Ceremony</td>
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<tr>
<td>09:30-10:30</td>
<td><strong>Keynote Speech</strong></td>
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<td></td>
<td>Kevin Crosbie:</td>
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<td></td>
<td>“Bringing Semantic Intelligence to Financial Markets”</td>
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<td></td>
<td>Session Chair: Aldo Gangemi</td>
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<tr>
<td>10:30-11:00</td>
<td><strong>Coffee break</strong></td>
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<tr>
<td>11:00-12:30</td>
<td>SESSION: NLP 1 (ENTITIES)</td>
<td>SESSION: REASONING 1</td>
<td>ESWC CHALLENGES (1)</td>
</tr>
<tr>
<td></td>
<td>Session Chair: Fabio Ciravegna</td>
<td>Session Chair: Claudia d’Amato</td>
<td>Chair: Monika Solanki</td>
</tr>
<tr>
<td>11:00-11:30</td>
<td><strong>All That Glitters is not Gold -- Rule-Based Curation of Reference Datasets for Named Entity Recognition and Entity Linking</strong></td>
<td><strong>Lean Kernels in Description Logics</strong></td>
<td>11:00 - 11:15 <strong>Presentation of the challenges (submission, data, info, etc.)</strong> - Monika Solanki</td>
</tr>
<tr>
<td></td>
<td>Kunal Jha, Michael Röder and Axel-Cyrille Ngonga Ngomo</td>
<td>Rafael Peñaloza, Carlos Mencía, Alexey Ignatiev and Joao Marques-Silva</td>
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<tr>
<td>11:30-12:00</td>
<td><strong>Harnessing Diversity in Crowds and Machines for Better NER performance</strong></td>
<td><strong>Learning Commonalities in RDF</strong></td>
<td>11:15 - 11:45 <strong>Semantic Publishing Challenge</strong></td>
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<td></td>
<td>Oana Inel and Lora Aroyo</td>
<td>Sara El Hassad, Francois Goasdoue and Helene Jaudoin</td>
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<tr>
<td>12:00-12:30</td>
<td><strong>Beyond Time: Dynamic Context-aware Entity Recommendation</strong></td>
<td><strong>Updating Wikipedia via DBpedia Mappings and SPARQL</strong></td>
<td>11:45 - 12:15 <strong>Semantic Sentiment Analysis</strong></td>
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<td>Nam Khanh Tran, Tuan Tran and Claudia Niederée</td>
<td>Albin Ahmeti, Javier D Fernández, Axel Polleres and Vadim Savenkov</td>
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<tr>
<td>12:30-14:00</td>
<td><strong>Lunch</strong></td>
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★ Best research paper candidate
<table>
<thead>
<tr>
<th>Time</th>
<th>Track 1 - Room: Emerald</th>
<th>Track 2 Room: Mediteranea</th>
<th>Track 3 - Room: Adria</th>
</tr>
</thead>
<tbody>
<tr>
<td>14:00-15:30</td>
<td>SESSION: LINKED DATA&lt;br&gt;Session Chair: Valentina Presutti</td>
<td>SESSION: ONTOLOGIES 1 (DESIGN)&lt;br&gt;Session Chair: Heiko Paulheim</td>
<td>ESWC CHALLENGES (2)&lt;br&gt;Chair: Monika Solanki</td>
</tr>
<tr>
<td>14:00-14:30</td>
<td>Entity Deduplication on Scholarlydata&lt;br&gt;Ziqi Zhang, Andrea Giovanni Nuzzolese and Anna Lisa Gentile</td>
<td>Chaudron: Extending DBpedia with measurements&lt;br&gt;Julien Subercaze</td>
<td>Question Answering over Linked Data</td>
</tr>
<tr>
<td>14:30-15:00</td>
<td>Exploiting Source-Object Network to Resolve Object Conflicts in Linked Data&lt;br&gt;Wenqiang Liu, Jun Liu, Haimeng Duan, Wei Hu and Bifan Wei</td>
<td>Rule-based OWL Modeling with ROWLTab Protégé Plugin&lt;br&gt;Md Kamruzzaman Sarker, Adila A Krishnadhi, David Carral and Pascal Hitzler</td>
<td>Mighty Storage Challenge</td>
</tr>
<tr>
<td>15:00-15:30</td>
<td>Methods for Intrinsic Evaluation of Links in the Web of Data&lt;br&gt;Cristina Sarasua, Steffen Staab and Matthias Thimm</td>
<td>SM4MQ: A Semantic Model for Multidimensional Queries&lt;br&gt;Jovan Varga, Ekaterina Dobrokhotova, Oscar Romero, Torben Bach Pedersen and Christian Thomsen</td>
<td>Open Knowledge Extraction Challenge</td>
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<tr>
<td>15:30-16:00</td>
<td>Coffee break</td>
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<tr>
<td>16:00-17:30</td>
<td>SESSION: MACHINE LEARNING 1 (LINKING)&lt;br&gt;Session Chair: Pascal Hitzler</td>
<td>SESSION: MOBILE WEB, SENSORS AND STREAMS Session Chair: Maria-Esther Vidal</td>
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<tr>
<td>16:00-16:30</td>
<td>WOMBAT: A Generalization Approach for Automatic Link Discovery&lt;br&gt;Mohamed Ahmed Sherif, Axel-Cyrille Ngonga Ngomo and Jens Lehmann</td>
<td>AGACY Monitoring: a hybrid model for activity recognition and uncertainty handling&lt;br&gt;Hela Sfar, Amel Bouzeghoub, Nathan Ramoly and Jérome Boudy</td>
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<tr>
<td>16:30-17:00</td>
<td>Online Relation Alignment for Linked Datasets&lt;br&gt;Maria Koutraki, Nicoleta Preda and Dan Vodislav</td>
<td>Spatial Ontology-Mediated Query Answering over Mobility Streams&lt;br&gt;★ Patrik Schneider, Thomas Eiter and Josiane Xavier Parreira</td>
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<tr>
<td>17:00-17:30</td>
<td>Synthesizing Knowledge Graphs for Link and Type Prediction Benchmarking&lt;br&gt;Andre de Oliveira Melo and Heiko Paulheim</td>
<td>Optimizing the Performance for Concurrent RDF Stream Processing Queries&lt;br&gt;Chan Le Van, Feng Gao and Muhammad Intizar Ali</td>
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<tr>
<td>17:30-19:00</td>
<td>Panel: The Future of Proceedings Publication: the Perspective of the Semantic Web Community</td>
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<td>19:00</td>
<td>Welcome Reception</td>
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## Main Conference Day

**Wednesday, May 31st, 2017**

<table>
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<th>Track 3 - Room: Adria</th>
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<tbody>
<tr>
<td>09:15-09:30</td>
<td>Announcements</td>
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<tr>
<td>09:30-10:30</td>
<td><strong>Keynote Speech</strong></td>
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<td></td>
<td>John Sheridan:</td>
<td>&quot;Semantic web technologies for digital archives&quot;</td>
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<td><strong>Session Chair:</strong> Diana Maynard</td>
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<tr>
<td>10:30-11:00</td>
<td>Coffee break</td>
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<tr>
<td>11:00-12:30</td>
<td><strong>SESSION: SOCIAL MEDIA</strong></td>
<td><strong>SESSION: IN-USE 1 (OUT THERE IDEAS)</strong></td>
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<td>Session Chair: Lora Aroyo</td>
<td>Session chair: Paolo Bouquet</td>
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<tr>
<td>11:00-11:30</td>
<td><strong>A Semantic Graph-based Approach for Radicalisation Detection on Social Media</strong></td>
<td><strong>BalOnSe: Temporal Aspects of Dance Movement and its Ontological Representation</strong></td>
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<td></td>
<td>Hassan Saif, Miriam Fernandez, Leon Kastler, Thomas Dickinson and Harith Alani</td>
<td>Katerina El Raheb, Theofilos Mailis, Vladislav Ryzhikov and Yannis Ioannidis</td>
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<tr>
<td>11:30-12:00</td>
<td><strong>Crowdsourced Affinity: A Matter of Fact or Experience</strong></td>
<td><strong>From Data to City Indicators: A Knowledge Graph for Supporting Automatic Generation of Dashboards</strong></td>
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<td></td>
<td>★ Chun Lu, Milan Stankovic, Filip Radulovic and Philippe Laublet</td>
<td>Henrique Santos, Victor Dantas, Vasco Furtado, Paulo Pinheiro and Deborah McGuinness</td>
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<tr>
<td>12:00-12:30</td>
<td><strong>Linked Data Notifications</strong></td>
<td><strong>Reasoning on Engineering Knowledge: Applications and Desired Features</strong></td>
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<td>★ Sarven Capadisli, Amy Guy, Christoph Lange, Sören Auer and Tim Berners-Lee</td>
<td>Constantin Hildebrandt, Matthias Glawe, Andreas W Müller and Alexander Fay</td>
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</tbody>
</table>

**12:30-14:00** Lunch

★ Best research paper candidate
# Main Conference Day

**Wednesday, May 31st, 2017**

<table>
<thead>
<tr>
<th>Time</th>
<th>Track 1 - Room: Emerald</th>
<th>Track 2 Room: Mediterranea</th>
<th>Track 3 - Room: Adria</th>
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</thead>
<tbody>
<tr>
<td>14:00-15:30</td>
<td><strong>SESSION: TRANSPARENCY 1</strong>&lt;br&gt;Session chair: Axel Polleres</td>
<td><strong>SESSION: IN-USE 2 (NETWORKS)</strong>&lt;br&gt;Session chair: Riccardo Tommasini</td>
<td><strong>EU PROJECT NETWORKING</strong>&lt;br&gt;Chair: Lyndon Nixon and Maria Maleshkova</td>
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<td></td>
<td>Adopting Semantic Technologies for Effective Corporate Transparency&lt;br&gt;Maria Mora-Rodriguez, Ghislain Auguste Atemezing and Chris Preist</td>
<td>A Compressed, Inference-enabled Encoding Scheme for RDF Stream Processing&lt;br&gt;Jeremy Lhez, Xiangnan Ren, Badre Belabbess and Olivier Curè</td>
<td>The European Research Council: Funding opportunities for investigator-driven frontier research (Miklos Nagy)</td>
</tr>
<tr>
<td>14:30-15:00</td>
<td><strong>Removing Barriers to Transparency: a Case Study on the Use of Semantic Technologies to Tackle Procurement Data Inconsistency</strong>&lt;br&gt;Giuseppe Futia, Alessio Melandri, Antonio Vetrò, Federico Morando and Juan Carlos De Martin</td>
<td>SmartAPI: Towards a more intelligent network of Web APIs&lt;br&gt;Amrapali Zaveri, Shima Dastgheib, Trish Whetzel, Ruben Verbo rh, Paul Avillach, Gabor Korodi, Raymond Terry, Kathleen Jagodnik, Pedro Assis, Chunlei Wu and Michel Dumontier</td>
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<tr>
<td>15:00-15:30</td>
<td><strong>Coffee break</strong></td>
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★ Best in-use paper candidate
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<thead>
<tr>
<th>Time</th>
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</thead>
</table>
| 16:00 - 17:30| SESSION: NLP 2  
   *Session Chair: Diego Reforgiato*                     | SESSION: IN-USE 3 (DATA)  
   *Session Chair: Ilaria Tiddi*                          | EU PROJECT NETWORKING  
   *Chair: Lyndon Nixon and Maria Maleshkova*              |
| 16:00 - 16:30| **Combining word and entity embeddings for entity linking**  
   Jose Moreno, Romaric Be-  
   sançon, Romain Beaumont, Eva  
   D'Hondt, Anne-Laure Ligozat,  
   Sophie Rosset, Xavier Tannier  
   and Brigitte Grau            | **Applying Semantic Web Technologies to Assess Maintenance Tasks from Operational Interruptions: A Use-Case at Airbus**  
   Ghislain Auguste Atemezing   | 16:00 - 16:45  
   **Project Presentations II:**  
   8. SPECIAL: Scalable Policy-aware Linked Data Architecture for privacy, transparency and compliance  
   9. SUPERSEDE - Supporting Evolution and Adaptation of PERSONalized Software by Exploiting Contextual Data and End-user Feedback  
   10. euBusinessGraph  
   11. InVID - In Video Veritas, Verification of Social Media Video Content for the News Industry  
   12. WDAqua ITN: Answering Questions using Web Data  
| 16:30 - 17:00| **Mapping Natural Language to Description Logic**           | **ArmaTweet: Detecting Events by Semantic Tweet Analysis**  
   Alberto Tonon, Philippe Cudré-Mauroux, Vincent Lenders,  
   Albert Blarer and Boris Motik                                | 16:45 - 17:30  
   **Project Speed Dating**                                      |
| 17:00 - 17:30| **Semantic Annotation of Data Processing Pipelines in Scientific Publications**  
   Sepideh Mesbah, Kyriakos Fragkeskos, Christoph Lofi,  
   Alessandro Bozzon and Geert-Jan Houben                    | **Declarative Data Transformations for Linked Data Generation: the case of DBpedia**  
   Ben De Meester, Wouter Maroy, Anastasia Dimou, Ruben Verbohr and Erik Mannens | 20:00  
   **MINUTE MADNESS, CHAIRS:**  
   KATJA HOSE AND HEIKO PAULHEIM                                |

**20:00**  
**Gala dinner at the hotel beach**
# Main Conference Day

**Thursday, June 1st, 2017**

<table>
<thead>
<tr>
<th>Time</th>
<th>Track 1 - Room: Emerald</th>
<th>Track 2 Room: Mediteranea</th>
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<tbody>
<tr>
<td>09:00-11:00</td>
<td><strong>POSTERS &amp; DEMOS</strong></td>
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<td><em>Session Chairs: Katja Hose and Heiko Paulheim</em></td>
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<tr>
<td>11:00-11:30</td>
<td>Coffee break</td>
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<tr>
<td>11:30-12:30</td>
<td><strong>Keynote Speech</strong></td>
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<td><em>Lora Aroyo:</em> “Disrupting the semantic comfort zone” <em>Chair: Eva Blomqvist</em></td>
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<tr>
<td>12:30-14:00</td>
<td>Lunch</td>
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<tr>
<td>14:00-15:30</td>
<td><strong>SESSION: MACHINE LEARNING 2</strong></td>
<td><strong>SESSION: ONTOLOGIES 2</strong></td>
<td><strong>SESSION: CROSS-TRACK (Relevance)</strong></td>
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<td></td>
<td><em>Session Chair: Maria Maleshkova</em></td>
<td><em>Session Chair: Peter Haase</em></td>
<td><em>Session Chair: Harald Sack</em></td>
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<tr>
<td>14:00-14:30</td>
<td><strong>Actively Learning to Rank Semantic Associations for Personalized Contextual Exploration of Knowledge Graphs</strong></td>
<td><strong>Data-driven Joint Debugging of the DBpedia Mappings and Ontology</strong></td>
<td><strong>Modeling Company Risk &amp; Importance in Supply Graphs</strong></td>
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<td>Federico Bianchi, Matteo Palmonari, Marco Cremaschi and Elisabetta Fersini</td>
<td>Heiko Paulheim</td>
<td>Lucas Carstens, Jochen L Leidner, Krzysztof Szymanski and Blake Howald</td>
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<tr>
<td>14:30-15:00</td>
<td><strong>Embedding Learning for Declarative Memories</strong></td>
<td><strong>Using insights from psychology and language to improve how people reason with Description Logics</strong></td>
<td><strong>Tuning Personalized PageRank for Semantics-aware Recommendations based on Linked Open Data</strong></td>
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<td>Volker Tresp, Yunpu Ma, Stephan Baier and Yinchong Yang</td>
<td>Paul Warren, Paul Mulholland, Trevor Collins and Enrico Motta</td>
<td>Cataldo Musto, Giovanni Semeraro, Marco De Gemmis and Pasquale Lops</td>
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<tr>
<td>15:00-15:30</td>
<td><strong>Terminological Cluster Trees for Disjointness Axiom Discovery</strong></td>
<td><strong>Patterns for Heterogeneous TBox Mappings to Bridge Different Modelling Decisions</strong></td>
<td><strong>Exploring Importance Measures for Summarizing RDF/S KBs</strong></td>
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<td>Giuseppe Rizzo, Claudia D’Amato, Nicola Fanizzi and Floriana Esposito</td>
<td>Pablo Filottozani and C Maria Keet</td>
<td>Alexandros Pappas, Georgia Troullinou, Giannis Roussakis, Haridimos Kondylakis and Dimitris Plexousakis</td>
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<tr>
<td>15:30-16:00</td>
<td>Coffee break</td>
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<tr>
<td>16:00-17:30</td>
<td><strong>SESSION: BIG DATA</strong>&lt;br&gt;<strong>Session Chair: Andrea Nuzzolese</strong></td>
<td><strong>SESSION: TRANSPARENCY 2</strong>&lt;br&gt;<strong>Session Chair: Amrapali Zaveri</strong></td>
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<td>16:00-16:30</td>
<td><strong>Traffic Analytics for Linked Data Publishers</strong>&lt;br&gt;Luca Costabello, Pierre-Yves Vandenbussche, Gofran Shukair, Corine Deliot and Neil Wilson</td>
<td><strong>NdFluents: An Ontology for Annotating Statements in Linked Data</strong>&lt;br&gt;José M Giménez-García, Antoine Zimmermann and Pierre Maret</td>
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<tr>
<td>16:30-17:00</td>
<td><strong>Explaining Graph Navigational Queries</strong>&lt;br&gt;Valeria Fionda and Giuseppe Pirrò</td>
<td><strong>Self-Enforcing Access Control for Encrypted RDF</strong>&lt;br&gt;Javier D Fernández, Sabrina Kirrane, Axel Polleres and Simon Steyskal</td>
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<td>17:00-17:30</td>
<td><strong>A SPARQL extension for generating RDF from heterogeneous formats</strong>&lt;br&gt;Maxime Lefrançois, Antoine Zimmermann and Mohammad Noorani Bakerally</td>
<td><strong>Ontology-Driven Unified Governance in Software Engineering: The PoolParty case study</strong>&lt;br&gt;Monika Solanki, Christian Mader, Helmut Nagy, Margot Mückstein, Mahek Hanfi, Robert David and Andreas Koller</td>
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<tr>
<td>17:30</td>
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<td><strong>Closing and Awards Session</strong></td>
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ESWC2017 Info

Wireless internet connection
High-speed wireless internet connection is available.

Coffee Breaks and Lunches
Two coffee breaks (morning and afternoon) will be served in front of the Emerald/Mediterranea/Adria Hall. The lunch buffet will take place at the Hotel Restaurant.

WELCOME RECEPTION
Tuesday, May 30th 2017 | 19:00
We will welcome you at the Terrace International by the St. Bernardin church, where we will relax and enjoy a stunning view over the sea (5 min walking distance from Histrion and Hotel Vile Park).

GALA DINNER
Wednesday, May 31st 2017 | 20:00
We will enjoy our gala dinner at the Grand Hotel Bernardin Beach Area in a company of a local band.

2017.eswc-conferences.org
ESWC2017 Conference Venue

LOCAL INFORMATION

Portorož is a seaside town in the heart of Europe. It has been a tourist destination as far back as the 13th century, when it developed a niche as a health resort, and towards the end of the 19th century it became widely known for the healing properties of its mud and salt water baths. Aside from spas, Portorož also plays host to various national and international conferences, exhibitions and trade fairs, which enables the city to maintain a bustling vibrant air throughout the entire year. It is characterized by the short distances between all the venues, which allows visitors to reach all the activities, business, social and cultural sites on foot.

And there is also Piran. The lovely Mediterranean town with a rich cultural heritage that lies at the tip of the Piran peninsula, near Portorož. The old town center, which is still perfectly preserved, is characterized by the stony narrow streets, compact houses, historical and religious buildings, beautiful Venetian palaces, lively squares, numerous museums and galleries, ancient town walls, its recently reopened aquarium and delicious restaurants. Portorož, with its sub-Mediterranean climate, is one of the warmest areas in Slovenia. The average temperature in June is 13°C – 27°C.
ESWC2017 Conference Venue

**PRECONFERENCE WORKSHOPS & TUTORIALS**

**MAIN CONFERENCE**

**Grand hotel Bernardin 5***
Obala 2, 6320 Portorož, Slovenia
P: +386 (0)5 690 70 00
F: +386 (0)5 690 70 10

**ONSITE REGISTRATION AND HELP DESK**

Onsite registration will be open:
Saturday, May 28th: 16:00 – 17:00
Sunday, May 29st: 08:00 – 17:00
Monday, May 30th: 08:00 – 17:00
Tuesday, May 31st: 08:00 – 16:00
Wednesday, June 1st: 08:00 – 09:00

Help desk will be open
Sunday – Wednesday: 08:00 – 17:00

Please also check the board by the registration desk regularly, where we will put all relevant information, including:
- Schedules/rooms (possible changes)
- Social events information
- Local information
- Other

**ABOUT GRAND HOTEL BERNARDIN *****

The St. Bernardin Convention Centre at the Grand Hotel Bernardin is an extensive venue, designed to facilitate the organisation of various events: conventions, seminars, workshops, presentations, press conferences and business meetings, as well as banquets, fashion shows and gala dinners. With a total of 19 multifunctional meeting rooms and divisible main hall for up to 1,100 delegates theatre style, the convention centre is the right venue for up to 2,615 delegates.

Grand Hotel Bernardin has 241 comfortably furnished rooms with balconies overlooking the sea. There are 10 luxury executive suites, 9 deluxe rooms and 7 mini-suites. Furthermore, the hotel boasts a swimming pool with heated sea water, Paradise Spa Wellness Centre, two restaurants, Pečina Restaurant and Sunset Restaurant, Grand Café and Cocktail Lounge with piano, Grand Garden Covered Terrace and Laguna Bernardin Water Park.
Note