# D 2.6.3 Report on Workshop and Conference Organization

**York Sure and Rudi Studer (UKARL)**
**with contributions from Jerome Euzenat (INRIA)**

**Abstract.**
EU-IST Network of Excellence (NoE) IST-2004-507482 KWEB
Deliverable D2.6.3 (WP2.6)

This deliverable provides an overview about the workshops and conferences organized under the umbrella of Knowledge Web by its partners. Support of events is organized along a well-defined set of criteria which enable different levels of support.

| Document Identifier: | KWEB/2004/D2.6.3 |
| --- | --- |
| Class Deliverable: | KWEB EU-IST-2004-507482 |
| Version: | V1.1 |
| Date: | January 31st, 2005 |
| State: | Final |
| Distribution: | PMB |

# Knowledge Web Consortium

This document is part of a research project funded by the IST Programme of the Commission of the European Communities as project number IST-2004-507482.

**University of Innsbruck (UIBK) – Coordinator**
Institute of Computer Science,
Technikerstrasse 13
A-6020 Innsbruck
Austria
Fax: +43(0)5125079872
Phone: +43(0)5125076485/88
Contact person: Dieter Fensel
E-mail address: dieter.fensel@uibk.ac.at

**École Polythechnique Fédérale de Lausanne (EPFL)**
Computer Science Department. Swiss Federal
Institute of Technology
IN (Ecublens), CH-1015 Lausanne.
Switzerland
Fax: +41 21 6935225
Phone: +41 21 6932738
Contact person: Boi Faltings
E-mail address: boi.faltings@epfl.ch

**France Telecom (FT)**
4 Rue du Clos Courtel
35512 Cesson Sévigné
France. PO Box 91226
Fax: +33 2 99124098
Phone: +33 2 99124223
Contact person : Alain Leger
E-mail address: alain.leger@rd.francetelecom.com

**Freie Universität Berlin (FU Berlin)**
Takustrasse, 9
14195 Berlin
Germany
Fax: +49 30 83875220
Phone: +49 30 83875223
Contact person: Robert Tolksdorf
E-mail address: tolk@inf.fu-berlin.de

**Free University of Bozen-Bolzano (FUB)**
Piazza Domenicani 3
39100 Bolzano
Italy
Fax: +39 0471 315649
Phone: +39 0471 315642
Contact person: Enrico Franconi
E-mail address: franconi@inf.unibz.it

**Institut National de Recherche en Informatique et en Automatique (INRIA)**
ZIRST - 655 avenue de l'Europe - Montbonnot
Saint Martin
38334 Saint-Ismier
France
Fax: +33 4 7661 5207
Phone: +33 4 7661 5366
Contact person: Jérôme Euzenat
E-mail address: Jerome.Euzenat@inrialpes.fr

**Centre for Research and Technology Hellas / Informatics and Telematics Institute (ITI-CERTH)**
1st km Thermi – Panorama road
57001 Thermi-Thessaloniki
Greece. Po Box 361
Fax: +30-2310-464164
Phone: +30-2310-464160
Contact person: Michael G. Strintzis
E-mail address: strintzi@iti.gr

**Learning Lab Lower Saxony (L3S)**
Expo Plaza 1
30539 Hannover
Germany
Fax: +49-511-7629779
Phone: +49-511-76219711
Contact person: Wolfgang Nejdl
E-mail address: nejdl@learninglab.de

**National University of Ireland Galway (NUIG)**
National University of Ireland. Science and
Technology Building. University Road
Galway
Ireland
Fax: +353 91 526388
Phone: +353 87 6826940
Contact person: Christoph Bussler
E-mail address: chris.bussler@deri.ie

**The Open University (OU)**
Knowledge Media Institute. The Open University
Milton Keynes, MK7 6AA
United Kingdom.
Fax: +44 1908 653169
Phone: +44 1908 653506
Contact person: Enrico Motta
E-mail address: e.motta@open.ac.uk

**Universidad Politécnica de Madrid (UPM)**
Campus de Montegancedo sn
28660 Boadilla del Monte
Spain
Fax: +34-913524819
Phone: +34-913367439
Contact person: Asunción Gómez Pérez
E-mail address: asun@fi.upm.es

**University of Karlsruhe (UKARL)**
Institut für Angewandte Informatik und Formale
Beschreibungsverfahren – AIFB. Universität
Karlsruhe
D-76128 Karlsruhe
Germany
Fax: +49 721 6086580
Phone: +49 721 6083923
Contact person: Rudi Studer
E-mail address: studer@aifb.uni-karlsruhe.de

**University of Liverpool (UniLiv)**
Chadwick Building, Peach Street
L697ZF Liverpool
United Kingdom
Fax: +44(151)7943715
Phone: +44(151)7943667
Contact person: Michael Wooldridge
E-mail address: M.J.Wooldridge@csc.liv.ac.uk

**University of Manchester (UoM)**
Room 2.32. Kilburn Building, Department of
Computer Science, University of Manchester,
Oxford Road
Manchester, M13 9PL
United Kingdom
Fax: +44 161 2756204
Phone: +44 161 2756248
Contact person: Carole Goble
E-mail address: carole@cs.man.ac.uk

**University of Sheffield (USFD)**
Regent Court, 211 Portobello street
S14DP Sheffield
United Kingdom
Fax: +44 114 2221810
Phone: +44 114 2221891
Contact person: Hamish Cunningham
E-mail address: hamish@dcs.shef.ac.uk

**University of Trento (UniTn)**
Via Sommarive 14
38050 Trento
Italy
Fax: +39 0461 882093
Phone: +39 0461 881533
Contact person: Fausto Giunchiglia
E-mail address: fausto@dit.unitn.it

**Vrije Universiteit Amsterdam (VUA)**
De Boelelaan 1081a
1081HV. Amsterdam
The Netherlands
Fax: +31842214294
Phone: +31204447731
Contact person: Frank van Harmelen
E-mail address: Frank.van.Harmelen@cs.vu.nl

**Vrije Universiteit Brussel (VUB)**
Pleinlaan 2, Building G10
1050 Brussels
Belgium
Fax: +32 2 6293308
Phone: +32 2 6293308
Contact person: Robert Meersman
E-mail address: robert.meersman@vub.ac.be

# Changes

| Version | Date | Author | Changes |
|---|---|---|---|
| 1.0 | 13.12.2004 | York Sure | Final Version |
| 1.1 | 31.01.2005 | York Sure | Included comments from reviewer |
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# Executive Summary

This deliverable is part of the "WP 2.6 Towards a Virtual Research Centre". This deliverable provides an overview about the workshops and conferences organized under the umbrella of Knowledge Web by its partners. Support of events is organized along a well-defined set of criteria which enable different levels of support.

Contents

# 1 Overview

This deliverable is part of the "WP 2.6 Towards a Virtual Research Centre". This deliverable provides an overview about the events organized under the umbrella of Knowledge Web by its partners. In Section 2 we will illustrate the set of criteria which enable different levels of support offered by the network to its partners. In Section 3 we provide an overview about organized workshops and give for each a brief characterization. In Section 4 we do the same for organized conferences.

# 2 Support Levels (A – F)

The following rules for event support by Knowledge Web (KWeb) are based on the initial proposal by Jerome Euzenat (INRIA), published on the KWeb mailing list and slightly revised for the deliverable.

There exist two main criteria for the decision whether events can be supported by KWeb and partners should ask themselves the following questions before asking for support:

[1] Is the meeting actually part of the mission of KWeb?
- Does it contribute to integration?
- Does it reflect the goals of KWeb?

[2] Does the meeting add to the popularity of KW by being sponsored?
- Is it a (very) visible event?
- Is it a (very) symbolic/decisive event?
- Is it a high-quality event?

In case both of the above main criteria are fulfilled, the following rules apply for defining the level of support. We distinguish between 7 different levels (A-G). For each level we describe the typical support level, things organizers need to do in return for being supported, and additional notes and examples (e.g. events so far which are likely to fall in this category).

The most frequent levels being used are **levels D and E which typically are granted without further decisions**. However, most other options involve an additional (E)PMB decision.

**[A] KW organized events for outreach**
Support Level:
- Potentially funding the organization of the event
- Members can use their KWeb funds (e.g. for travelling)
In return:
- Acknowledgement of sponsorship (e.g. logo on website)
Note:
- To be evaluated by EPMB
Examples:

- European Semantic Web Conference, International Semantic Web Conference, Semantic Web Summer School, …

## [B] Starting new initiatives from KW on KW topics
Support Level:
- Potentially funding the organization of the event
- Members can use their KWeb funds (e.g. for travelling)

In return:
- Acknowledgement of sponsorship (e.g. logo on website)

Note:
- To be evaluated by EPMB

Examples:
- E.g. a workpackage or area that want to launch a new event

## [C] Large, well-known conference in our field
Support Level:
- Potentially funding the organization of the event
- Members can use their KWeb funds (e.g. for travelling)

In return:
- Acknowledgement of sponsorship (e.g. logo on website)

Note:
- Can be considered for both reasons [1] and [2] but with the understanding that we have no infinite resources, this should be considered case by case by EPMB
- The default policy is to not fund them (with few exceptions)

Examples:
- International Semantic Web Conference, European Knowledge Acquisition Workshop, …

## [D] Open workshops at well-know events on KW topics
Support Level:
- The partners can spend some of their resources for attending
- The organizers can assume that the workshop is sponsored by KW (by the travelling of its members).
- No additional resource, exception: [F]

In return:
- Acknowledgement of sponsorship (e.g. logo on website)

Note:
- Mail to PMB list to announce the event (significantly before the event happens)
- Organizers can assume granted if no answer by EPMB

Examples:
- ECAI or ISWC workshops clearly fall there, they qualify because of  [1]

## [E] KW meetings
Same as [D]
Note:

- KWeb meetings obviously contribute to integration

**[F] Travel funding on case by case basis**
Support Level:
- Case by case travel funding for KWeb sponsored events, for instance for people from new member states or associated state people.

In return:
- Acknowledgement of sponsorship (e.g. logo on website)

Note:
- Case by case decision of EPMB

**[G]Sub-event funding**
Support Level:
- The funding of a special action, clearly labelled Knowledge web in an existing event

In return:
- Acknowledgement of sponsorship (e.g. logo on website)

Note:
- Case by case decision of EPMB

Examples:
- Invited speakers, the Knowledge web challenge at ISWC

# 3 Workshops

## 3.1 Overview

The following workshops have been organized in 2004 under the umbrella of Knowledge Web, typically being supported with option [D]. Since the KWeb members were quite active in organization of workshops the strategy so far for selecting workshops has been rather reactive, i.e. in case KWeb members applied for support. We will carefully evaluate in each stage of the project whether we need to be more active and stimulate e.g. workshops for upcoming topics.

- ONS2004 – Ontologies for Networked Systems
- EON2004 – Evaluation of Ontology-based Tools
- MCN2004 – Meaning Coordination and Negotiation
- SWS2004 – Semantic Web Services
- WORM04 – Regulatory Ontologies
- OMAC2004 – Ontology Modularization and Context
- SWEB 2004 – Semantic Web technologies in Electronic Business
- SWSDN2004 – Semantic Web Services and Dynamic Networks
- SIM2004 –Semantic Intelligent Middleware for the Web and the Grid
- SWWC2004 – Applications of Semantic Web Technologies to Web Communities
- OLP2004 – Ontology Learning and Population

Report on Workshop and Conference Organization (Y. Sure and R. Studer)

- MSW2004 - Mining for and from the Semantic Web
- P2PKM2004 – Peer-to-Peer Knowledge Management

## 3.2    ONS2004 – Ontologies for Networked Systems
**URL:** http://km.aifb.uni-karlsruhe.de/ws/ons2004

**Abstract**

Ontologies provide a shared understanding of a domain of interest to support communication among human and computer agents, typically being represented in a machine-processable representation language. Thus, ontologies are seen as key enablers for the Semantic Web. Recently the convergence of paradigms such as currently being monitored in the areas of Semantic Web, Web Services, Agents, Peer-to-Peer networks and Grid Computing requires multi-disciplinary approaches and cooperation. This workshop is intends to bring together researchers and practitioners from the mentioned areas and to act as a platform for discussions for experiences and visions.

**Organizing Committee**

- Daniel Oberle, Institute AIFB at University of Karlsruhe (DE)
- Debbie Richards, School of Information and Computer Sciences at Macquarie University (AU)
- York Sure (Contact Person), Institute AIFB at University of Karlsruhe (DE)

## 3.3    EON2004 – Evaluation of Ontology-based Tools
**URL:** http://km.aifb.uni-karlsruhe.de/ws/eon2004

**Abstract**

In the Evaluation of Ontology-based Tools workshop we intend to bring together researchers and practitioners from the fastly developing research areas **Ontologies** and **Semantic Web**. Currently the semantic web attracts researchers from all around the world. Numerous tools and applications of semantic web technologies are already available and the number is growing fast. However, deploying large scale ontology solutions typically involves several separate tasks and requires applying multiple tools. Therefore pragmatic issues such as interoperability are key if industry is to be encouraged to take up ontology technology rapidly. The main aim of this workshop is therefore to encourage and stimulate discussions about the evaluation of ontology-based tools.

The large visibility of the semantic web, its tools and applications already attract industrial partners. In particular, as **tools** move from academic institutions into commercial environments they have to fulfil stronger requirements and in some cases new requirements (e.g. concerning scalability and multi-user access). Different tools from different sources need to interoperate. Typically tools are not anymore standalone solutions but integrated into a framework. This framework must be open to other

commercial applications and provide connectors and interfaces to industrial standards. Larger applications need also larger ontologies and therefore require substantially more performance and scalability.

A systematic **evaluation** of the tools might lead to a consistent level of quality and thus acceptance by industry. For the future this might lead into certification efforts for such tools.

For this workshop we propose to experiment on ontology alignment. The experimental setting is available here: http://co4.inrialpes.fr/align/Contest/

The **EON Ontology Alignment Contest** will target the characterization of alignment methods with regard to particular ontology features. This contest aims at defining a proper set of benchmark tests for assessing feature-related behavior.

The goal of the EON Ontology Alignment Contest is to provide the participants with a complete test base, including pairs of ontologies to align as well as expected results. The test is based on one particular ontology dedicated to a very narrow domain and a number of alternative ontologies of the same domain for which alignments are provided. The ontologies are provided in OWL. The expected alignments are provided in a standard format expressed in RDF/XML. From these alignments and the ontology to compare, the competitors are able to compute a number of measures on their results. They can use the ontology provided here for giving their results.

The contest is open to anyone able to provide a paper following some simple guidelines with results to these tests. The goal of the benchmark is to assess the respective merits of some algorithms with respect to precise situations; it is not to single out one winner.

**Organizing Committee**

- York Sure (Contact Person), Institute AIFB at University of Karlsruhe (DE)
- Oscar Corcho, Intelligent Software Components, S.A. (ES)
- Jérôme Euzenat, INRIA (FR)
- Todd Hughes, Lockheed Martin (US)

## *3.4    MCN2004 – Meaning Coordination and Negotiation*
**URL:** http://dit.unitn.it/~bouquet/ISWC-04-MCN/

**Abstract**

One of the key challenges in the development of open distributed systems -- like the Semantic Web -- is enabling the exchange of meaningful information across applications which:

- may use autonomously developed models/schemas for organizing locally available data, and

- need to interact/collaborate to achieve their users' goals. Typical examples are databases using different schemas, document repositories using different classification structures, users' file systems and poorly annotated multimedia content.

One possible approach to this problem is that of creating global schemas (or shared models) onto which local schemas are mapped and thus interoperated. This "centralized" approach may work in restricted environments, like a small corporate Intranet. However, in open environments (like the Web), it does not seem a viable solution, as it can be very difficult to reconciliate/integrate schemas/models that suit different needs in a single shared model; in addition, it would be almost impossible to maintain such a shared model in a highly dynamic environment.

The aim of this workshop is to investigate an alternative approach to semantic interoperation, namely an approach in which no global schemas are presupposed, and schemas/models are directly mapped onto each other in a "peer-to-peer" spirit. A requirement of the aproposed approach is that it must be applicable to scenarios where peers that cannot assess semantic problems by "looking into each other's head", like humans or software agents (what we call semantically autonomous entities).

In this approach, it is possible to distinguish between two different processes:

- a process of **meaning coordination**, through which the involved parties try to establish mappings between the meaning of a collection of expressions. Such an agreement could result, for example, in a collection of mappings between their ontologies/schemas.
- a process of **meaning negotiation**, namely the process of solving semantic conflicts among parties when a direct mapping is not possible (e.g., different parties adopt with different ontological assumptions, and this makes impossible for them to find a correspondence between the meaning of what they say).

In game theoretic terms, the first is a coordination problem, as (i) all parties have a common interest in achieving such an agreement, but (ii) there are many possible solutions to the problem, and thus the selection of one of these solutions can be problematic; the second is a negotiation problem, as (i) an agreement is valuable for all parties, but (ii) parties may have conflicting preferences over which solution should be selected, so that every agreement implies that at least someone has to concede to some extent to other party.

The problem of meaning coordination and negotiation can be addressed from many different perspectives, using different conceptual and technological tools, and with different motivations in mind. So we expect that the workshop will attract people from very different fields, such as knowledge representation, ontology engineering, agents, databases, natural language processing, machine learning, game theory, philosophy of language, cognitive linguistics.

Report on Workshop and Conference Organization (Y. Sure and R. Studer)

Topics of interest include (but are not limited to):

- logical, game-theoretic, computational, cognitive, economic, social models
- multi-agent communication protocols for meaning coordination/negotiation
- ontology alignment/integration/mapping
- database schemas integration/mapping
- ontology evolution based on coordination/negotiation processes
- application scenarios
- business cases

This workshop follows the the [AAAI-02 Workshop on Meaning Negotiation](#) (July 28, 2002, Edmonton, Canada). The main feature is that it is an interdisciplinary workshop, in which members of different communities join together to address one of the most challenging issues for the current development of the Semantic Web, and in general of open distributed applications (including web services, knowledge management systems, multi-agent systems, and so on).

**Organizing Committee**

- Paolo Bouquet, chair (University of Trento, Italy)
- Luciano Serafini, co-chair (ITC-IRST, Italy)
- Ludger van Elst, co-organizer (German Research Center for Artificial Intelligence, DFKI, Germany)
- Nicola Guarino, co-organizer (Laboratory of Applied Ontology (CNR), Italy)
- R.V. Guha, co-organizer (IBM Research, USA)
- Yiannis Kompatsiaris, co-organizer (Informatics and Telematics Institute, Greece)
- Stefano Zanobini, publicity chair (University of Trento, Italy)

## 3.5 SWS2004 – Semantic Web Services

**URL:** [http://www.ai.sri.com/SWS2004/](http://www.ai.sri.com/SWS2004/)

**Abstract**

Significant work has already been done in this decade on Semantic Web services (SWS), and a large body of relevant work exists from earlier decades, in fields such as knowledge representation, planning, agent-based systems, databases, programming languages, and software engineering. Nevertheless many difficult research challenges remain, and much work is needed to adapt relevant existing technologies to the context of Web services and the Semantic Web, and to prepare the more mature languages, capabilities and architectures for widespread deployment.

This workshop will provide a forum in which to focus on selected core technical challenges for deployment of SWS; provide guidance to early adopters of Semantic Web services technology, particularly in the business community; and facilitate the formation of new communities of SWS users.

Report on Workshop and Conference Organization (Y. Sure and R. Studer)

**Organizing Committee**

- David Martin, SRI International, USA
- Takahira Yamaguchi, Keio University, Japan
- Rubén Lara Hernández, Digital Enterprise Research Institute, Austria

## 3.6    WORM04 – Regulatory Ontologies

**URL:** http://www.starlab.vub.ac.be/staff/mustafa/WORM_2004.htm

**Abstract**

In many application areas (such as e-commerce, e-governments, content standardizations, legal information systems etc.), the modeling of regulatory and legal knowledge is a critical. Modeling and deploying regulatory knowledge has some specifics that differentiate it out from other kinds of knowledge modeling: reasoning methods and application scenarios, the legal weight (/order) of regulations, parsing legal texts requires special semantic patterns, the sensitivity in cross-boarder regulations, etc. This workshop aims at bringing together academics, researchers, professionals and industrial practitioners to discuss issues involved in modeling regulatory ontologies. Regulatory ontologies typically involve the description of rules and regulations within the social world. In particular, we seek original contributions on the following issues of interest, but not limited to: Engineering of regulatory ontologies: conceptual analysis, representation, modularization and layering, reusability, evolution and dynamics, etc; Multilingual and terminological aspects of regulatory ontologies; Models of legal reasoning (from ontological viewpoint): regulatory compliance, case-based reasoning, reasoning with uncertainty, etc. Sensitivity on and harmonization of regulations; Regulatory metadata and content standardization (e.g. legal-XML/LeXML, ADR/ODR-XML,...); Regulatory ontologies of: property rights, persons and organizations, legal procedures, contracts, legal causality, etc; Task models for socially regulated activities; Experiences with projects and applications involving regulatory ontologies in legal knowledge based systems, legal information retrieval, e-governments, e-commerce; Automated extraction of Information from regulatory documents.

**Organizing Committee**

- Mustafa Jarrar (Contact), STARLAb, Vrije Universiteit Brussel, Belgium
- Aldo Gangemi (Contact), Laboratory for Applied Ontology, ISTC-CNR, Rome

## 3.7    OMAC2004 – Ontology Modularization and Context

**URL:** http://www.starlab.vub.ac.be/staff/mustafa/OMAC.htm

**Abstract**
(not available)

**Organizing Committee**

- Mustafa Jarrar (Contact), STARLAb, Vrije Universiteit Brussel, Belgium

## 3.8 SWEB 2004 – Semantic Web technologies in Electronic Business

**URL:** http://sweb.xml-clearinghouse.de/

**Abstract**

The vision of the Semantic Web as a web of machine processable data provides the basis for a wide range of new distributed knowledge-based applications. This workshop focuses on applications in the field of Electronic Business and their relationship to Semantic Web technologies. The aim of SWEB 2004 is to bring researches working on base technologies and infrastructure components together with the early adopters of these technologies.
The workshop is colocated with the Workshop "XSW 2004 - XML Technologies for the Semantic Web" as part of the Berlin XML-Days.

**Organizing Committee**

- Rainer Eckstein, Humboldt-Universität zu Berlin
- Robert Tolksdorf, Freie Universität Berlin
- Christian Bizer, Freie Universität Berlin

## 3.9 SWSDN2004 – Semantic Web Services and Dynamic Networks

**URL:** http://km.aifb.uni-karlsruhe.de/ws/swsdn2004

**Abstract**

The explosion of data caused by the success of the Internet has positioned 'semantics' as a core topic for declarative descriptions of data and services. Semantic descriptions enable interoperability of data and aim at supporting the dynamic fusion of data and services among a multitude of applications.

The convergence of paradigms such as currently being monitored in the areas of Semantic Web, Web Services, Agents, Peer-to-Peer networks and Grid Computing requires multi-disciplinary approaches and cooperations. This workshop is intends to bring together researchers and practitioners from the mentioned areas and to act as a platfrom for discussions for experiences and visions.

**Organizing Committee**

- York Sure (Workshop-Contact), Institute AIFB, University of Karlsruhe

Report on Workshop and Conference Organization (Y. Sure and R. Studer)

- Steffen Staab, Institute AIFB, University of Karlsruhe
- Ubbo Visser, Center for Computing Technologies (TZI), University of Bremen

## 3.10 SIM2004 –Semantic Intelligent Middleware for the Web and the Grid

**URL:** http://www.intelligence.tuc.gr/sim2004/

**Abstract**

The scientific paradigms of the Semantic Web, Multi-Agent Systems, Peer-to-Peer Networks and Grid Computing are currently receiving a lot of attention, and are producing solutions to important problems ranging from e-science to e-business. The United States, the European Commission, Japan and other countries have been investing heavily in these technologies recently.

According to Tim Berners-Lee, James Hendler and Ora Lassila (Scientific American, May 2001), "the Semantic Web aims to bring structure to the meaningful content of Web pages, creating an environment where software agents roaming from page to page can readily carry out sophisticated tasks for users". This vision of the Semantic Web has recently become even more important with the advent of Web Services technology that enables the Web to be used for application to application communication through appropriate programmatic interfaces.

In peer-to-peer (P2P) networks a very large number of autonomous computing nodes (the peers) pool together their resources and rely on each other for data and services. P2P computing has been recently attracting wide publicity, spurred by the popularity of file sharing systems such as Napster, Gnutella and KaZaA and others.

Grid Computing is a new field concentrating on ``flexible, secure, coordinated resource sharing among dynamic collections of individuals, institutions, and resources - what we refer to as virtual organizations" ("The Anatomy of the Grid: Enabling Scalable Virtual Organizations" by Foster, Kesselman and Tuecke).

The proposed workshop aims to foster international collaboration among the above areas of research and technological development with the aim to realize the vision of semantic intelligent middleware for the Web and the Grid. The workshop is collocated with the premier European AI conference to emphasize the role of Artificial Intelligence techniques (e.g., knowledge representation, ontologies, planning, learning etc.) in making progress in the above four areas and the ultimate realization of the Semantic Web and the Semantic Grid.

One of the key challenges in today's webs and grids is the need to deal with knowledge and data sources that are distributed, heterogeneous, and dynamic, and where effective elicitation of implicit knowledge is a necessary component of the overall system. In such systems, a complete global viewpoint or understanding is impossible to achieve - we

therefore need to go beyond centralised knowledge service provision, and develop effective open, distributed, knowledge-based solutions.

Researchers in Multi-Agent Systems, Semantic Web and Semantic Grid aim to overcome these difficulties by adding meaning (ontologies, annotations and negotiation processes) to existing webs and grids. In this way, one not only provides a general semantic-based computational network infrastructure, but a rich, seamless collection of intelligent, knowledge-based services for enabling the management and sharing of complex resources and reasoning mechanisms. In the Semantic Web and Semantic Grid knowledge and semantics are deployed explicitly for applications and for the development of innovative infrastructure. This knowledge-oriented semantics-based approach goes hand-in-hand with the exploitation of techniques and methodologies from Multi-Agent Systems representing various components of the virtual organizations and interacting in a P2P way.

Having articulated the above vision, we should not underestimate the complexity of realizing the Semantic Web and Semantic Grid and fulfilling the expectations of users. The Semantic Web and Grid vision can only become a reality if high quality of service is offered to users and applications at all levels of the Web or Grid fabric. Research needs to concentrate on issues of quality of service in the provision of knowledge services and semantic grid services and attention should be devoted to high-performance, scalability, resilience to failures, robustness and adaptivity of the proposed systems.

This workshop brings together researchers from all over the world that are working on knowledge representation and ontologies, software agents, P2P and Grid computing and are interested in working towards the vision of the Semantic Web and Semantic Grid.

Topics of Special Interest

- Semantic Web and Grid applications
- Ontologies
- AI planning and scheduling techniques for Web and Grid Services
- Learning techniques for Web Services and Grid Computing
- Techniques for semantic matchmaking
- Semantics-based P2P systems
- Semantic Intelligent Middleware in Multi-agent systems
- Scalability, robustness and adaptivity in Semantic Web and Grid systems
- Self-organisation and emergent behaviour in Semantic Web and Grid systems

**Organizing Committee**

- Jerome Euzenat, INRIA Rhone-Alpes, France
- Carole Goble, University of Manchester, United Kingdom
- Asuncion Gomez-Perez, Universidad Politecnica de Madrid, Spain
- Manolis Koubarakis, Technical University of Crete, Greece (contact person)

Report on Workshop and Conference Organization (Y. Sure and R. Studer)

- David De Roure, University of Southampton, United Kingdom
- Mike Wooldridge, University of Liverpool, United Kingdom

## 3.11   SWWC2004 – Applications of Semantic Web Technologies to Web Communities

**URL:** http://www.deri.at/events/meetings/swpECAI04/

**Abstract**

Various communities have taken advantage of the current Web functionalities to strengthen the communication and information exchange not only within the community, but also with external communities or individual users. Miscellaneous web portals have appeared with the purpose of providing an open and effective communication forum for their members.

Nevertheless, current Web technology presents serious limitations to make information efficiently accessible for users. Moreover, users face the task of reading the documents retrieved in order to extract the information desired. These limitations naturally appear in existing Web communities based on this technology, making information searching, accessing, extracting, interpreting and processing a difficult and time-consuming task.

In this context, Semantic Web technologies can considerably improve the information sharing process, overcoming the problems found in current Web communities to search, access, extract, interpret and process information. In this sense, Web communities based on Semantic Web technologies represent a natural evolution of existing Web communities.

The workshop will provide a forum for workers in the fields of knowledge engineering, knowledge management, knowledge representation, language technology, ontological engineering, data, text and web mining and Semantic Web, to present their latest results and to discuss the potential joint application of these fields to Web communities, both analysing what has been achieved so far and what are the next steps to accomplish. The aim is to provide a snapshot of the state of the art and guidelines for further steps.

Topics of interest

- Semantic Web portal architecture design
- Semantic Web portal evaluation
- Semantic Web enabled web portal facilities
- Exposition of Web portals functionality through Semantic Web services
- User interface design for Semantic Web portals
- Ontology Technologies: Engineering, Management, Learning, Evolving and Merging
- Inference and reasoning

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- Semantically-enhanced search
- Semantic indexing and retrieval of information
- Automatic and semi-automatic annotation of information resources

**Organizing Committee**

- Dr. Ying Ding, DERI Austria, www.deri.at
- Prof. Dr. Dieter Fensel, DERI
- Ruben Lara, DERI Austria
- Holger Lausen, DERI Ireland, National University of Irland
- Michael Stollberg, DERI Austria
- Prof. Dr. Sung-Kook Han, Won Kwang University, South Korea

## *3.12    OLP2004 – Ontology Learning and Population*

**URL:** http://olp.dfki.de/ecai04/cfp.htm

**Abstract**

Ontologies are formal, explicit specifications of shared conceptualizations, representing concepts and their relations that are relevant for a given domain of discourse. Currently, ontologies are mostly developed (including ontology construction, extension, mapping and merging) as well as used (ontology population through knowledge markup) by a manual process, which is very ineffective and may cause major barriers to their large-scale use in such areas as Knowledge Discovery and Semantic Web. The expected central role of ontologies in the organization and functioning of the Semantic Web has been well documented in recent years. Somewhat less traditional is the role of ontologies in incremental approaches to Knowledge Discovery, in which ontologies and machine learning methods are used in combination to mine, interpret and (re-)organize knowledge.

As human language is a primary mode of knowledge transfer, linguistic analysis of relevant documents for ontology learning and population seems a viable option. More precisely, automation of these tasks can be implemented by a combined use of linguistic analysis and machine learning approaches for text mining. The workshop will therefore be concerned with reports on the development of such methods, but specifically also with the quantitative evaluation of these methods.

Automatic methods for text-based ontology learning and population have developed over recent years (e.g. results from the ECAI-2000, IJCAI-2001, ECAI-2002 workshops on Ontology Learning and the KCAP-2001, ECAI-2002, KCAP-2003 workshops on Knowledge Markup / Ontology Population), but a remaining challenge is to evaluate in a quantitative manner how useful or accurate the extracted ontology classes, properties and instances are. In fact, this is a central issue as it is currently very hard to compare methods and approaches, due to the lack of a shared understanding of the task at hand. The core theme of the workshop therefore will be to develop such a shared understanding through the definition of a clear task (and corresponding sub-tasks), identify resources

needed for the task/sub-tasks and to discuss how best to develop an open source evaluation platform.

**Organizing Committee**

- Paul Buitelaar  (DFKI)
- Siegfried Handschuh (AIFB/UKARL)
- Bernardo Magnini (IRST)

## 3.13    MSW2004 - Mining for and from the Semantic Web

**URL:** http://km.aifb.uni-karlsruhe.de/ws/msw2004

**Abstract**
The intention of the workshop is to bring together researchers from the two research areas **Semantic Web** and **Knowledge Discovery**. According to T. Berners-Lee the Semantic Web is "an extension of the current web in which information is given well-defined meaning, better enabling computers and people to work in cooperation". Current standardization efforts include e.g. the W3C recommendation for the Web Ontology Language (OWL). Knowledge Discovery is defined by U.M. Fayyad as "the nontrivial process of identifying valid, previously unknown, potentially useful patterns in data".

We foresee two ways of combining these areas. On the one hand, **mining for the semantic web** includes the application of knowledge discovery methods and techniques to support the setting up of the semantic web itself. Prominent examples are here ontology learning and population of ontologies (instance learning). On the other hand, **mining from the semantic web** emphasizes the usage of semantic web technologies for mining purposes such as e.g. the usage of taxonomies in recommender systems, applying association rules with generalizations or clustering with background knowledge in form of ontologies.

**Organizing Committee**

- Andreas Hotho, KDE Group at University of Kassel (DE)
- York Sure, Institute AIFB at University of Karlsruhe (DE)
- Lise Getoor, Computer Science Dept/UMIACS at University of Maryland (US)

## 3.14    P2PKM2004 – Peer-to-Peer Knowledge Management

**URL:** http://www.p2pkm.org/

**Abstract**

Peer-to-Peer (P2P) computing has received significant attention from the side of research labs and academia, largely due to the popularity of commercialized P2P file sharing applications such as Napster, Morpheus and KaZaa. In the P2P model, peers exchange data and/or services in completely decentralized distributed manner. Peers are

autonomous, and are free to choose what other peers to interact with, and, in this point-to-point interaction, peers possess equal functional capabilities.

On the other hand, Knowledge Management (KM) is increasingly viewed as a core capacity in order to compete in the modern social and economic environment. Researchers and practitioners agree that those intellectual assets that are embedded in working practices, social relationships, and technological artefacts constitute the only source of value that can sustain long term differentiation, quality of services, innovation, and adaptability. Nonetheless, even due to a debatable success of current KM implementations, still unclear is how such matter should be managed in highly complex, distributed, and heterogeneous settings.

In the last couple of years, P2P and KM have followed different but converging paths. In fact, P2P technologies have left their initial "computational", "anarchoyd", and spontaneous fashion to embrace more service level domains and business settings. On the other hand, KM is questioning its centralized assumption based on the implicit belief that knowledge is managed successfully when it can be standardized and controlled. In this sense, it seems that while P2P is looking for value added domains to better exploit its technological potential, KM is looking for a technological paradigm more able to fit an emerging distributed organization of knowledge.

The convergence of P2P and KM creates new challenges for researchers to address: new methodologies to model, design, and deploy distributed KM solutions; theories and algorithms to represent the social and semantic dimensions of a knowledge network; mechanisms to cope with the dynamic autonomous nature of P2P and to provide means to support emergent network self-organization. New technologies should be provided in order to support full operational functioning of P2P KM systems, ensuring high extensibility of the solutions along several dimensions, such as scalability in the number of peers, size and kind of supported knowledge bases, level of heterogeneity in knowledge representation, robustness, etc. Various technologies can contribute to P2P KM solutions: Semantic Web, with new instruments for knowledge representation, in particular ontologies, as well as with (totally) mechanized means for locating, retrieving and processing of data; database technology, with formal semantics for P2P data sharing; multi agent technology, with innovation solutions of agent-mediated knowledge management; and so on.

The P2PKM workshop is intended to serve as an active forum for researchers and practitioners, where they will have the possibility to exchange and discuss research results, novel ideas and experiences, laying in the intersection of the P2P, KM and Semantic Web, database, multi agent, as well as other related technologies. It aims at provoking a discussion around the hypothesis of convergence of P2P and KM areas, and, in particular, at exploring synergies among those that need to provide a distributed technological answer to the distributed management of knowledge, and those that are interested in exploring the substantial implications of the P2P paradigm on important aspects of organizational life such as KM.

Topics of interest include but are not restricted to:

- Distributed Knowledge Management business cases and experiences;
- P2P to support (virtual) communities of practice and interest networks;
- Organizational impacts of P2P technologies, and social adoption of distributed technologies;
- Methodologies to analyse, design and deploy distributed KM solutions;
- Social models to design and support knowledge intensive collaborative processes in a P2P environment;
- Data models and distributed query languages;
- Meta-data representation and management (e.g., semantic-based coordination mechanisms, use of ontologies in P2P KM systems, etc.);
- Algorithms to discover distributed knowledge among interacting peers;
- Protocols, algorithms and techniques to support semantic interoperability;
- Trust and reputation as means to support knowledge acquisition;
- Semantic Web and P2P KM systems;
- Agent-mediated knowledge management;
- P2P KM system architectures, infrastructure and middleware;
- Experience with deployed systems, performance evaluation and benchmarking;

**Organizing Committee**

- Ilya Zaihrayeu, University of Trento, Italy
- Matteo Bonifacio, ITC-Irst, Italy

# 4  Conferences

The conferences listed here were supported under scheme [C].

## 4.1  First European Semantic Web Symposium (ESWS2004)

**URL: http://www.esws2004.org/**

**Abstract**

The vision of the Semantic Web is to enhance today's web via the exploitation of machine-processable meta data. The explicit representation of the semantics of data, accompanied with domain theories (ontologies), will enable a web that provides a qualitatively new level of service. It will weave together an incredibly large network of human knowledge and will complement it with machine processability. Various automated services will help the user achieve goals by accessing and providing information in machine-understandable form. This process may ultimately create extremely knowledgeable systems with various specialized reasoning services systems. Many technologies and methodologies are being developed within Artificial Intelligence, Human Language Technology, Machine Learning, Databases, Software Engineering and Information Systems that can contribute towards the realization of this vision.

In the European context, the 6th framework programme has demonstrated the EU's commitment to this technology area and a number of exciting new projects in the Semantic Web area have been launched, aggregated in the SDK project cluster - see http://www.sdk-cluster.org/ for further details. A tutorial programme, based around these projects, offers the opportunity to get up to speed with European and global developments in this exciting new area. All 6th framework projects, as well as other leading projects, in the Semantic Web area will be represented with posters. The conference will be co-located with the OntoWeb thematic network seminar and the Knowledge Web network of excellence meeting – see http://www.ontoweb.org/ and http://knowledgeweb.semanticweb.org/ for further details of OntoWeb and Knowledge Web events, respectively.

**Organization Committee**

- Academic track: Dieter Fensel (DERI, Austria and Ireland)
- Rudi Studer (University of Karlsruhe
- Tutorial programme: John Davies (BT, UK)
- Industrial track & Demo chair: Christoph Bussler (DERI, Ireland)
- Local arrangements: Jos de Bruijn (DERI, Austria), Martin Doerr (ICS-FORTH, Greece)

## 4.2  Third International Semantic Web Conference (ISWC2004)
URL: http://iswc2004.semanticweb.org/

**Abstract**

The vision of the Semantic Web is to make the contents of the Web unambiguously computer interpretable, enabling automation of a diversity of tasks currently performed by human beings. The goal of providing semantics and automated reasoning capabilities to the Web draws upon research in a broad range of areas including Artificial Intelligence, Databases, Software Engineering, Distributed Computing and Information Systems. Contributions to date have included languages for semantic annotation of Web documents, automated reasoning capabilities for Web languages, ontologies, query and view languages, semantic translation of Web contents, semantic integration middleware, technologies and principles for building multi-agent and Grid systems, semantic interoperation of programs and devices, technologies and principles for describing, searching and composing Web Services, and more.

The 3rd International Semantic Web Conference (ISWC2004) follows on the success of previous conferences and workshops in Sanibel Island, USA (2003), Sardinia, Italy (2002), and Stanford, USA (2001).

The organizing committee solicits research submissions for the main research track of the conference, as well as for the accompanying industrial and posters track:

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Research Track
Industrial Track
Posters Track

ISWC2004 also encourages the submission of proposals for workshops and tutorials, and system demonstrations. Please see the ISWC2004 Web site for pertinent details.

*Research Track*

The research track of ISWC2004 solicits the submission of original, principled research papers dealing with theoretical, methodological, empirical and application-related aspects of the Semantic Web. Papers must clearly demonstrate relevance to the Semantic Web.

Topics include but are not limited to the following:
- Languages, Tools and Methodologies for Semantic Web Data
- Ontologies (creation, merging, linking and reconciliation)
- Large Scale Knowledge Management
- Data Semantics
- Database Technologies for the Semantic Web
- Semantic Web Middleware
- Knowledge Portals
- Tools and Methodologies for Web Agents
- Peer to Peer Systems
- Semantic Brokering
- Semantic Integration and Interoperability
- Semantic Web Mining
- Semantic Web Services (description, discovery, invocation, composition)
- Semantic Web Inference Schemes
- Semantic Web Trust, Privacy, Security and Intellectual Property Rights
- Semantic Web for e-Business and e-Learning
- Searching, Querying and Viewing the Semantic Web
- User Interfaces
- Visualization and Modelling

*Industrial Track*

The Semantic Web and Semantic Technologies has begun to move from the realm of pure research to industrial applications. Research organizations have begun to spin-off companies to commercialize semantic technologies. Established companies have provided institutional investment in these technologies, and have begun to provide their own tools. These companies have produced industrial strength enterprise software, with scalability, throughput and reliability measures that are competitive with traditional data technologies. And finally, these companies have produced successful deployments for

their customers; deployments which have proven the viability of these technologies in a commercial setting.

In consideration of this situation, a special Industry Track will be held as part of the Third International Semantic Web Conference. The goals of the track are to help researchers understand the current status and needs of industry, as well as allowing industry to learn about the latest research advances in the field

*Posters Track*

The Poster Session at ISWC2004 is an opportunity for presenting late-breaking results, ongoing research projects, speculative or innovative work-in-progress. Posters are intended to provide authors and participants with the ability to connect with each other and to engage in discussions about the work. Technical posters, reports on Semantic Web software systems, completed work, or work in progress are all welcome.

**Organization Committee**

Conference Chair

- **Frank van Harmelen**
  Vrije Universiteit Amsterdam
  Frank.van.Harmelen@cs.vu.nl

Program Chairs

- **Sheila McIlraith**
  Department of Computer Science, University of Toronto
  6 King's College Road, Pratt Building Room PT 390, Toronto, Ontario, Canada
  M5S 3H5
  sheila@cs.toronto.edu

- **Dimitris Plexousakis**
  Department of Computer Science, University of Crete
  and
  Institute of Computer Science, Foundation for Research and Technology
  (FORTH)
  GR 711 10 Heraklion, Crete, Greece
  dp@ics.forth.gr

Local Chair

- **Riichiro Mizoguchi**
  The Institute of Scientific and Industrial Research, Osaka University
  8-1 Mihogaoka, Ibaraki, Osaka, 567-0047 Japan
  miz@ei.sanken.osaka-u.ac.jp

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Tutorial Co-Chairs

- **Vipul Kashyap**
  Clinical Knowledge Management Clinical Informatics R&D, Partners HealthCare System, Inc.
  VKASHYAP1@PARTNERS.ORG

- **Takahira Yamaguchi**
  Department of Administration, Facluty of Science and Technology, Keio University
  3-14-1 Hiyoshi, Yokohama, 223-8522 Japan
  yamaguti@ae.keio.ac.jp

Workshop Chair

- **Natasha Noy**
  Stanford Medical Informatics, Stanford University
  251 Campus Drive, Stanford, CA 94305 USA
  noy@smi.stanford.edu

Posters Chair

- **Jeremy J. Carroll**
  Hewlett Packard Labs, Bristol
  Filton Road, Stoke Gifford, Bristol BS34 8QZ U.K.
  jjc@hplb.hpl.hp.com

Demos Chair

- **Stefan Decker**
  Digital Enterprise Research Institute, National University of Ireland
  Galway, Ireland
  stefan.decker@deri.org

Meta-data Chair

- **Steffen Staab**
  Institute AIFB, Univ. of Karlsruhe (TH) & Ontoprise GmbH
  76128 Karlsruhe, Germany
  staab@aifb.uni-karlsruhe.de

Semantic Web Challenge Co-Chairs

- **Michel Klein**
  Michel.Klein@cs.vu.nl

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- **Ubbo Visser**
  TZI - Center for Computing Technologies, University of Bremen
  Universitaetsallee 21-23, D-28359 Bremen, Germany
  visser@tzi.de

Industrial Track Co-Chairs

- **Jun-ichi Akahani**
  NTT Communication Science Laboratories, NTT Corporation
  2-4 Hikaridai, Seika-cho, Soraku-gun, Kyoto, 619-0237 Japan
  j.akahani@hco.ntt.co.jp

- **Dean Allemang**
  TopQuadrant Inc.
  141 Howard Drive, Beaver Falls, PA 15010 USA
  dallemang@acm.org

Sponsor Co-Chairs

- **Akira Maeda**
  Hitachi Ltd., Japan
  maeda@crl.hitachi.co.jp

- **Massimo Paolucci**
  Robotics Institute, School of Computer Science, Carnegie Mellon University
  Pittsburgh, PA 15213 USA
  paolucci@cs.cmu.edu

- **York Sure**
  Institute AIFB, University of Karlsruhe (TH)
  sure@aifb.uni-karlsruhe.de

Exhibition Chair

- **Hiroshi Tsuda**
  Fujitsu Ltd., Japan
  htsuda@jp.fujitsu.com

Publicity Chair

- **Akiko Inaba**
  The Institute of Scientific and Industrial Research, Osaka University
  8-1 Mihogaoka, Ibaraki, Osaka, 567-0047 Japan
  ina@ei.sanken.osaka-u.ac.jp

## 4.3  14<sup>th</sup> International Conference on Knowledge Engineering and Knowledge Management

**URL:** http://kmi.open.ac.uk/events/ekaw/

**Abstract**

The 14th International Conference on Knowledge Engineering and Knowledge Management is concerned with all aspects of eliciting, acquiring, modelling and managing knowledge, and their role in the construction of knowledge-intensive systems and services for the semantic web, knowledge management, e-business, natural language processing, intelligent integration information, etc. Submissions are invited on relevant topics, including but not restricted to:

A) KNOWLEDGE SERVICES AND THE SEMANTIC WEB
- Knowledge Modelling, Knowledge Annotation, Knowledge Management and Knowledge Evolution on the SemanticWeb
- Semantic web services: Theory, Tools and Applications
- Problem solving methods and semantic web services
- Ontology-based wrapper technology
- Semantic Portals
- Human language technologies and the Semantic Web
- Peer to Peer communication between semantic systems
- Brokering systems
- Architectures for the Semantic Web

B) KNOWLEDGE MANAGEMENT
- Methodologies and tools for Knowledge Management
- Methodologies and tools for (possible distributed) corporate memory construction, evaluation and evolution
- Knowledge Management Applications
- Social and human factors dimensions of knowledge management
- Knowledge acquisition, work place analysis and requirements engineering for knowledge modelling
- Knowledge modelling and enterprise modelling
- Human language technologies and Knowledge Management

C) ONTOLOGIES
- Languages, techniques, tools and methodologies for Knowledge Acquisition, Modelling and Management
- Methods and tools for collaborative building, evolution and evaluation of ontologies
- Ontology Learning from natural language, from semi-structured data and from structured data
- Methodologies and tools for ontology reengineering, reuse, merging, alignment, integration and certification
- Ontologies and agents
- Ontologies and Information Sharing

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- Ontologies and Intelligent Integration Information

D) KNOWLEDGE ACQUISITION and MODELLING

- Advanced Knowledge modelling languages and tools
- Knowledge capture through machine learning and knowledge discovery in data bases
- Specific knowledge modelling issues for CBR systems, cooperative KBS, training applications
- Knowledge Acquisition from texts
- Evaluation of methods, techniques and tools for Knowledge Acquisition
- Knowledge modelling for improving Human Computer Interaction

**Organization Committee**

Joint Chairs:

- Enrico MOTTA, The Open University (UK)
- Nigel SHADBOLT, University of Southampton (UK)

Workshop and Tutorials Chair:

- John DOMINGUE, The Open University (UK)

Poster Session Chair:

- Nick GIBBINS, University of Southampton (UK)

Technology Demonstrations Chair:

- Martin DZBOR, The Open University (UK)