

## Editorial

Welcome to the tenth and final issue of the CoLogNET newsletter, the official newsletter of the Network of Excellence of Computational Logic.

This issue includes interesting information about various events in the area of computational logic, such as contests, workshops and conferences. Of particular attraction is the article about Ciao, a flexible Prolog System.

Additionally, the newsletter provides calendar information about upcoming events related to the network.

Since this is the last issue, we would like to thank everyone who contributed to the development of the newsletter.

**Antonis Kakas and Marinos Georgiades**  
University of Cyprus

## The 1.10 Prolog System

**Manuel Carro**  
Universidad Politécnica de Madrid

Ciao is a complete Prolog system, supporting ISO-Prolog, but its novel modular design allows both restricting and extending the language. This makes it possible to work with fully declarative subsets of Prolog and also to extend these subsets (or ISO-Prolog) both syntactically and semantically. Most importantly, these restrictions and extensions can be activated separately on each program module so that several extensions can coexist in the same application for different modules.

Ciao currently includes extensions for feature terms (records), functional logic programming, higher-order (with predicate abstractions), constraints, object-oriented programming, persistence, several control rules, concurrency, distributed execution (agents), concurrent built-in database, and parallel execution. Libraries also support WWW programming, sockets, external interfaces, etc. (see the Main Features section.)

Programming in the large is supported thanks a robust module/class system, module-based automatic incremental compilation (with no need for makefiles), an assertion language for declaring (optional) program properties (including types, modes, determinacy, non-failure, cost, ...), automatic static inference and static/dynamic checking of such assertions, program optimization and parallelization, and powerful automatic documentation generation (the latter tasks performed by the CiaoPP preprocessor and the LPdoc autodocumenter). It is the novel modular design of Ciao which enables modular program development, effective global program analysis, and static debugging and optimization via source to source program

## INSIDE THIS ISSUE

- 1 The Ciao Prolog System
- 2 The first CLIMA contest
- 4 CSLP 2005
- 5 Roles, an interdisciplinary perspective – AAAI Symp.
- 9 Artificial Intelligence - Conference
- 10 Knowledge Representation with Ontologies
- 12 Workshop on Contract Architectures and Languages
- 14 WEL'05
- 16 NWeSP 2005
- 17 Calendar of Events

*Continued on page 5*

# The First CLIMA Contest

(Organised by Jürgen Dix, Technical University of Clausthal, and Mehdi Dastani, Utrecht University)

<http://clima.deis.unibo.it/contest.html>

Multi-agent systems are beginning to play an important role in today's software development. See for example the forthcoming new International Journal of Agent-Oriented Software Engineering. This competition is an attempt to stimulate research in the area of multi-agent systems by

- identifying key problems and
- collecting suitable benchmarks

that can serve as milestones for testing new approaches and techniques from computational logics. While there exist several competitions in various parts of artificial intelligence (theorem proving, planning, robo-cup etc) and, lately, also in specialised areas in agent systems (trading agents), the emphasis of this contest is on the use of 'computational logic' in (multi-) agent systems. We expect to promote the development of multi-agent systems by first identifying difficult problems and then finding solutions by comparing different approaches from computational logic for solving them. While this idea seems very appealing, it is not an easy task to come up with a particular scenario that serves as a basis for a contest. Such a scenario should be generic enough to be applicable for a wide range of techniques of computational logic, but it should also be precise enough so that different approaches can be tested and compared against each other.

## Scenario description

This competition is organised as part of CLIMA and consists of developing multi-agent systems to solve a cooperative task in a dynamically changing environment. The environment of the multi-agent system is a grid-like world where agents can move from one slot to a neighbouring slot if there is no agent already in that slot. In this environment, food can appear in all but one of these slots. The special slot, in which no food can appear, is considered as a depot where the agents can bring and collect their food. An

agent can observe if there is food in the slot it is currently visiting. Initially, food can be placed in some randomly selected slots. During the execution, additional food can appear dynamically in randomly selected slots except the depot slot. The agents may have/play different roles (such as explorer or collector), communicate and cooperate in order to find and collect food in an efficient and effective way.

We encourage submissions that specify and design a multi-agent system in terms of high-level concepts such as goals, beliefs, plans, roles, communication, coordination, negotiation, and dialogue in order to generate an efficient and effective solution for the above mentioned application. Moreover, the multi-agent system implementations should be based on computational logic techniques (e.g. logic programming, formal calculi, etc) and they should reflect their design in a direct and intuitive way.

The challenge of this competition is thus to use computational logic techniques to provide implemented models for the abstract concepts that are used in the specification and design of multi-agent systems. These implemented models should be integrated to implement the above-mentioned application intuitively, directly, and effectively.

## Submission format

A submission consists of two parts.

The first part is a description of analysis, design and implementation of a multi-agent system for the above application. Existing multi-agent system methodologies such as Gaia, Prometheus and Tropos can be used (not demanded) to describe the analysis and design of the system. For the description of the implementation, it should be explained how the design is implemented. This can be done by explaining, for example, which computational logic techniques are used to implement certain aspects of the multi-agent system (including issues related to individual agents). The maximum length of this description is 5 pages according to the LNCS format.

The second part is an (executable) implementation of the application. We do not demand any particular way (data format, algorithm, mechanism) to implement the system as long as it is implemented as a multi-agent system and as long as the environment is a 20x20 grid.

Moreover, it should be possible to configure the initial state of the environment to place food in arbitrary slots. During the execution food should appear automatically every 20 seconds in a randomly selected slot. The multi-agent system will be run with 4 agents that are positioned initially at the corners of the grid. The implementation should be executable on a windows or linux machine.

## How to Submit

Please follow this link to register and submit the 5 page description of your solution. You can then submit the implementation by e-mail (to the CLIMA Contest Chairs) or by specifying in your paper a URL where the implementation can be downloaded from. In the registration, please select 'Competition' in the paper type (tracks) drop-down menu.

## Winning Criteria

The criteria that will be used to evaluate submission and to select the first three winners are as follows:

1. Original, innovative, and effective application of computational logic techniques in solving specific multi-agent issues identified in this application.
2. The performance of the executable implementation. The performance of the executable implementation will be measured based on the amount of food that is collected by the multi-agent system in a certain period of time. All programs will be run on the same machine (Windows/Linux double boot machine).
3. The quality of the description of analysis, design and implementation of the multi-agent system, the elegance of its design and implementation, and the ease of installation and execution of the program.

### Submission Closed

Winner announcement: at CLIMA, June 27-29, 2005

## Prize

There will be a prize for the winner. A selection of teams will be invited to extend their description for publication in the post-proceedings. ❖

## ANNOUNCEMENT

We bring to your awareness the new

European Master Degree in Computational Logic – endorsed and supported by the European Union

The five [european](#) universities:

U. Nova de Lisboa - Portugal, TU Dresden - Germany, UP Madrid - Spain, TU Vienna - Austria, FU Bolzano – Italy,

[award](#) this official European degree, supported by the new Erasmus Mundus program.

The course structure is 42 ECTS of common foundational modules, 48 ECTS specific advanced modules plus a project, and 30 ECTS master thesis.

More information at <http://www.di.fct.unl.pt/mcl/>.

Please circulate among potentially interested parties within your own and other countries.

# 2nd International Workshop on Constraint Solving and Language Processing - CSLP 2005

<http://control.ruc.dk/CSLP2005.html>

(Co-located with ICLP 2005 <http://www.iiaa.csic.es/iclp2005> in Sitges, close to Barcelona, Spain - See also CP 2005

<http://www.iiaa.csic.es/cp2005> )

## Henning Christiansen

Roskilde University, Denmark

The first workshop which took place September last year in Roskilde, Denmark, was very successful and motivated a continuation of the series; you can find all details at <http://control.ruc.dk/CSLP2004.html> (proceedings published as Springer LNCS 3438).

The purpose of the workshop is to provide an overview of activities in the field of Constraint Solving with special emphasis on Natural Language Processing and for researchers to meet and exchange ideas.

Constraint Solving (CS), in particular Constraint Logic Programming (CLP), is a promising platform, perhaps the most promising present platform, for bringing forward the state of the art in language processing. The data subjected to processing via constraint solving may include written and spoken language, formal and semiformal language, and even general input data to multimodal and pervasive systems.

CLP and CS have been applied in projects for shallow and deep analysis and generation of language, and to different sorts of languages. The view of grammar expressed as a set of conditions simultaneously constraining and thus defining the set of possible utterances has influenced formal linguistic theory for more than a decade.

CLP and CS provide flexibility of expression and potential for interleaving the different phases of language processing, including handling of pragmatic and semantic information, e.g. ontologies.

Topics considered relevant for the workshop include (but are not limited to):

- CS technologies for NLP
- Linguistic analysis and linguistic theories biased towards CS or CLP

- Application of CS or CLP for NLP
- CS and CLP for other than (purely) textual or spoken languages, e.g., biological, multimodal human-computer interaction, visual.

## Submission

Authors are invited to submit either a 6 page extended abstract or a full paper of up to 16 pages. Each submission will be commented by two or three reviewers. Preliminary proceedings are distributed at the workshop. It is planned to publish selected revised full papers after the workshop in Springer's LNCS/LNAI series. Authors are strongly recommended to prepare their submissions according to the LNCS/LNAI guidelines (<http://www.springer.de/comp/lncs/authors.html> ).

Please submit papers as PDF files to [cslp2005@ruc.dk](mailto:cslp2005@ruc.dk)

## Important Dates

- Submissions: 7 August 2005
- Notification: 1 September 2005
- Camera-ready versions for preliminary proceedings: 12 September 2005
- Workshop: 5 October 2005

Notice that the ICLP 2005 early registration deadline is before the CSLP 2005 notification date.

Please send all queries regarding CSLP 2005 to [cslp2005@ruc.dk](mailto:cslp2005@ruc.dk) (registration and accommodation are handled by the ICLP 2005 and CP 2005 conferences). The workshop is supported by the CONTROL project, CONstraint based Tools for RObust Language processing, funded by the Danish Natural Science Research Council. ❖

## **2005 AAI Fall Symposium - Roles, an interdisciplinary perspective (November 3-6, 2005, Hyatt Crystal City in Arlington, Virginia)**

**Guido Boella**

University of Torino, Italy

The notion of role is ubiquitous not only in many areas of artificial intelligence, but also in many other fields of computer science, like programming languages, software engineering, coordination, databases, multiagent systems, computational linguistics and conceptual modelling, and also in other scientific fields, like formal ontology, sociology, cognitive science, organizational science and linguistics.

In sociology, on the one hand roles are often described as expected behavior of entities or agents, on the other hand roles are seen also as presentations of selves. In organizational science roles encompass more formal aspects such as rights and duties. Three different viewpoints characterize research on roles:

- .-roles as named places in relationships (especially in linguistics, databases and conceptual modelling).
- .-roles as dynamic classification of entities (especially in programming languages and databases).
- .-roles as instances to be adjoined to the entities which play the role (especially in ontologies, multiagent systems and programming languages).

Undisputed distinguishing features of roles seem to be their dependence on some other entities and their dynamic character (Sowa 1984). These properties contrast roles with the notion of natural types. Natural type seems to be essential to an entity: if an entity changes its natural type, it loses its identity; in Guarino (1992)'s terms, roles lack the rigidity which natural types possess. Masolo et al. (2004) elaborate the relational nature of roles, highlighting their definitional dependence on other concepts.

Discussions on roles are important not only to have a better understanding of theories using this notion, but also from the applicative point of view. E.g., integration of ontologies, programming languages, software engineering, databases, and simulation can benefit

from the introduction of a well founded notion of role.

However, as, e.g., Steinmann (2000) witnesses, there is no common agreement yet about the definition of role, the properties of roles, and the way they can be modelled in a uniform way in the different areas. One likely reason is that roles are discussed in very different contexts, so that interested researchers have little opportunity to meet with each other. Even if there are events where roles are discussed, they always appear as a sub-topic within the framework of more general issues (like the AOSE workshop about agent oriented software engineering, or the recent CoOrg05 workshop at Coordination05); hence, there are few venues for research integration.

With this Symposium we propose to gather researchers working across the boundaries of their scientific fields to explore new formal and computational techniques and research methodologies for integrating research results. For this reason the Symposium will provide time for discussion besides paper presentations.

### **Call For Papers**

We invite extended extended abstracts and position statements for three tracks of the 2005 AAI Fall Symposium on Roles, an interdisciplinary perspective:

- Track 1. Roles in multiagent systems
- Track 2. Ontologies of roles
- Track 3. Roles in programming languages and software engineering

#### Track descriptions

*Track 1.* Roles in multiagent systems. In agent oriented software methodologies and programming languages like GAIA, TROPOS, 3APL, etc, roles are used to define the organizational structure of the multiagent systems: roles allow to distribute responsibilities and obligations, and to require the suitable know how to their players. Open problems are how to transform organizational theories of roles in computational theories and exploring mechanisms about how to assign agents to roles, how to design organizations in terms of roles, monitoring of roles, etc.

*Track 2.* Ontologies of roles. Besides the notions of relation and individual, which are present in most knowledge representation languages, more recently ontologies postulate that the notion of role is another

fundamental basic concept. Many questions remain open on the role of roles in knowledge representation: Which are the properties distinguishing roles from relations and individuals? How do these properties help in constructing well founded ontologies?

Can thematic roles, functional roles and social roles find a common foundation?

*Track 3.* Roles in programming languages and software engineering. Roles are usually modelled as dynamic classification (e.g., the Fibonacci language) or as instances to be adjoined to the entities which play the role (e.g., DOOR). However, no consensus yet has been reached on how roles can be introduced as a construct in programming languages, which are their properties, what roles are useful for, and how they are compatible with the current Object Oriented systems. Finally, how do ontologically well founded definitions of roles help in introducing roles in programming languages?

## Submissions

Researchers interested in making a presentation should submit a paper about theoretical or applicative issues (not to exceed 5,000 words). Other participants should submit either a position statement or a research abstract in order to be involved in the discussion.

Submissions should be uploaded at <http://roles05.di.unito.it/> Questions should be sent to Guido Boella ([guido \[at\] di.unito.it](mailto:guido[at]di.unito.it)).

Papers will be published in the symposium proceedings and extended versions of the best papers of the Symposium will be selected for publication on some renowned journal. Participants from all parts of the AI community as well as from other fields are encouraged. Instructions for authors can be found at website <http://aaai.org/Symposia/Fall/fall-symposia.html>

## Deadlines

- June 1, 2005: Submission due to organizers
- June 10, 2005: Notifications of acceptance sent by organizers
- November 3-6, 2005, Hyatt Crystal City in Arlington, Virginia: Symposium

## Website

<http://normas.di.unito.it/zope/roles05>

## References

N. Guarino. Concepts, attributes and arbitrary relations. *Data and Knowledge Engineering* (8), 1992.

C. Masolo and L. Vieu and E. Bottazzi and C. Catenacci and R. Ferrario and A. Gangemi and N. Guarino. Social roles and their descriptions. *Procs. of KR04*, 2004.

J.F. Sowa. *Conceptual structures*. Addison Wesley, NY. 1984.

F. Steimann. On the representation of roles in object-oriented and conceptual modelling. *Data and Knowledge Engineering* (35), 2000. ❖

### FIFTH PANHELLENIC LOGIC SYMPOSIUM

JULY 25-28, 2005, ATHENS, GREECE

Dedicated to Y. N. Moschovakis upon his retirement from the University of Athens, <http://www.di.uoa.gr/~pls5>

The Fifth Panhellenic Logic Symposium will take place at the University of Athens, Greece, from July 25 to 28, 2005. The scientific program of the symposium will consist of hour-long invited talks, tutorials, a panel discussion, and presentations of accepted papers.

Original papers that fall within the scope of the symposium are solicited. Authors are invited to submit electronically short papers, not exceeding six pages, in PDF format, in English or Greek, by April 15, 2005. The papers should be prepared according to the Lecture Notes in Computer Science (LNCS) guidelines (available from <http://www.springer.de/comp/lncs/authors.html>), preferably using LaTeX2e. All submitted papers will be reviewed by the scientific committee of the symposium. Authors of submitted papers will be notified of the decision by May 15, 2005. Each accepted paper will be allocated a thirty-minute period for presentation and questions. Camera-ready papers will be due by May 25, 2005 for inclusion in the proceedings of the symposium.

#### IMPORTANT DATES

Submission deadline: April 15, 2005

Notification of acceptance: May 15, 2005

Copies of papers due: May 25, 2005

Symposium: July 25-28, 2005

transformation.

Programming in the small is supported by having reduced size executables, which only include those builtins and libraries used by the program, and by supporting Prolog scripts.

The compiler generates several forms of architecture-independent and stand-alone executables. Program modules can be compiled into compact bytecode and linked statically, dynamically, or autoloading. The executables generated are very competitive in both performance and size with all current commercial and academic Prolog systems. Optimizing compilation to 100% native code is undergoing work.

The programming environment also offers a rich emacs interface (with direct access to top-level/debugger, preprocessor, and autodocumenter), embeddable source-level debugger with breakpoints, and execution visualization tools.

## Why Ciao?

The sharp reader may have already seen the logic behind the 'Ciao Prolog' name. Ciao means both hello and goodbye, and Ciao Prolog intends to be a really good, all-around, freely available ISO-Prolog system which can be used as a classical Prolog, in both academic and industrial environments (and, in particular, to introduce users to Prolog and to constraint and logic programming) — the hello part. But Ciao is also a new-generation, multi-paradigm programming language and program development system which goes well beyond Prolog and other classical logic programming languages. And it has the advantage (when compared to other systems) that it does so while keeping full Prolog compatibility when needed.

Ciao is a next generation logic programming environment. Main Features of Ciao:

- Efficient bytecode-based engine, with garbage collection, unbound precision integer arithmetic, built-in concurrency capabilities, and many other characteristics.
- Full compliance with ISO-PROLOG.
- Generation of multi-architecture executables: Linux, UNIX, Mac OS X, Win32.
- User-friendly installation on all platforms.

- Advanced, emacs-based development environment with source-level debugging.
- Source code debugger (with code highlighting).
- Debugger embeddable in executables.
- Exception handling.
- Source code autodocumenter (with a menu-based interface).
- Flexible customization of library paths and path aliases.
- New generation, robust module system.
- Modular clp(R) / clp(Q).
- Higher-order syntax and predicate abstractions.
- Extensive, built in, and modular code expansion facilities (macros) with operators local to modules.
- Attributed variables, DCGs.
- Backwards compatibility libraries (DEC-10 IO, Quintus-like internal database, etc.).
- Libraries of (commented) types, modes, and other properties to be used in assertions (for debugging and documentation generation).
- Assertion-based declaration of meta-predicates.
- Several execution strategies available: Andorra, breadth-first, iterative deepening.
- Object oriented extensions.
- Bidirectional foreign interfaces: C, Java, Tcl/Tk, ProVRML.
- Interface to SQL, relational databases.
- (&Prolog-like) concurrency / multiengine primitives.
- Access to operating system resources.
- Platform independent socket communication.
- Platform independent Prolog Make Files.
- Full thread support in Linux / Unix / MacOS X / Win32.
- Delay predicates (when/2, freeze/1).

- Active modules (distributed/agent programming).
- Remote loading of modules.
- Web/Internet programming: PiLLoW library.
- WebDB WWW database interfacing.
- Programmer-transparent (Files or relational database storage) persistent predicates.
- Execution of fuzzy logic-based programs.
- Ciao CGI executables under IIS.
- Number of clauses/predicates essentially unbound.
- Unbound atom size.
- Fast creation of new unique atoms.
- Fast writing/reading (marshalling and unmarshalling) of terms.
- Compressed object code/executables.
- Fast compilation and startup.
- Incremental stand-alone compiler.
- Automatic (re)compilation of foreign files.
- Extensive, up to date documentation in several formats.

### Additional Contributions (in development/ beta state)

clp(FD).

- XML querying and transformation to Prolog.
- XDR schema to HTML forms utility.
- Bidirectional list traversal library.
- Interface to GnuPlot.
- Libraries for execution time profiling.

### Contact / download info

<http://cliplab.org>, <http://ciaoprolog.org>

[ciao@clip.dia.fi.upm.es](mailto:ciao@clip.dia.fi.upm.es)

The CLIP Group

Facultad de Informatica { UPME-28660 Boadilla del Monte, Madrid, SPAIN ❖

# 4th Mexican International Conference on Artificial Intelligence

November 14-18, 2005, Monterrey, Mexico

## Alexandre Guelboukh

National Polytechnic Institute, Mexico

MICAI is a high-level international conference covering all areas of Artificial Intelligence, traditionally held in Mexico. All previous editions of MICAI were published in Springer LNAI (N 1793, 2313, 2972). Acceptance rate of MICAI-2004 was 38% of submissions from 19 countries.

The conference is organized by the Mexican Society for Artificial Intelligence (SMIA) in cooperation with the Mexican Society for Computer Science (SMCC) and the American Association for Artificial Intelligence (AAAI).

The scientific program includes invited lectures, paper presentations, tutorials, panels, and workshops.

## PAPER SUBMISSION

All accepted papers will be published by Springer-Verlag in their Lecture Notes in Artificial Intelligence (LNAI).

Authors are invited to submit original previously unpublished research papers written in English, of up to 10 pages, strictly following the LNCS/LNAI format guidelines. Submissions not following the format guidelines are rejected without review.

Submissions are received electronically through the website. The title and a short abstract must be submitted a week before the paper submission deadline (through the same web submission form).

All submissions will be subject to blind peer review by three program committee members.

## IMPORTANT DATES

- Paper Submission: Closed
- July 17: Acceptance notification.
- August 7: Camera-ready deadline.

## TOPICS

Topics of interest are all areas of Artificial Intelligence, including but not limited to:

- Expert Systems / KBS
- Multiagent systems and Distributed AI
- Knowledge Management
- Intelligent Interfaces: Multimedia, Virtual Reality
- Natural Language Processing / Understanding
- Computer Vision
- Neural Networks
- Genetic Algorithms
- Fuzzy logic
- Belief Revision
- Machine Learning
- Intelligent Tutoring Systems
- Data Mining
- Knowledge Acquisition
- Knowledge Representation
- Knowledge Verification, Sharing and Reuse
- Ontologies
- Qualitative Reasoning
- Model-Based Reasoning
- Constraint Programming
- Common Sense Reasoning
- Case-Based Reasoning
- Nonmonotonic Reasoning
- Spatial and Temporal Reasoning
- Robotics
- Planning and Scheduling
- Navigation
- Assembly
- Hybrid Intelligent Systems
- Logic Programming
- Automated Theorem Proving
- Intelligent Organizations
- Uncertainty / Probabilistic Reasoning
- Philosophical and Methodological Issues of AI

Web site: [www.MICAI.org/2005](http://www.MICAI.org/2005) ❖

# **Knowledge Representation With Ontologies: Present Challenges – Future Possibilities** (Special Issue of the **International Journal of Human-Computer Studies**)

**Guest Editors: Christopher Brewster and Kieron O'Hara**

University of Sheffield, UK

Recently, we have seen an explosion of interest in ontologies as artifacts to represent human knowledge and as critical components in knowledge management, the Semantic Web, business-to-business applications, and several other application areas. Various research communities commonly assume that ontologies are the appropriate modelling structure for representing knowledge. However, little discussion has occurred regarding the actual range of knowledge an ontology can successfully represent.

What are the limits of ontology-based representation? Some types of knowledge are extremely suited to ontological representation, such as taxonomic information, but clearly this isn't always the case. We can't always easily represent certain types of knowledge (for example, skills or distributed knowledge), nor easily transform types of representation into ontology-appropriate formats (for example, diagrammatic knowledge). And with the expanded recognition of multiple modalities, does our vision of an ontology change? Can we speak of multimedia ontologies? This is of even greater significance as Knowledge Management recognises more exactly the range of knowledge that is embodied in an organisation.

Most, but not all, definitions of "ontology" insist that an ontology specifically represents common, shared conceptual structures. Does this requirement for publicity help guarantee adequacy? And if so, can we talk of personal ontologies? If ontologies have to represent knowledge relatively coarsely or approximately, how much is this likely to matter in realistic contexts? Will scale be a problem?

This special issue seeks outstanding papers on the potential and the limits of ontologies in the broad range of fields in which they have come to play a major part.

We wish to stimulate discussion so as to facilitate a vision of where ontologies and knowledge representations are heading.

Contributions should be original and unpublished studies. We are interested in both theoretical and practical research concerning the limits and value of ontologies, including: evaluations of the practical applicability of ontology based technologies; their limits and potentials; issues and solutions for problematic real-world applications; tools and techniques for ontology building and maintenance. Papers concerning the following topics will be particularly welcome, though any other topic relevant to the theme of the limits and value of ontological representations would be acceptable:

- Limits of the knowledge representable in ontologies
- New approaches to representing non-standard forms of knowledge using ontologies
- Alternatives to/Evolution of ontologies
- Formal vs. informal ontologies
- Multimedia ontologies
- Ontologies as corporate memories
- Intellectual property and the commercial significance of ontologies
- Issues in ontology maintenance
- Ontologies for web-scale applications
- The evaluation and trust of ontologies

## **Important Dates**

Paper submissions:	1 September, 2005
Notification of acceptance:	1 November, 2005
Final versions due:	1 February, 2006
Journal publication:	Summer, 2006

## **Format for submissions**

Paper should be formatted in accordance with IJHCS guidelines available in the journal, or at <http://authors.elsevier.com/journal/ijhcs> and should be between 6000-8000 words in length. Authors of submitted journals may be invited to take part in the review process. ❖

## WILF 2005, CALL FOR PAPERS

SIXTH INTERNATIONAL WORKSHOP ON FUZZY LOGIC  
CREMA (MILAN), ITALY -- SEPTEMBER 15-17, 2005

WILF 2005 is the 6th edition of what started out and was formerly known as the Italian Workshop on Fuzzy Logic. WILF 2005 is an international workshop on the theoretical, experimental, and applied fuzzy and, more generally, soft-computing techniques and systems which brings together researchers and developers from both Academia and Industry to report on the latest scientific and theoretical advances, to discuss and debate major issues and to demonstrate state-of-the-art systems.

Topics of interest include, but are not limited to:

1. General techniques and algorithms:
  - Fuzzy Sets; - Rough Sets;
  - Possibility Theory; - Fuzzy Logic;
  - Fuzzy Systems; Neuro-Fuzzy Systems;
  - Representation of Vague and Imprecise Knowledge;
  - Fuzzy Evolutionary Algorithms;
  - Fuzzy Pattern Recognition; Fuzzy Data Fusion.
2. Applications:
  - Bioinformatics; - Broadcasting;
  - Control; - Communications;
  - Information Retrieval;
  - Intelligent Resource Management;
  - Knowledge Management; - Medical;
  - Opto-mechatronics; - Remote Sensing;
  - Robotics; - Semantic Web
  - Speech Analysis; - Television;
  - Telepresence; - Virtual Reality.
3. Implementations:
  - Analog and Digital Circuits and Systems;
  - Architectures and VLSI Hardware;
  - Programmable Processors;
  - Commercial Software.

A special session on "Soft Computing in Image Processing" will be organized in cooperation with the SCIP group (<http://fuzzy.rug.ac.be/SCIP>).

### IMPORTANT DATES:

Submission	:	Closed
Notification of acceptance:		20 June 2005
Camera ready papers due		15 July 2005
Workshop:		15 September 2005

### SUBMISSION

Manuscripts, prepared according to the Springer LNCS format (instructions downloadable from <http://www.springer.de/comp/lncs/instruct/typeinst.pdf>) may not be longer than 6 pages, including a cover sheet stating (1) Paper title, (2) Keyword(s), (3) Authors' names and affiliations, (4) Contact Author's name and contact details including telephone/fax numbers and e-mail address. Papers in PDF or gzipped PostScript format have to be submitted, no later than April 29, 2005 following the link <http://dsa.uniparthenope.it/wilf2005/Submission/tabid/283/Default.aspx>. The papers will be peer-reviewed by at least two members of the program committee. Authors will be notified via email of the results of the review by June 20, 2005. The authors of accepted papers will have to improve their paper on the basis of the reviewers' comments and will be asked to send a camera ready version of their manuscripts, along with text sources and pictures, by July 15, 2005.

Web Address: <http://dsa.uniparthenope.it/wilf2005/>.

# Workshop on Contract Architectures and Languages (CoALa2005) (September 20, 2005, Enschede, The Netherlands)

([www.dstc.edu.au/Research/Projects/coala/2005/](http://www.dstc.edu.au/Research/Projects/coala/2005/) - In conjunction with EDOC2005 Conference, 21-23 September 2005)

**Claudio Bartolini**  
HP Labs, USA

## About the Workshop

The inter-organisational, cross-jurisdictional and collaborative nature of business today increasingly requires that organizations have more transparent view of data, information and processes of their partners. This implies the need for an almost instant access to and a more reliable and accurate view of the business contract data, including both static contract definitions and real-time contract execution. However, contracts are still treated mostly as legal documents disconnected from other enterprise systems in spite of the fact that they are a central mechanism for defining interactions and policy framework for inter-organisational business collaborations. Although contracts are a key governance mechanism for such collaborations there is currently inadequate e-business support for using contract information to manage cross-organisational interactions. In addition, current support for the management of contracts themselves has an 'inward' focus, namely on internal enterprise data and processes. The requirements of the extended enterprise, which includes collaborative arrangements between a company and its trading partners, increasingly demand a more 'outward' perspective on enterprise contract management. The importance of contracts as a governing mechanism for any extended enterprise and the capabilities of new technologies such as Web Services require new and better understanding of contracts from enterprise distributed perspective.

The first CoALa workshop was held in conjunction with EDOC2004 conference and the best papers from this workshop will be published in a special issue of Journal of Collaborative Information Systems in 2005. This second workshop was requested by many participants of CoALa2004. The aim is to continue providing an

opportunity for exchange of ideas about the enterprise contracts, their role in enterprise systems and new solutions to these important enterprise problems.

## Scope

This Workshop will provide a collaborative forum for the participants to exchange recent or preliminary results, to conduct intensive discussions on a particular topic, or to coordinate efforts between representatives of a technical community in the area of Contract Architectures and Languages. The program committee seeks papers and proposals that address various aspects of contracts, including enterprise modeling, e-business, formal and legal aspects with the aim of providing a balanced mix of presentations from these different perspectives.

The duration of the workshop is one day and this workshop will be held on September 20, 2005.

## Topics

Topics of interest include, but are not limited to:

- Enterprise contract architectures
- Contract as a basis for coordination of cross-organisational interactions
- Contracts from system theoretic point of view
- Formalisms for expressing contracts
- Contract description languages
- Contract negotiation, validation
- Run-time contract monitoring and enforcement
- Standardisation activities for e-contracts (e.g. legalXML OASIS and UN/CEFACT): status and directions
- The use of model-driven techniques and tools
- Legal issues associated with electronic contracts
- Tools for drafting and constructing contracts
- Integration of contract management systems with other enterprise systems, e.g. payment systems and ERP systems
- Contract management requirements for specific contracts, e.g. SLAs, construction, financial and e-government contracts
- Trust and contract management issues

- Use and applicability of existing standards/initiatives (e.g. Web Services, BPEL4WS, WS-CDL, RuleML etc)
- Links between contracts and business processes
- Practical experience with contract management systems

## Submission Guidelines

To enable lively and productive discussions, attendance will be limited to 25 participants and submission of a paper or a position statement is required. All submissions will be formally peer reviewed. Submissions should not exceed 8 pages in the IEEE Computer Society format and include the author's name, affiliation and contact details. They should be submitted by e-mail as postscript or PDF files before June 20, 2005, to the Workshop Chairs ([coala-org@dstc.edu.au](mailto:coala-org@dstc.edu.au)). Workshop proceedings will be published on the conference CD-ROM, and all accepted papers will appear in the IEEE Digital Library. The best papers will be considered for publication in a special issue of a related computer science journal. At least one author of accepted papers should participate in the Workshop.

Authors will be notified of acceptance by July 18, 2005.

## Important Dates

Workshop papers due: 20 June 2005

Author notification: 18 July 2005

Final papers due: 15 August 2005

Workshop date: 20 September 2005

❖

# 3rd Workshop on e-Learning (WEL'05) (July 11-12, 2005, Leipzig, Germany)

<http://lernen.htwk-leipzig.de/wel/wel05/>

## Volker Doetsch

Leipzig University of Applied Sciences, Germany

## Key Dates

Submission closed

17 June 2005 Early registration deadline

(No possibility to transfer the registration fee via bank account afterwards)

26 June 2005 Deadline for the printable contribution as pdf (for inclusion into the workshop-CD)

11-12 July 2005 3rd Workshop on e-Learning in Leipzig

31 July 2005 Deadline for the printable contribution as doc, rtf, ... (for inclusion into the printed proceedings)

## Registration

The declaration of contributions and the workshop registration are exclusively handled through the prepared forms at our homepage.

Also, the registration of titles of submissions (e.g. posters, system demonstrations, full papers) is only possible through these forms.

Please, complete your declaration of contributions by sending a summary with a maximum length of one page (A4) via e-Mail to Volker Doetsch

([doetsch@imn.htwk-leipzig.de](mailto:doetsch@imn.htwk-leipzig.de)) or Florian Schaar ([schaar@imn.htwk-leipzig.de](mailto:schaar@imn.htwk-leipzig.de)) and don't forget to indicate the title and the author(s) within this e-Mail!

If you register for a system demonstration, please send the title of your system or project, the name of the presenter and a summary as described above. The summary may contain some screenshots in jpg or gif format.

## Homepage

<http://lernen.htwk-leipzig.de/wel/wel05/>

## Objective and Scope of the Workshop

Evolved from project work at the Leipzig University of Applied Sciences and inspired by the response to the former workshops in the years 2002 and 2003, the forthcoming workshop is intended to give an interesting forum for the presentation and discussion of current developments in the field of e-learning, again. Special attention is paid to a balanced consideration of technical, didactical, and organizational aspects.

These are the topic areas for submissions:

-Durable Implementation of e-Learning Processes at Universities

-Organizational Models

-Cooperational Issues (within and between Universities)

-Merging with University Informational Processes

-Non-technical Support Structures

-Technical Infrastructure

-Overcoming Acceptance Barriers

-Scenarios und Content

-Didactical Aspects

-Adequate Teaching and Learning Scenarios

-Multimedia Design for Courses

-Case Studies

-Content Management

-Rapid e-Learning

-e-Learning Platforms

-e-Learning Platforms under Technical and Conceptual View

-Experiences from Everyday Use

-Standardization

-Cooperation of Local and Regional Platforms

-Evaluation

Other contributions, e.g. concerning theoretical or judicial aspects are also welcome.

As a novelty, compared to the past workshops, two panel discussions are planned. The topic of one of

these discussions will evolve from the ideas of the interested participants. While registering, you will have the opportunity to propose a topic.

Lectures will be grouped in sessions by topic. At any time during the workshop, there will be no more than two sessions running in parallel.

All system demonstrations and poster exhibitions will simultaneously take place in a separate session. There all participants will have the opportunity to take a look at the posters and systems, and to discuss with the authors. During a poster or system demonstration the usage of the internet is possible by request.

## Workshop Place

HTWK Leipzig

04251 Leipzig

Karl-Liebknecht-Str. 145 (Lipsiusbau (Li))

(Karl-Liebknecht-Straße/Eichendorffstraße)

The rooms will be published at the web-pages and in the printed program of the workshop. The students' cafeteria is located in the building where the workshop takes place (Lipsiusbau). You can get Lunch there between 11am and 2pm (at your own expense). Additional information can be found on the web.

## Workshop Participation Fee

In the case of early registration, the workshop participation fee is 15 Euro per person (money has to arrive until June 17th, 2005 ). Otherwise, it is 20 Euro which have to be paid at the workshop. The fee includes a workshop-CD.

Repayment of the workshop fee is not possible. CDs can be bought at the workshop, as well. Printed proceedings are not included in the workshop fee. They can be ordered at the workshop.

## Author Instructions

The layout of the printable contributions has to comply with the example text on our web-pages. Please send the printable version for the workshop-CD in pdf format as an e-Mail to Volker Dötsch ([doetsch@imn.htwk-leipzig.de](mailto:doetsch@imn.htwk-leipzig.de)). The version for the printed proceedings should be in MS-Word-compatible formats (rtf, doc) and should be sent to Volker Doetsch in time, as well. The contributions must be written in German or English.

## Notification of Acceptance

At May 29th, 2005, the authors will get a notice concerning the consideration of their contribution via the e-Mail address supplied during the registration process.

## Proceedings

There will be produced a workshop-CD including the contributions. The costs for the CD are part of the workshop fee. Repayment of the workshop fee is not possible.

Students and members of the Leipzig University of Applied Sciences can take part in the workshop for free, but (in case of interest) they have to pay for a workshop-CD. It is possible to buy a CD at the workshop at the price of 5 Euro.

The proceedings will be printed after the workshop (probably in August/September, ISSN 1610-1014) They will be delivered to several libraries. Contributions will only be included in case of their presentation at the workshop. Printed proceedings are sold at the price of 15 Euro excluding shipping and packaging. They have to be pre-ordered by sending an e-Mail to [doetsch@imn.htwk-leipzig.de](mailto:doetsch@imn.htwk-leipzig.de).

The workshop languages are German and English.

## Contact

If you have any questions concerning the workshop, please feel free to contact us:

Prof. Klaus Hering

HTWK Leipzig

04251 Leipzig

Gustav-Freytag-Str. 42a

Tel.: +49-341-3076 6445

[hering@imn.htwk-leipzig.de](mailto:hering@imn.htwk-leipzig.de)

<http://www.imn.htwk-leipzig.de/~hering>

Volker Dötsch

HTWK Leipzig

04251 Leipzig

Gustav-Freytag-Str. 42a

Tel.: +49-341-3076 6137

[doetsch@imn.htwk-leipzig.de](mailto:doetsch@imn.htwk-leipzig.de)

<http://www.imn.htwk-leipzig.de/~doetsch>

❖

# **International Conference NWeSP-2005: Next Generation Web Services Practices (August 23-27, 2005, Seoul, Korea, [www.NWeSP.org](http://www.NWeSP.org))**

**Alexander Gelbukh**

Technical University Clausthal, Germany

(NWeSP'05) is a forum which brings together researchers and practitioners specializing on different aspects of Web based information systems. It will bring together the world's most respected authorities on semantic web, Web-based services, Web applications, Web enhanced business information systems, e-education specialists, Information security, and other Web related technologies.

## **Topics**

- Web Services Architecture, Modeling and Design,
- Semantic Web, Ontologies (creation, merging, linking, reconciliation),
- Database Technologies for Web Services,
- Customization, Reusability, Enhancements,
- Information Security Issues,
- Quality of Service, Scalability and Performance,
- User Interfaces, Visualization and modeling,
- Web Services Standards,
- Autonomic Computing Paradigms,
- Web Based e-Commerce, e-learning applications,
- Grid Based Web Services.

## **SUBMISSION**

Proceedings of the conference will be published by IEEE CS Press. Submissions are received electronically, see [www.NWeSP.org](http://www.NWeSP.org). Also, proposals to organize technical session and/or workshops.

## **Journal Publication Opportunities**

Good quality papers will be invited for publication in the International Journal of Web Services Practices. Selected papers will be considered for a special issue an "Recent trends in Web Services Practices" in the International

Journal of Digital Information Management (JDIM).

Several other International Journal special issues are being planned and will be available in the conference web site very soon.

## **Important Dates**

Paper Submission Closed.

July 01, 2005: Notification of acceptance.

July 15, 2005: Deadline for camera ready papers and registration.

## **Contact**

Sang Yong Han, [hansy@cau.ac.kr](mailto:hansy@cau.ac.kr);

Ajith Abraham, [ajith.abraham@ieee.org](mailto:ajith.abraham@ieee.org).

❖

## CALENDAR OF EVENTS

### **TIME – 12<sup>TH</sup> INTERNATIONAL SYMPOSIUM ON TEMPORAL REPRESENTATION AND REASONING**

BURLINGTON, VERMONT, USA

2005, JUNE 23-25

<http://time2005.cse.buffalo.edu>

The purpose of this symposium is to bring together active researchers from distinct research areas involving the representation of and reasoning about temporal phenomena. As with previous meetings in this unique and well established series, one of the main goals of the TIME symposium will be to bridge the gap between theoretical and applied research in temporal representation and reasoning.

### **CLIMA VI**

LONDON, UK

2005, JUNE 27- 29

<http://clima.deis.unibo.it/>

The purpose of this workshop is to discuss techniques, based on computational logic, for representing, programming and reasoning about multi-agent systems in a formal way.

### **THIRD INTERNATIONAL WORKSHOP ON PROGRAMMING MULTI-AGENT SYSTEMS**

UTRECHT, NETHERLANDS

2005, JULY 25<sup>TH</sup> OR 26<sup>TH</sup>

<http://www.cs.uu.nl/ProMAS/2005/>

The ProMAS workshop series aims to address the practical programming issues related to developing and deploying multi-agent systems. In particular, ProMAS aims to address how multi-agent systems designs or specifications can be effectively implemented.

### **FIFTH PANHELLENIC LOGIC SYMPOSIUM**

2005, JULY 25-28,

ATHENS, GREECE

<http://www.di.uoa.gr/~pls5>

The Fifth Panhellenic Logic Symposium will take place at the University of Athens, Greece, from July 25 to 28, 2005. The scientific program of the symposium will consist of hour-long invited talks, tutorials, a panel discussion, and presentations of accepted papers.

### **2<sup>ND</sup> INTERNATIONAL WORKSHOP ON CONSTRAINT SOLVING AND LANGUAGE PROCESSING - CSLP 2005**

BARCELONA, SPAIN

SUBMISSIONS: 7 AUGUST 2005

WORKSHOP: 5 OCTOBER 2005

The purpose of the workshop is to provide an overview of activities in the field of Constraint Solving with special emphasis on Natural Language Processing and for researchers to meet and exchange ideas.

### **CMSRA-IV**

LISBON, PORTUGAL

2005, SEPTEMBER 21-23

[centria.di.fct.unl.pt/~greg/conf/CMSRA-IV.html](http://centria.di.fct.unl.pt/~greg/conf/CMSRA-IV.html)

The CMSRA workshops are an international forum for researchers from the fields of Logic & Decision, Knowledge Representation & Reasoning, Formal Epistemology, Computational Logic and Cognitive Science to discuss recent work in computational models of scientific reasoning.

### **7<sup>TH</sup> AUGUSTUS DE MORGAN WORKSHOP ON GAMES AND LOGIC**

LONDON, UK

2005, NOVEMBER

Game theory has become increasingly applicable in logic, argumentation and in theoretical computer science. This conference is intended to explore the potential of the interdisciplinary connections not only with the above areas but with decision theory as well.

### **2005 AAAI FALL SYMPOSIUM - ROLES, AN INTERDISCIPLINARY PERSPECTIVE**

HYATT CRYSTAL CITY IN ARLINGTON, VIRGINIA

2005, NOVEMBER 3-6

With this Symposium we propose to gather researchers working across the boundaries of their scientific fields to explore new formal and computational techniques and research methodologies for integrating research results. For this reason the Symposium will provide time for discussion besides paper presentations.

### **4<sup>TH</sup> MEXICAN INTERNATIONAL CONFERENCE ON ARTIFICIAL INTELLIGENCE**

2005, NOVEMBER 14-18

MONTERREY, MEXICO

MICAI is a high-level international conference covering all areas of Artificial Intelligence, traditionally held in Mexico. All previous editions of MICAI were published in Springer LNAI (N 1793, 2313, 2972). Acceptance rate of MICAI-2004 was 38% of submissions from 19 countries.