

ACL 2007



# ACL 2007

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## **SemEval 2007** **Proceedings of the 4th International Workshop** **on Semantic Evaluations**

**June 23-24, 2007**  
**Prague, Czech Republic**

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[acl@aclweb.org](mailto:acl@aclweb.org)

## Preface

This volume contains papers describing the tasks and participating systems in SemEval-2007 — the Fourth International Workshop on Semantic Evaluations. The SemEval-2007 workshop was held in conjunction with the Association for Computational Linguistics meeting on June 23-24, 2007 in Prague, Czech Republic.

The ACL Special Interest Group on the Lexicon (SIGLEX) is the umbrella organization for SemEval-2007. SIGLEX previously ran three highly successful evaluation exercises for word sense disambiguation under the name Senseval. As the nature of the tasks in Senseval has evolved to include semantic analysis tasks outside of word sense disambiguation, the Senseval Committee changed the name of the evaluation exercises to SemEval.

SemEval-2007 was very successful. Our call for tasks solicited 27 task proposals. After a careful review process and a call for interest in participation, we selected 18 tasks to be part of the evaluation. Over 100 teams participated with over 125 unique systems. As a comparison, Senseval-3 (2004) organized 14 tasks with 55 teams.

Some tasks were updated versions of tasks found in Senseval-3, including lexical-sample word sense disambiguation tasks in Catalan, English, Spanish and Turkish, two all-words English word sense disambiguation tasks, and two multilingual lexical sample tasks (Chinese-English). The updates included using coarse-sense inventories, or combining word sense disambiguation and semantic role classification. The rest of the tasks were novel to this evaluation exercises, and some have been organized for the first time. Below is the full list of tasks. Note that Task 3 was withdrawn before the competition started.

- *Task 01: Evaluating WSD on Cross-Language Information Retrieval*
- *Task 02: Evaluating Word Sense Induction and Discrimination Systems*
- *Task 04: Classification of Semantic Relations between Nominals*
- *Task 05: Multilingual Chinese-English Lexical Sample*
- *Task 06: Word-Sense Disambiguation of Prepositions*
- *Task 07: Coarse-Grained English All-Words Task*
- *Task 08: Metonymy Resolution at SemEval-2007*
- *Task 09: Multilevel Semantic Annotation of Catalan and Spanish*
- *Task 10: English Lexical Substitution Task*
- *Task 11: English Lexical Sample Task via English-Chinese Parallel Text*
- *Task 12: Turkish Lexical Sample Task*
- *Task 13: Web People Search*

- *Task 14: Affective Text*
- *Task 15: TempEval Temporal Relation Identification*
- *Task 16: Evaluation of Wide Coverage Knowledge Resources*
- *Task-17: English Lexical Sample, SRL and All Words*
- *Task 18: Arabic Semantic Labeling*
- *Task 19: Frame Semantic Structure Extraction*

These proceedings include the descriptions of all tasks and most of the participating systems. The papers in these proceedings represent a wide variety of state-of-the-art methods for semantic analysis. The proceedings are organized as follows: we first present the task description papers, ordered by task number. System papers follow, with papers ordered according to system name. In addition to the usual author index we also include a task-system index in the back, for easier browsing.

All of the papers were peer-reviewed by the program committee, task organizers and fellow participants. We are truly grateful for everyone's careful and insightful reviews. The papers in this proceedings have benefited from this feedback.

We thank Ed Hovy for his invited talk, and we also thank the members of the two panels for providing discussion and insights on 1) inference with semantics, led by Bernarndo Magnini and 2) the future of SemEval, led by Rada Mihalcea.

The evaluation really comes down to the organization of the tasks. The task organizers did an extraordinary job of task design, data creation, and administration, under tight time constraints. We are grateful to the ACL 2007 conference organizers for local organization and the forum. We most gratefully acknowledge the support of our sponsor, the ACL Special Interest Group on the Lexicon (SIGLEX). Finally, the organizers wish to express their gratitude for the invaluable guidance provided by Rada Mihalcea and Phil Edmonds.

Eneko Agirre, Lluís Màrquez and Richard Wicentowski  
June 2007

## Organizers

### Chairs:

Eneko Agirre, University of the Basque Country  
Lluís Màrquez, Technical University of Catalonia  
Richard Wicentowski, Swarthmore College

### Task Organizers:

Eneko Agirre, University of the Basque Country  
Javier Artiles, Universidad Nacional de Educación a Distancia  
Collin Baker, International Computer Science Institute, Berkeley  
Yee Seng Chan, National University of Singapore  
Montse Cuadros, Technical University of Catalonia  
Mona Diab, Columbia University  
Michael Ellsworth, International Computer Science Institute, Berkeley  
Katrín Erk, University of Texas at Austin  
Christiane Fellbaum, Princeton University  
Robert Gaizauskas, University of Sheffield  
Roxana Girju, University of Illinois at Urbana-Champaign  
Julio Gonzalo, Universidad Nacional de Educación a Distancia  
Marti Hearst, University of California, Berkeley  
Mark Hepple, University of Sheffield  
Peng Jin, Peking University  
Graham Katz, University of Osnabrück  
Kenneth Litkowski, CL Research  
Edward Loper, University of Pennsylvania  
Oier Lopez de Lacalle, University of the Basque Country  
Mohamed Maamouri, University of Pennsylvania  
Bernardo Magnini, FBK/IRST  
Katja Markert, University of Leeds  
Lluís Màrquez, Technical University of Catalonia  
M. Antònia Martí, University of Barcelona  
Diana McCarthy, University of Sussex  
Rada Mihalcea, University of North Texas  
Preslav Nakov, University of California, Berkeley  
Vivi Nastase, European Media Laboratory  
Roberto Navigli, University of Rome “La Sapienza”  
Hwee Tou Ng, National University of Singapore  
Malvina Nissim, University of Bologna and Institute for Cognitive Science and Technology  
Zeynep Orhan, Fatih University  
Arantxa Otegi, University of the Basque Country  
Martha Palmer, University of Colorado at Boulder  
Sameer Pradhan, BBN Technologies

James Pustejovsky, Brandeis University  
German Rigau, University of the Basque Country  
Satoshi Sekine, New York University  
Frank Schilder, Thomson Legal & Regulatory  
Aitor Soroa, University of the Basque Country  
Carlo Strapparava, FBK/IRST  
Stan Szpakowicz, University of Ottawa  
Mariona Taulé, University of Barcelona  
Peter Turney, National Research Council of Canada  
Marc Verhagen, Brandeis University  
Luis Villarejo, Technical University of Catalonia  
Piek Vossen, Irion BV  
Yunfang Wu, Peking University  
Shiwen Yu, Peking University  
Deniz Yuret, Koc University

**Program Committee:**

Collin Baker, University of California, Berkeley  
Nicoletta Calzolari, Istituto di Linguistica Computazionale - CNR  
Xavier Carreras, Massachusetts Institute of Technology  
Walter Daelemans, University of Antwerp  
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Carlo Strapparava, FBK/IRST  
Yorick Wilks, University of Sheffield  
Dekai Wu, The Hong Kong University of Science & Technology  
Deniz Yuret, Koc University

**Additional Reviewers:**

Task organizers and participant teams helped with the reviewing process. We also thank Marine Carpuat, Lluís Padró, and Horacio Rodríguez for serving as additional reviewers.

**Invited Speaker:**

Eduard Hovy, ISI - University of Southern California

**Panel moderators:**

Bernardo Magnini, FBK/IRST  
Rada Mihalcea, University of North Texas

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<http://nlp.cs.swarthmore.edu/semEval/>





# Table of Contents

## Task description papers

<i>SemEval-2007 Task 01: Evaluating WSD on Cross-Language Information Retrieval</i> Eneko Agirre, Bernardo Magnini, Oier Lopez de Lacalle, Arantxa Otegi, German Rigau and Piek Vossen . . . . .	1
<i>SemEval-2007 Task 02: Evaluating Word Sense Induction and Discrimination Systems</i> Eneko Agirre and Aitor Soroa . . . . .	7
<i>SemEval-2007 Task 04: Classification of Semantic Relations between Nominals</i> Roxana Girju, Preslav Nakov, Vivi Nastase, Stan Szpakowicz, Peter Turney and Deniz Yuret . . . . .	13
<i>SemEval-2007 Task 05: Multilingual Chinese-English Lexical Sample</i> Peng Jin, Yunfang Wu and Shiwen Yu . . . . .	19
<i>SemEval-2007 Task 06: Word-Sense Disambiguation of Prepositions</i> Kenneth C. Litkowski and Orin Hargraves . . . . .	24
<i>SemEval-2007 Task 07: Coarse-Grained English All-Words Task</i> Roberto Navigli, Kenneth C. Litkowski and Orin Hargraves . . . . .	30
<i>SemEval-2007 Task 08: Metonymy Resolution at SemEval-2007</i> Katja Markert and Malvina Nissim . . . . .	36
<i>SemEval-2007 Task 09: Multilevel Semantic Annotation of Catalan and Spanish</i> Lluís Màrquez, Lluís Villarejo, M. A. Martí and Mariona Taulé . . . . .	42
<i>SemEval-2007 Task 10: English Lexical Substitution Task</i> Diana McCarthy and Roberto Navigli . . . . .	48
<i>SemEval-2007 Task 11: English Lexical Sample Task via English-Chinese Parallel Text</i> Hwee Tou Ng and Yee Seng Chan . . . . .	54
<i>SemEval-2007 Task 12: Turkish Lexical Sample Task</i> Zeynep Orhan, Emine Çelik and Demirgüç Neslihan . . . . .	59
<i>The SemEval-2007 WePS Evaluation: Establishing a benchmark for the Web People Search Task</i> Javier Artiles, Julio Gonzalo and Satoshi Sekine . . . . .	64
<i>SemEval-2007 Task 14: Affective Text</i> Carlo Strapparava and Rada Mihalcea . . . . .	70
<i>SemEval-2007 Task 15: TempEval Temporal Relation Identification</i> Marc Verhagen, Robert Gaizauskas, Frank Schilder, Mark Hepple, Graham Katz and James Pustejovsky . . . . .	75

<i>SemEval-2007 Task 16: Evaluation of Wide Coverage Knowledge Resources</i>	
Montse Cuadros and German Rigau .....	81
<i>SemEval-2007 Task-17: English Lexical Sample, SRL and All Words</i>	
Sameer Pradhan, Edward Loper, Dmitriy Dligach and Martha Palmer .....	87
<i>SemEval-2007 Task 18: Arabic Semantic Labeling</i>	
Mona Diab, Musa Alkhalifa, Sabry ElKateb, Christiane Fellbaum, Aous Mansouri and Martha Palmer .....	93
<i>SemEval-2007 Task 19: Frame Semantic Structure Extraction</i>	
Collin Baker, Michael Ellsworth and Katrin Erk .....	99

## **System description papers**

<i>AUG: A combined classification and clustering approach for web people disambiguation</i>	
Els Lefever, Véronique Hoste and Timur Fayruzov .....	105
<i>CITYU-HIF: WSD with Human-Informed Feature Preference</i>	
Oi Yee Kwong .....	109
<i>CLR: Integration of FrameNet in a Text Representation System</i>	
Kenneth C. Litkowski .....	113
<i>CLaC and CLaC-NB: Knowledge-based and corpus-based approaches to sentiment tagging</i>	
Alina Andreevskaia and Sabine Bergler .....	117
<i>CMU-AT: Semantic Distance and Background Knowledge for Identifying Semantic Relations</i>	
Alicia Tribble and Scott E. Fahlman .....	121
<i>CU-COMSEM: Exploring Rich Features for Unsupervised Web Personal Name Disambiguation</i>	
Ying Chen and James H. Martin .....	125
<i>CU-TMP: Temporal Relation Classification Using Syntactic and Semantic Features</i>	
Steven Bethard and James H. Martin .....	129
<i>CUNIT: A Semantic Role Labeling System for Modern Standard Arabic</i>	
Mona Diab, Alessandro Moschitti and Daniele Pighin .....	133
<i>DFKI2: An Information Extraction Based Approach to People Disambiguation</i>	
Andrea Heyl and Günter Neumann .....	137
<i>FBK-IRST: Kernel Methods for Semantic Relation Extraction</i>	
Claudio Giuliano, Alberto Lavelli, Daniele Pighin and Lorenza Romano .....	141
<i>FBK-irst: Lexical Substitution Task Exploiting Domain and Syntagmatic Coherence</i>	
Claudio Giuliano, Alfio Gliozzo and Carlo Strapparava .....	145

<i>FICO: Web Person Disambiguation Via Weighted Similarity of Entity Contexts</i> Paul Kalmar and Matthias Blume .....	149
<i>FUH (FernUniversität in Hagen): Metonymy Recognition Using Different Kinds of Context for a Memory-Based Learner</i> Johannes Leveling .....	153
<i>GPLSI: Word Coarse-grained Disambiguation aided by Basic Level Concepts</i> Rubén Izquierdo, Armando Suárez and German Rigau .....	157
<i>GYDER: Maxent Metonymy Resolution</i> Richárd Farkas, Eszter Simon, György Szarvas and Dániel Varga .....	161
<i>HIT-IR-WSD: A WSD System for English Lexical Sample Task</i> Yuhang Guo, Wanxiang Che, Yuxuan Hu, Wei Zhang and Ting Liu .....	165
<i>HIT-WSD: Using Search Engine for Multilingual Chinese-English Lexical Sample Task</i> PengYuan Liu, TieJun Zhao and MuYun Yang .....	169
<i>HIT: Web based Scoring Method for English Lexical Substitution</i> Shiqi Zhao, Lin Zhao, Yu Zhang, Ting Liu and Sheng Li .....	173
<i>I2R: Three Systems for Word Sense Discrimination, Chinese Word Sense Disambiguation, and English Word Sense Disambiguation</i> Zheng-Yu Niu, Dong-Hong Ji and Chew-Lim Tan .....	177
<i>ILK2: Semantic Role Labeling of Catalan and Spanish using TiMBL</i> Roser Morante and Bertjan Busser .....	183
<i>ILK: Machine learning of semantic relations with shallow features and almost no data</i> Iris Hendrickx, Roser Morante, Caroline Sporleder and Antal van den Bosch .....	187
<i>IRST-BP: Preposition Disambiguation based on Chain Clarifying Relationships Contexts</i> Octavian Popescu, Sara Tonelli and Emanuele Pianta .....	191
<i>IRST-BP: Web People Search Using Name Entities</i> Octavian Popescu and Bernardo Magnini .....	195
<i>JHU1 : An Unsupervised Approach to Person Name Disambiguation using Web Snippets</i> Delip Rao, Nikesh Garera and David Yarowsky .....	199
<i>JU-SKNSB: Extended WordNet Based WSD on the English All-Words Task at SemEval-1</i> Sudip Kumar Naskar and Sivaji Bandyopadhyay .....	203
<i>KU: Word Sense Disambiguation by Substitution</i> Deniz Yuret .....	207
<i>LCC-SRN: LCC's SRN System for SemEval 2007 Task 4</i> Adriana Badulescu and Munirathnam Srikanth .....	215

<i>LCC-TE: A Hybrid Approach to Temporal Relation Identification in News Text</i> Congmin Min, Munirathnam Srikanth and Abraham Fowler .....	219
<i>LCC-WSD: System Description for English Coarse Grained All Words Task at SemEval 2007</i> Adrian Novischi, Muirathnam Srikanth and Andrew Bennett .....	223
<i>LTH: Semantic Structure Extraction using Nonprojective Dependency Trees</i> Richard Johansson and Pierre Nugues .....	227
<i>MELB-KB: Nominal Classification as Noun Compound Interpretation</i> Su Nam Kim and Timothy Baldwin .....	231
<i>MELB-MKB: Lexical Substitution system based on Relatives in Context</i> David Martinez, Su Nam Kim and Timothy Baldwin.....	237
<i>MELB-YB: Preposition Sense Disambiguation Using Rich Semantic Features</i> Patrick Ye and Timothy Baldwin .....	241
<i>NAIST.Japan: Temporal Relation Identification Using Dependency Parsed Tree</i> Yuchang Cheng, Masayuki Asahara and Yuji Matsumoto.....	245
<i>NUS-ML:Improving Word Sense Disambiguation Using Topic Features</i> Jun Fu Cai, Wee Sun Lee and Yee Whye Teh.....	249
<i>NUS-PT: Exploiting Parallel Texts for Word Sense Disambiguation in the English All-Words Tasks</i> Yee Seng Chan, Hwee Tou Ng and Zhi Zhong.....	253
<i>OE: WSD Using Optimal Ensembling (OE) Method</i> Harri M. T. Saarikoski .....	257
<i>PKU: Combining Supervised Classifiers with Features Selection</i> Peng Jin, Danqing Zhu, Fuxin Li and Yunfang Wu.....	261
<i>PNNL: A Supervised Maximum Entropy Approach to Word Sense Disambiguation</i> Stephen Tratz, Antonio Sanfilippo, Michelle Gregory, Alan Chappell, Christian Posse and Paul Whitney.....	264
<i>PSNUS: Web People Name Disambiguation by Simple Clustering with Rich Features</i> Ergin Elmacioglu, Yee Fan Tan, Su Yan, Min-Yen Kan and Dongwon Lee .....	268
<i>PU-BCD: Exponential Family Models for the Coarse- and Fine-Grained All-Words Tasks</i> Jonathan Chang, Miroslav Dudik and David Blei .....	272
<i>PUTOP: Turning Predominant Senses into a Topic Model for Word Sense Disambiguation</i> Jordan Boyd-Graber and David Blei.....	277
<i>RACAI: Meaning Affinity Models</i> Radu Ion and Dan Tufiş.....	282

<i>RTV: Tree Kernels for Thematic Role Classification</i>	
Daniele Pighin, Alessandro Moschitti and Roberto Basili .....	288
<i>SHEF: Semantic Tagging and Summarization Techniques Applied to Cross-document Coreference</i>	
Horacio Saggion .....	292
<i>SICS: Valence annotation based on seeds in word space</i>	
Magnus Sahlgren, Jussi Karlgren and Gunnar Eriksson .....	296
<i>SRCB-WSD: Supervised Chinese Word Sense Disambiguation with Key Features</i>	
Yun Xing .....	300
<i>SW-AG: Local Context Matching for English Lexical Substitution</i>	
George Dahl, Anne-Marie Frassica and Richard Wicentowski .....	304
<i>SWAT-MP: The SemEval-2007 Systems for Task 5 and Task 14</i>	
Phil Katz, Matt Singleton and Richard Wicentowski .....	308
<i>Sussx: WSD using Automatically Acquired Predominant Senses</i>	
Rob Koeling and Diana McCarthy .....	314
<i>TITPI: Web People Search Task Using Semi-Supervised Clustering Approach</i>	
Kazunari Sugiyama and Manabu Okumura .....	318
<i>TKB-UO: Using Sense Clustering for WSD</i>	
Henry Anaya-Sánchez, Aurora Pons-Porrata and Rafael Berlanga-Llavori .....	322
<i>Tor, TorMd: Distributional Profiles of Concepts for Unsupervised Word Sense Disambiguation</i>	
Saif Mohammad, Graeme Hirst and Philip Resnik .....	326
<i>UA-ZBSA: A Headline Emotion Classification through Web Information</i>	
Zornitsa Kozareva, Borja Navarro, Sonia Vazquez and Andres Montoyo .....	334
<i>UA-ZSA: Web Page Clustering on the basis of Name Disambiguation</i>	
Zornitsa Kozareva, Sonia Vazquez and Andres Montoyo .....	338
<i>UBC-ALM: Combining k-NN with SVD for WSD</i>	
Eneko Agirre and Oier Lopez de Lacalle .....	342
<i>UBC-AS: A Graph Based Unsupervised System for Induction and Classification</i>	
Eneko Agirre and Aitor Soroa .....	346
<i>UBC-UMB: Combining unsupervised and supervised systems for all-words WSD</i>	
David Martinez, Timothy Baldwin, Eneko Agirre and Oier Lopez de Lacalle .....	350
<i>UBC-UPC: Sequential SRL Using Selectional Preferences. An approach with Maximum Entropy Markov Models</i>	
Beñat Zepirain, Eneko Agirre and Lluís Màrquez .....	354

<i>UBC-ZAS: A k-NN based Multiclassifier System to perform WSD in a Reduced Dimensional Vector Space</i>	
Ana Zelaia, Olatz Arregi and Basilio Sierra .....	358
<i>UC3M_13: Disambiguation of Person Names Based on the Composition of Simple Bags of Typed Terms</i>	
David del Valle-Agudo, César de Pablo-Sánchez and María Teresa Vicente-Díez.....	362
<i>UCB: System Description for SemEval Task #4</i>	
Preslav Nakov and Marti Hearst .....	366
<i>UCD-FC: Deducing semantic relations using WordNet senses that occur frequently in a database of noun-noun compounds</i>	
Fintan J. Costello .....	370
<i>UCD-PN: Classification of Semantic Relations Between Nominals using WordNet and Web Counts</i>	
Paul Nulty .....	374
<i>UCD-S1: A hybrid model for detecting semantic relations between noun pairs in text</i>	
Cristina Butnariu and Tony Veale .....	378
<i>UCM3: Classification of Semantic Relations between Nominals using Sequential Minimal Optimization</i>	
Isabel Segura Bedmar, Doaa Samy and Jose L. Martinez .....	382
<i>UIUC: A Knowledge-rich Approach to Identifying Semantic Relations between Nominals</i>	
Brandon Beamer, Suma Bhat, Brant Chee, Andrew Fister, Alla Rozovskaya and Roxana Girju .....	386
<i>UMND1: Unsupervised Word Sense Disambiguation Using Contextual Semantic Relatedness</i>	
Siddharth Patwardhan, Satanjeev Banerjee and Ted Pedersen .....	390
<i>UMND2 : SenseClusters Applied to the Sense Induction Task of Senseval-4</i>	
Ted Pedersen .....	394
<i>UNIBA: JIGSAW algorithm for Word Sense Disambiguation</i>	
Pierpaolo Basile, Marco de Gemmis, Anna Lisa Gentile, Pasquale Lops and Giovanni Semeraro .....	398
<i>UNN-WePS: Web Person Search using co-Present Names and Lexical Chains</i>	
Jeremy Ellman and Gary Emery .....	402
<i>UNT-Yahoo: SuperSenseLearner: Combining SenseLearner with SuperSense and other Coarse Semantic Features</i>	
Rada Mihalcea, Andras Csomai and Massimiliano Ciaramita .....	406
<i>UNT: SubFinder: Combining Knowledge Sources for Automatic Lexical Substitution</i>	
Samer Hassan, Andras Csomai, Carmen Banea, Ravi Sinha and Rada Mihalcea .....	410

<i>UOY: A Hypergraph Model For Word Sense Induction &amp; Disambiguation</i> Ioannis Klapaftis and Suresh Manandhar .....	414
<i>UP13: Knowledge-poor Methods (Sometimes) Perform Poorly</i> Thierry Poibeau .....	418
<i>UPAR7: A knowledge-based system for headline sentiment tagging</i> François-Régis Chaumartin .....	422
<i>UPC: Experiments with Joint Learning within SemEval Task 9</i> Lluís Màrquez, Lluís Padró, Mihai Surdeanu and Luis Villarejo .....	426
<i>UPV-SI: Word Sense Induction using Self Term Expansion</i> David Pinto, Paolo Rosso and Héctor Jiménez-Salazar .....	430
<i>UPV-WSD : Combining different WSD Methods by means of Fuzzy Borda Voting</i> Davide Buscaldi and Paolo Rosso .....	434
<i>USFD: Preliminary Exploration of Features and Classifiers for the TempEval-2007 Task</i> Mark Hepple, Andrea Setzer and Robert Gaizauskas .....	438
<i>USP-IBM-1 and USP-IBM-2: The ILP-based Systems for Lexical Sample WSD in SemEval-2007</i> Lucia Specia, Maria das Graças, Volpe Nunes, Ashwin Srinivasan and Ganesh Ramakrishnan .....	442
<i>USYD: WSD and Lexical Substitution using the WebIT corpus</i> Tobias Hawker .....	446
<i>UTD-HLT-CG: Semantic Architecture for Metonymy Resolution and Classification of Nominal Relations</i> Cristina Nicolae, Gabriel Nicolae and Sanda Harabagiu .....	454
<i>UTD-SRL: A Pipeline Architecture for Extracting Frame Semantic Structures</i> Cosmin Adrian Bejan and Chris Hathaway .....	460
<i>UTH: SVM-based Semantic Relation Classification using Physical Sizes</i> Eiji Aramaki, Takeshi Imai, Kengo Miyo and Kazuhiko Ohe .....	464
<i>UVA: Language Modeling Techniques for Web People Search</i> Krisztian Balog, Leif Azzopardi and Maarten de Rijke .....	468
<i>UVAVU: WordNet Similarity and Lexical Patterns for Semantic Relation Classification</i> Willem Robert van Hage and Sophia Katrenko .....	472
<i>UofL: Word Sense Disambiguation Using Lexical Cohesion</i> Yllias Chali and Shafiq R. Joty .....	476
<i>WIT: Web People Search Disambiguation using Random Walks</i> José Iria, Lei Xia and Ziqi Zhang .....	480

<i>WVALI: Temporal Relation Identification by Syntactico-Semantic Analysis</i>	
Georgiana Puşcaşu .....	484
<i>XRCE-M: A Hybrid System for Named Entity Metonymy Resolution</i>	
Brun Caroline, Ehrmann Maud and Jacquet Guillaume .....	488
<i>XRCE-T: XIP Temporal Module for TempEval campaign.</i>	
Caroline Hagège and Xavier Tannier .....	492

## **Indices**

<i>Author Index</i> .....	497
<i>Task and System Index</i> .....	501



# Conference Program

## Saturday, June 23, 2007

- 9:00–9:15 Welcome
- 9:15–9:30 *SemEval-2007 Task 01: Evaluating WSD on Cross-Language Information Retrieval*  
Eneko Agirre, Bernardo Magnini, Oier Lopez de Lacalle, Arantxa Otegi, German Rigau and Piek Vossen
- 9:30–9:45 *SemEval-2007 Task 02: Evaluating Word Sense Induction and Discrimination Systems*  
Eneko Agirre and Aitor Soroa
- 9:45–10:00 *SemEval-2007 Task 04: Classification of Semantic Relations between Nominals*  
Roxana Girju, Preslav Nakov, Vivi Nastase, Stan Szpakowicz, Peter Turney and Deniz Yuret
- 10:00–10:15 *UIUC: A Knowledge-rich Approach to Identifying Semantic Relations between Nominals*  
Brandon Beamer, Suma Bhat, Brant Chee, Andrew Fister, Alla Rozovskaya and Roxana Girju
- 10:15–10:30 *FBK-IRST: Kernel Methods for Semantic Relation Extraction*  
Claudio Giuliano, Alberto Lavelli, Daniele Pighin and Lorenza Romano
- 10:30–10:45 *SemEval-2007 Task 07: Coarse-Grained English All-Words Task*  
Roberto Navigli, Kenneth C. Litkowski and Orin Hargraves
- 10:45–11:15 coffee break
- 11:15–11:30 *SemEval-2007 Task 08: Metonymy Resolution at SemEval-2007*  
Katja Markert and Malvina Nissim
- 11:30–12:30 Invited Talk by Eduard Hovy: The OntoNotes project
- 12:30–14:30 lunch

**Saturday, June 23, 2007 (continued)**

**Poster session 1**

14:30–15:45 *SemEval-2007 Task 05: Multilingual Chinese-English Lexical Sample*  
Peng Jin, Yunfang Wu and Shiwen Yu

*SemEval-2007 Task 06: Word-Sense Disambiguation of Prepositions*  
Kenneth C. Litkowski and Orin Hargraves

*CMU-AT: Semantic Distance and Background Knowledge for Identifying Semantic Relations*  
Alicia Tribble and Scott E. Fahlman

*FUH (FernUniversität in Hagen): Metonymy Recognition Using Different Kinds of Context for a Memory-Based Learner*  
Johannes Leveling

*GPLSI: Word Coarse-grained Disambiguation aided by Basic Level Concepts*  
Rubén Izquierdo, Armando Suárez and German Rigau

*GYDER: Maxent Metonymy Resolution*  
Richárd Farkas, Eszter Simon, György Szarvas and Dániel Varga

*HIT-WSD: Using Search Engine for Multilingual Chinese-English Lexical Sample Task*  
PengYuan Liu, TieJun Zhao and MuYun Yang

*ILK: Machine learning of semantic relations with shallow features and almost no data*  
Iris Hendrickx, Roser Morante, Caroline Sporleder and Antal van den Bosch

*IRST-BP: Preposition Disambiguation based on Chain Clarifying Relationships Contexts*  
Octavian Popescu, Sara Tonelli and Emanuele Pianta

*LCC-SRN: LCC's SRN System for SemEval 2007 Task 4*  
Adriana Badulescu and Munirathnam Srikanth

*LCC-WSD: System Description for English Coarse Grained All Words Task at SemEval 2007*  
Adrian Novischi, Muirathnam Srikanth and Andrew Bennett

*MELB-KB: Nominal Classification as Noun Compound Interpretation*  
Su Nam Kim and Timothy Baldwin

**Saturday, June 23, 2007 (continued)**

*MELB-YB: Preposition Sense Disambiguation Using Rich Semantic Features*  
Patrick Ye and Timothy Baldwin

*SRCB-WSD: Supervised Chinese Word Sense Disambiguation with Key Features*  
Yun Xing

*Sussx: WSD using Automatically Acquired Predominant Senses*  
Rob Koeling and Diana McCarthy

*UCB: System Description for SemEval Task #4*  
Preslav Nakov and Marti Hearst

*UCD-FC: Deducing semantic relations using WordNet senses that occur frequently in a database of noun-noun compounds*  
Fintan J. Costello

*UCD-PN: Classification of Semantic Relations Between Nominals using WordNet and Web Counts*  
Paul Nulty

*UCD-S1: A hybrid model for detecting semantic relations between noun pairs in text*  
Cristina Butnariu and Tony Veale

*UCM3: Classification of Semantic Relations between Nominals using Sequential Minimal Optimization*  
Isabel Segura Bedmar, Doaa Samy and Jose L. Martinez

*UMND2 : SenseClusters Applied to the Sense Induction Task of Senseval-4*  
Ted Pedersen

*UNIBA: JIGSAW algorithm for Word Sense Disambiguation*  
Pierpaolo Basile, Marco de Gemmis, Anna Lisa Gentile, Pasquale Lops and Giovanni Semeraro

*UOY: A Hypergraph Model For Word Sense Induction & Disambiguation*  
Ioannis Klapaftis and Suresh Manandhar

*UP13: Knowledge-poor Methods (Sometimes) Perform Poorly*  
Thierry Poibeau

**Saturday, June 23, 2007 (continued)**

*UPV-SI: Word Sense Induction using Self Term Expansion*  
David Pinto, Paolo Rosso and Héctor Jiménez-Salazar

*UTD-HLT-CG: Semantic Architecture for Metonymy Resolution and Classification of Nominal Relations*  
Cristina Nicolae, Gabriel Nicolae and Sanda Harabagiu

*UTH: SVM-based Semantic Relation Classification using Physical Sizes*  
Eiji Aramaki, Takeshi Imai, Kengo Miyo and Kazuhiko Ohe

*UVAVU: WordNet Similarity and Lexical Patterns for Semantic Relation Classification*  
Willem Robert van Hage and Sophia Katrenko

*UofL: Word Sense Disambiguation Using Lexical Cohesion*  
Yllias Chali and Shafiq R. Joty

*XRCE-M: A Hybrid System for Named Entity Metonymy Resolution*  
Brun Caroline, Ehrmann Maud and Jacquet Guillaume

15:45–16:15 coffee break

16:15–16:30 *SemEval-2007 Task 10: English Lexical Substitution Task*  
Diana McCarthy and Roberto Navigli

16:30–16:45 *SemEval-2007 Task 11: English Lexical Sample Task via English-Chinese Parallel Text*  
Hwee Tou Ng and Yee Seng Chan

16:45–17:00 *The SemEval-2007 WePS Evaluation: Establishing a benchmark for the Web People Search Task*  
Javier Artiles, Julio Gonzalo and Satoshi Sekine

17:00–17:15 *PSNUS: Web People Name Disambiguation by Simple Clustering with Rich Features*  
Ergin Elmacioglu, Yee Fan Tan, Su Yan, Min-Yen Kan and Dongwon Lee

17:15–18:15 Panel: Inference with semantics: tasks and applications

**Sunday, June 24, 2007**

- 8:45–9:00     *SemEval-2007 Task 14: Affective Text*  
Carlo Strapparava and Rada Mihalcea
- 9:00–9:15     *CLaC and CLaC-NB: Knowledge-based and corpus-based approaches to sentiment tagging*  
Alina Andreevskaia and Sabine Bergler
- 9:15–9:30     *SemEval-2007 Task 15: TempEval Temporal Relation Identification*  
Marc Verhagen, Robert Gaizauskas, Frank Schilder, Mark Hepple, Graham Katz and James Pustejovsky
- 9:30–9:45     *WVALI: Temporal Relation Identification by Syntactico-Semantic Analysis*  
Georgiana Puşcaşu
- 9:45–10:00    *SemEval-2007 Task-17: English Lexical Sample, SRL and All Words*  
Sameer Pradhan, Edward Loper, Dmitriy Dligach and Martha Palmer
- 10:00–10:15   *I2R: Three Systems for Word Sense Discrimination, Chinese Word Sense Disambiguation, and English Word Sense Disambiguation*  
Zheng-Yu Niu, Dong-Hong Ji and Chew-Lim Tan
- 10:15–10:30   *NUS-PT: Exploiting Parallel Texts for Word Sense Disambiguation in the English All-Words Tasks*  
Yee Seng Chan, Hwee Tou Ng and Zhi Zhong
- 10:30–10:45   *UNT: SubFinder: Combining Knowledge Sources for Automatic Lexical Substitution*  
Samer Hassan, Andras Csomai, Carmen Banea, Ravi Sinha and Rada Mihalcea
- 10:45–11:15   coffee break

**Sunday, June 24, 2007 (continued)**

**Poster session 2**

11:15–12:30 *SemEval-2007 Task 09: Multilevel Semantic Annotation of Catalan and Spanish*  
Lluís Màrquez, Lluís Villarejo, M. A. Martí and Mariona Taulé

*SemEval-2007 Task 12: Turkish Lexical Sample Task*  
Zeynep Orhan, Emine Çelik and Demirgüç Neslihan

*SemEval-2007 Task 16: Evaluation of Wide Coverage Knowledge Resources*  
Montse Cuadros and German Rigau

*SemEval-2007 Task 18: Arabic Semantic Labeling*  
Mona Diab, Musa Alkhalifa, Sabry ElKateb, Christiane Fellbaum, Aous Mansouri and Martha Palmer

*AUG: A combined classification and clustering approach for web people disambiguation*  
Els Lefever, Véronique Hoste and Timur Fayruzov

*CITYU-HIF: WSD with Human-Informed Feature Preference*  
Oi Yee Kwong

*CU-COMSEM: Exploring Rich Features for Unsupervised Web Personal Name Disambiguation*  
Ying Chen and James H. Martin

*CU-TMP: Temporal Relation Classification Using Syntactic and Semantic Features*  
Steven Bethard and James H. Martin

*CUNIT: A Semantic Role Labeling System for Modern Standard Arabic*  
Mona Diab, Alessandro Moschitti and Daniele Pighin

*DFKI2: An Information Extraction Based Approach to People Disambiguation*  
Andrea Heyl and Günter Neumann

*FBK-irst: Lexical Substitution Task Exploiting Domain and Syntagmatic Coherence*  
Claudio Giuliano, Alfio Gliozzo and Carlo Strapparava

*FICO: Web Person Disambiguation Via Weighted Similarity of Entity Contexts*  
Paul Kalmar and Matthias Blume

**Sunday, June 24, 2007 (continued)**

*HIT-IR-WSD: A WSD System for English Lexical Sample Task*  
Yuhang Guo, Wanxiang Che, Yuxuan Hu, Wei Zhang and Ting Liu

*HIT: Web based Scoring Method for English Lexical Substitution*  
Shiqi Zhao, Lin Zhao, Yu Zhang, Ting Liu and Sheng Li

*ILK2: Semantic Role Labeling of Catalan and Spanish using TiMBL*  
Roser Morante and Bertjan Busser

*IRST-BP: Web People Search Using Name Entities*  
Octavian Popescu and Bernardo Magnini

*JHU1 : An Unsupervised Approach to Person Name Disambiguation using Web Snippets*  
Delip Rao, Nikesh Garera and David Yarowsky

*JU-SKNSB: Extended WordNet Based WSD on the English All-Words Task at SemEval-1*  
Sudip Kumar Naskar and Sivaji Bandyopadhyay

*KU: Word Sense Disambiguation by Substitution*  
Deniz Yuret

*LCC-TE: A Hybrid Approach to Temporal Relation Identification in News Text*  
Congmin Min, Munirathnam Srikanth and Abraham Fowler

*MELB-MKB: Lexical Substitution system based on Relatives in Context*  
David Martinez, Su Nam Kim and Timothy Baldwin

*NAIST.Japan: Temporal Relation Identification Using Dependency Parsed Tree*  
Yuchang Cheng, Masayuki Asahara and Yuji Matsumoto

*NUS-ML: Improving Word Sense Disambiguation Using Topic Features*  
Jun Fu Cai, Wee Sun Lee and Yee Whye Teh

*OE: WSD Using Optimal Ensembling (OE) Method*  
Harri M. T. Saarikoski

**Sunday, June 24, 2007 (continued)**

*PKU: Combining Supervised Classifiers with Features Selection*

Peng Jin, Danqing Zhu, Fuxin Li and Yunfang Wu

*PNNL: A Supervised Maximum Entropy Approach to Word Sense Disambiguation*

Stephen Tratz, Antonio Sanfilippo, Michelle Gregory, Alan Chappell, Christian Posse and Paul Whitney

*PU-BCD: Exponential Family Models for the Coarse- and Fine-Grained All-Words Tasks*

Jonathan Chang, Miroslav Dudik and David Blei

*PUTOP: Turning Predominant Senses into a Topic Model for Word Sense Disambiguation*

Jordan Boyd-Graber and David Blei

*RACAI: Meaning Affinity Models*

Radu Ion and Dan Tufiş

12:30–14:30 lunch

**Poster session 3**

14:30–15:45 *CLR: Integration of FrameNet in a Text Representation System*

Kenneth C. Litkowski

*RTV: Tree Kernels for Thematic Role Classification*

Daniele Pighin, Alessandro Moschitti and Roberto Basili

*SHEF: Semantic Tagging and Summarization Techniques Applied to Cross-document Coreference*

Horacio Saggion

*SICS: Valence annotation based on seeds in word space*

Magnus Sahlgren, Jussi Karlgren and Gunnar Eriksson

*SW-AG: Local Context Matching for English Lexical Substitution*

George Dahl, Anne-Marie Frassica and Richard Wicentowski

*SWAT-MP: The SemEval-2007 Systems for Task 5 and Task 14*

Phil Katz, Matt Singleton and Richard Wicentowski



**Sunday, June 24, 2007 (continued)**

*TITPI: Web People Search Task Using Semi-Supervised Clustering Approach*  
Kazunari Sugiyama and Manabu Okumura

*TKB-UO: Using Sense Clustering for WSD*  
Henry Anaya-Sánchez, Aurora Pons-Porrata and Rafael Berlanga-Llavori

*Tor, TorMd: Distributional Profiles of Concepts for Unsupervised Word Sense Disambiguation*  
Saif Mohammad, Graeme Hirst and Philip Resnik

*UA-ZBSA: A Headline Emotion Classification through Web Information*  
Zornitsa Kozareva, Borja Navarro, Sonia Vazquez and Andres Montoyo

*UA-ZSA: Web Page Clustering on the basis of Name Disambiguation*  
Zornitsa Kozareva, Sonia Vazquez and Andres Montoyo

*UBC-ALM: Combining k-NN with SVD for WSD*  
Eneko Agirre and Oier Lopez de Lacalle

*UBC-AS: A Graph Based Unsupervised System for Induction and Classification*  
Eneko Agirre and Aitor Soroa

*UBC-UMB: Combining unsupervised and supervised systems for all-words WSD*  
David Martinez, Timothy Baldwin, Eneko Agirre and Oier Lopez de Lacalle

*UBC-UPC: Sequential SRL Using Selectional Preferences. An approach with Maximum Entropy Markov Models*  
Beñat Zepirain, Eneko Agirre and Lluís Màrquez

*UBC-ZAS: A k-NN based Multiclassifier System to perform WSD in a Reduced Dimensional Vector Space*  
Ana Zelaia, Olatz Arregi and Basilio Sierra

*UC3M\_13: Disambiguation of Person Names Based on the Composition of Simple Bags of Typed Terms*  
David del Valle-Agudo, César de Pablo-Sánchez and María Teresa Vicente-Díez

*UMND1: Unsupervised Word Sense Disambiguation Using Contextual Semantic Relatedness*  
Siddharth Patwardhan, Satanjeev Banerjee and Ted Pedersen

**Sunday, June 24, 2007 (continued)**

*UNN-WePS: Web Person Search using co-Present Names and Lexical Chains*  
Jeremy Ellman and Gary Emery

*UNT-Yahoo: SuperSenseLearner: Combining SenseLearner with SuperSense and other Coarse Semantic Features*  
Rada Mihalcea, Andras Csomai and Massimiliano Ciaramita

*UPAR7: A knowledge-based system for headline sentiment tagging*  
François-Régis Chaumartin

*UPV-WSD : Combining different WSD Methods by means of Fuzzy Borda Voting*  
Davide Buscaldi and Paolo Rosso

*USFD: Preliminary Exploration of Features and Classifiers for the TempEval-2007 Task*  
Mark Hepple, Andrea Setzer and Robert Gaizauskas

*USP-IBM-1 and USP-IBM-2: The ILP-based Systems for Lexical Sample WSD in SemEval-2007*  
Lucia Specia, Maria das Graças, Volpe Nunes, Ashwin Srinivasan and Ganesh Ramakrishnan

*USYD: WSD and Lexical Substitution using the WebIT corpus*  
Tobias Hawker

*UTD-SRL: A Pipeline Architecture for Extracting Frame Semantic Structures*  
Cosmin Adrian Bejan and Chris Hathaway

*UVA: Language Modeling Techniques for Web People Search*  
Krisztian Balog, Leif Azzopardi and Maarten de Rijke

*WIT: Web People Search Disambiguation using Random Walks*  
José Iria, Lei Xia and Ziqi Zhang

*XRCE-T: XIP Temporal Module for TempEval campaign.*  
Caroline Hagège and Xavier Tannier

15:45–16:15 coffee break

16:15–16:30 *UPC: Experiments with Joint Learning within SemEval Task 9*  
Lluís Màrquez, Lluís Padró, Mihai Surdeanu and Luis Villarejo

**Sunday, June 24, 2007 (continued)**

16:30–16:45 *SemEval-2007 Task 19: Frame Semantic Structure Extraction*  
Collin Baker, Michael Ellsworth and Katrin Erk

16:45–17:00 *LTH: Semantic Structure Extraction using Nonprojective Dependency Trees*  
Richard Johansson and Pierre Nugues

17:00–18:00 Panel: Planning the future of SemEval

18:00 Closing

