

Table of Contents

Plenary Session I	1
Arthur P. DEMPSTER, Harvard University (USA)	
Theory of belief functions: history and prospects	3
 Computing with words: Models and Applications - I	5
Linguistic Modelling of Imperfect Spatial Information in a Fuzzy Database	7
<i>G. Bordogna, S. Chiesa, D. Geneletti</i>	
Fusion of Nuclear Safeguards Indicator Information Based on an Ordinal Linguistic Approach	15
<i>J. Liu, D. Ruan</i>	
An Information Retrieval System with Unbalanced Linguistic Information Based on the Linguistic 2-tuple Model	23
<i>F. Herrera, E. Herrera-Viedma, L. Martínez</i>	
 Networks	31
Modified Algorithm for Fuzzy Bayesian Networks Inference	33
<i>J.F. Baldwin, E. Di Tomaso</i>	
Validation of Diagnostic Models Using Graphical Belief Networks	39
<i>O. Kipersztok</i>	
Computing Diagnoses With Higher Posterior Probability Using Bayesian Networks	45
<i>V. Delcroix, S. Piechowiak, J. Rodriguez</i>	
 Automatic Methods for Odor and Taste Recognition	53
A fuzzy rule base for modelling red wine color in relation with winemaking parameters	55
<i>S. Guillaume, B. Charnomordic</i>	
Man-machine interaction for odor prediction	63
<i>M. Kissi, B. Bouchon-Meunier, M. Ramdani, D. Zakarya</i>	
Les nez électroniques, entre sensoriel et mesure	69
<i>P. Grenier</i>	
 Argumentation	75
Detecting Conflict-Free Argumentative or Abductive Knowledge Bases	77
<i>R. Haenni</i>	
Gradual handling of contradiction in argumentation frameworks	83
<i>C. Cayrol, M.C. Lagasque</i>	

Knowledge management as a support for collective decision-making and argumentation processes	91
<i>J. Montmain, A. Akharraz, G. Mauris</i>	
Learning and Mining	99
Mining Implication-Based Fuzzy Association Rules in Databases	101
<i>E. Hullermeier</i>	
Acquiring an expert's obvious knowledge by using fuzzy repertory tables	109
<i>J.J. Castro-Schez, J.L. Castro, J.M. Zurita</i>	
Learning Rules from Multiple Instance Data: Issues and Algorithms	117
<i>Y. Chevaleyre, N. Bredeche, J.D. Zucker</i>	
Mining Weighted Linguistic Association Rules	125
<i>S.L. Wang, T.P. Hong, M.J. Chiang</i>	
Continuous Method for Discovering Quantitative Association Rules in Databases	131
<i>A. Shragai, M. Schneider</i>	
Using PCA paradigm to mine functional data	139
<i>D. Clot, S. Bonnevay, M. Lamure</i>	
Fuzzy Relations	147
Normal forms for fuzzy relations and their contribution to universal approximation	149
<i>I. Perfilieva</i>	
Fuzzified properties of fuzzy relations	157
<i>J. Jacas, J. Recasens</i>	
Numerical representations of fuzzy relational systems	163
<i>S. Ovchinnikov</i>	
On Clustering and Fuzzy Relations Decomposition	167
<i>M. Wagenknecht, V. Schneider</i>	
Degrees of Contradiction in Fuzzy Sets Theory	171
<i>E. Castineira, S. Cubillo, S. Bellido</i>	
Inclusion relations and orthogonality relations over property systems: first-order characterization and modal analysis	177
<i>P. Baldiani</i>	
Pattern Recognition	185
Values for the fuzzy C-means classifier in change detection for remote sensing	187
<i>P. Deer, P. Eklund</i>	
A Hierarchical Linguistic Clustering Algorithm for Prototype Induction	195
<i>I. Gonzalez Rodriguez, J. Lawry, J.F. Baldwin</i>	

An Investigation into How ADABOOST Affects Classifier Diversity <i>C.A. Shipp, L.I. Kuncheva</i>	203
A statistic method to compare dynamic systems in the state space <i>P. Loonis, P. Franco</i>	209
Fuzzy Clustering Algorithm Based on the Maximum Penalized Likelihood for Latent Class Model <i>C.B. Chen, C.T. Lin, W.H. Wu</i>	217
A new fuzzy clustering technique based on pdf estimation <i>J. Cutrona, N. Bonnet, M. Herbin</i>	225
Rough Sets Methods and Applications - I	233
Learning Rules from Very Large Databases: A Rough Multiset Approach <i>C.C. Chan</i>	235
MLEM2: A New Algorithm for Rule Induction from Imperfect Data <i>J.W. Grzymala-Busse</i>	243
Approximation of Functions by Means of Fuzzy Rough Sets <i>M. Inuiguchi, T. Tanino</i>	251
Neighborhood Systems and Qualitative Fuzzy Sets <i>T.Y. Lin, S. Tsumoto</i>	259
On A-exact and A-rough sets in potentially infinite information systems <i>L. Polkowski, M. Polkowska</i>	267
Extraction of Hierarchical Decision Rules from Medical Databases using Rough Set Model <i>S. Tsumoto</i>	273
Intelligent Information Systems - I	281
A big-stepped probability approach for discovering default rules <i>S. Benferhat, D. Dubois, S. Lagrue, H. Prade</i>	283
A mechanism for deduction in a fuzzy relational database <i>I.J. Blanco, M.J. Martin-Bautista, O. Pons, M.A. Vila</i>	291
Closed Set Based Discovery of Maximal Covering Rules <i>M. Kryszkiewicz</i>	299
Using Object Relational Features to Build a Fuzzy DataBase Server <i>J.M. Medina, J. Galindo, F. Berzal, J.M. Serrano</i>	307
Flexible Unary Multidimensional Queries and their Combinations <i>A. Laurent, B. Bouchon-Meunier, A. Doucet</i>	315

Modeling and Fuzziness	323
Uncertainty, Type-2 Fuzzy Sets, and Footprints of Uncertainty	325
<i>J.M. Mendel</i>	
Fuzzy Prototypical Knowledge Discovery to Predict Information Systems Maintainability	333
<i>J.A. Olivas, M. Genero, M. Piattini, F.P. Romero</i>	
Combining Fuzzy Models Using Prototype Based Reasoning	341
<i>R.R. Yager</i>	
Interval Approximation of a Fuzzy Number and the Principle of Information Invariance	347
<i>P. Grzegorzewski</i>	
On Approximate Reasoning with Type-2 Fuzzy Sets	355
<i>H. Thiele</i>	
Fuzzy Arithmetics and the Brain	363
Fuzzy Arithmetic: An Overview	365
<i>F. Gomide</i>	
Mental processes of arithmetic calculation	369
<i>A.F. Rocha, F.T. Rocha</i>	
Implementing arithmetical knowledge in a distributed intelligent processing system	373
<i>E. Massad, A.F. Rocha</i>	
Difference of area of the brain for fuzzy and crisp calculations	377
<i>T. Yamanoi, M. Saito, M. Sugeno, E. Sanchez</i>	
Non Classical Logic	383
Models and submodels of fuzzy theories	385
<i>V. Novak</i>	
A new approach to completeness for multi-adjoint logic programming	391
<i>J. Medina, M. Ojeda-Aciego</i>	
Consistency degrees in fuzzy logics	399
<i>R. Horcik, M. Navara</i>	
Which fuzzy logics satisfy the compactness property	405
<i>P. Cintula, M. Navara</i>	
Multi-agent Based Method for Reactive Systems Formal Specification and Validation	411
<i>A. Hasbani</i>	
Plenary Session II	417
Lotfi A. Zadeh, University of California, Berkeley (USA)	
It is a Fundamental Limitation to Base Probability Theory on Bivalent Logic	419

Decision Making	421
Markov Decision Process for the Task Selection Problem in Uncertain Environments <i>H. Hanna, A.I. Mouaddib</i>	423
A Hybrid Fuzzy-Fractal Approach for Time Series Analysis and Its Applications to Plant Monitoring and Diagnosis <i>O. Castillo, P. Melin</i>	431
Managing Heterogeneous Information in Group Decision Making <i>F. Herrera, L. Martinez, P. Sanchez, E. Herrera-Viedma</i>	439
Batch Process and Market Entry/Exit Decision Making by Real Options under Exchange Rate Uncertainty <i>C.T. Lin, C.R. Wu</i>	447
Predicting Run Times of Applications Using Rough Sets <i>S. Krishnaswamy, A. Zaslavsky, S.W. Loke</i>	455
Decision Making for Discrete-Time American Options with Uncertainty of Stock Prices in Financial Engineering <i>Y. Yoshida, M. Yasuda, J. Nakagami, M. Kurano</i>	463
Intelligent Systems for Video Processing	471
Extraction of regions of interest based on motion activity for video retrieval with partial query <i>R. Fablet, P. Bouthemy</i>	473
Real time commercial detection using MPEG features <i>N. Dimitrova, S. Jeannin, J. Nesvadba, T. Mcgee, L. Agnihotri, G. Mekenkamp</i>	481
General Purpose Real-Time Object Tracking Using Hausdorff Transforms <i>D. Vignon, B.C. Lovell, R.J. Andrews</i>	487
Uncertainty of Motion Estimation and its Application to Video Processing <i>D. Wang, A. Vincent</i>	493
Adding the concept of video editing levels in shot segmentation <i>R. Ruitoba, P. Joly</i>	501
Comparing descriptions of multimedia data for simplification and integration <i>N. Adami, M. Corvaglia, R. Leonardi</i>	507
Fuzzy Measures and Integrals - I	515
Ordinal Integration <i>G.A. Koshevoy</i>	517
Almost-Measurability Induced by Fuzzy and Possibilistic Measures <i>I. Kramosil</i>	521
Interaction indices for games with forbidden coalitions <i>C. Labreuche</i>	529

Mobius transform and k-order additivity	535
<i>R. Mesiar</i>	
The n-step Choquet integral on finite spaces.	539
<i>Y. Narukawa, T. Murofushi</i>	
p-symmetric fuzzy measures	545
<i>P. Miranda, M. Grabisch</i>	
Belief Functions	553
Towards another logical interpretation of Theory of Evidence and a new combination rule	555
<i>L. Cholvy</i>	
Showing why measures of quantified beliefs are belief functions	563
<i>P. Smets</i>	
Clustering belief functions based on attracting and conflicting metalevel evidence	571
<i>J. Schubert</i>	
A Pre-Pruning Method in Belief Decision Trees	579
<i>Z. Elouedi, K. Mellouli, P. Smets</i>	
Combination of Belief Functions and Coarsening / Refinement	587
<i>M. Daniel</i>	
Dempster-Turksen Multi-Valued Mapping	595
<i>I.B. Turksen</i>	
Fuzzy Sets and Possibility Theory in Machine Learning and Data Mining	601
Learning Graphical Models by Extending Optimal Spanning Trees	603
<i>C. Borgelt, R. Kruse</i>	
Clustering of proximity data using belief functions	609
<i>T. Denoeux, M. Masson</i>	
Stratified induction in possibilistic logic	617
<i>D. Dubois, H. Prade, G. Richard, M. Serrurier</i>	
Discovering and Incrementally maintaining fuzzy association rules	625
<i>S. Ben Yahia</i>	
Data Mining and Computational Intelligence	633
<i>M. Last</i>	
Defuzzification and Averaging of Fuzzy Sets	641
Quantitative Revision of Quantitative Beliefs	643
<i>A. Ramer</i>	
Linear Non-additive Set-functions	651
<i>B. Bouchon-Meunier, R. Mesiar, D. Ralescu</i>	

Averaging procedures in defuzzification processes <i>E. Roventa, T. Spircu</i>	659
Ordering and bounds in specific classes of aggregation operators <i>T. Calvo, R. Mesiar</i>	667
Vague Verbal Quantities in Transport Timetable <i>M. Mares</i>	675
Postmodernism, Cybernetics and Fuzzy Set Theory <i>C.V. Negoita</i>	681
Applications of Soft Computing	687
A probabilistic approach to analyse the evolutionary process in circuit design <i>T. Kalganova, I. Baradavka</i>	689
Managing Uncertainty in New Product Development <i>G. Buyukozkan, O. Feyzioglu</i>	697
Evolutionary techniques for mobile-robot office delivery service <i>S. Badaloni, P. Bison</i>	705
Some Attempts in Improving Cochlear Implanted Patients Performances: Modeling and Automatic Methods <i>M. Costin, M. Zbancioc, A. Ciobanu, C. Berger Vachon</i>	711
Global Optimization of Neural Networks <i>G. Beliakov</i>	719
Computer Assisted Diagnosis of Cardiac Heart Disease <i>S. Zahan, R. Bogdan, M. Cremene</i>	727
Fuzzy Measures and Integrals - II	733
Extension of coherent lower previsions to unbounded random variables <i>M.C.M. Troffaes, G. De Cooman</i>	735
Investigation of the class of non-additive measures by their subclasses <i>E. Pap</i>	743
Choquet integral representation and preference <i>Y. Narukawa, T. Murofushi</i>	747
The Möbius function on ordered structures and its application to capacities and integrals <i>M. Grabisch</i>	755
An axiomatic approach to the definition of the entropy of a discrete Choquet capacity <i>I. Kojadinovic, J.L. Marichal, M. Roubens</i>	763

Fuzziness and Conditional Probability	769
Reading the membership function in different ways	771
<i>S. Termini</i>	
A reflection on rationality, guessing and measuring	777
<i>E. Trillas, A. Pradera</i>	
Fuzzy sets and coherent conditional probability	785
<i>R. Scozzafava</i>	
Coherent conditional probability and possibility measures	793
<i>G. Coletti</i>	
Measures of fuzziness: a reinterpretation	801
<i>G. Nicotra, B. Vantaggi</i>	
How measure of uncertainty changes due to unreliability	809
<i>C. Bertoluzza, V. Doldi, G. Naval</i>	
Evolutionary Techniques	815
GPEG: Graph Partitioning using Evolutionary Games	817
<i>A. Cincotti, V. Cutello, F. Pappalardo, M. Pavone</i>	
A Multiobjective Genetic Algorithm for Feature Selection and Data Base Learning in Fuzzy-Rule Based Classification Systems	823
<i>O. Cordon, F. Herrera, M.J. Del Jesus, L. Magdalena, A.M. Sanchez, P. Villar Castro</i>	
What are the main parameters involved in the design of a Genetic Algorithm?	831
<i>I. Rojas, H. Pomares, J. Gonzalez, P.A. Castillo, O. Valenzuela</i>	
Evolutionary Algorithms As Function Optimizers	837
<i>A. Barkat</i>	
Evolutionary Algorithms for Multiperiod Arc Routing Problems	845
<i>P. Lacomme, C. Prins, W. Ramdane-Cherif</i>	
Evolutionary strategies to achieve knowledge in faded temporal fuzzy logic controllers in systems with noisy sensors	853
<i>M.A. Gadeo Martos, J.R. Velasco Perez</i>	
Symbolic Data Analysis	859
From Schweizer to Dempster: mixture decomposition of distributions by copulas in the symbolic data analysis framework	861
<i>E. Diday</i>	
Mixture decomposition of copulas and application to climatology	869
<i>M. Vrac, E. Diday, A. Chedin</i>	
A Top-Down Binary Tree Method for Symbolic Class Descriptions	877
<i>L.M. Mehdi, M. Vrac, S. Winsberg, E. Diday</i>	

Segmentation avec seuil aléatoire	883
<i>J.P. Aboa Yapo, R. Emilion</i>	
Information Processing in Food Engineering Processes	891
Probabilistic Determination of an Upper Bound for the Final Diacetyl Concentration at Early Stages of Beer Fermentation	893
<i>I.C. Trelea, E. Latrille, S. Landaud, G. Corrieu</i>	
Handling uncertainty in diagnosis using a combined interval based and a fuzzy logic based approach - Application to wastewater treatment	899
<i>J.P. Steyer, J. Harmand, J.P. Delgenes</i>	
Processing operator reasoning and its uncertainty to control cheese ripening: a fuzzy symbolic approach	905
<i>I. Ioannou, L. Agioux, N. Perrot, G. Mauris, G. Trystram</i>	
Fuzzy Methods for Ginseng Drying Control	913
<i>V.J. Davidson, X. Li, R.B. Brown</i>	
Symbolic Estimation of Food Odors using Fuzzy Techniques	919
<i>A. Loutfi, P. Wide</i>	
Aggregation	927
The Induced and the Limited Fuzzy Integral Operators	929
<i>R.R. Yager</i>	
Weighted Fuzzy R-Norm and its Mean Codeword Lengths	937
<i>O. Parkash, P.K. Sharma</i>	
Three new techniques of approximating aggregation operators from empirical data	945
<i>G. Beliakov</i>	
Usage of Fuzzy Aggregation for Perceptual Relevance Evaluation	953
<i>A. Soria-Frisch, M. Koppen, T. Sy</i>	
Propagation of Pertinence Indicator using Distance Models	961
<i>J. Revault</i>	
Data Mining and Multimedia Systems	967
Image segmentation in compressed domain by clustering methods with euclidean and p-adic metrics	969
<i>J. Benois-Pineau, A. Khrennikov</i>	
Histogram-Based Color Signatures for Image Indexing	977
<i>S. Boughorbel, N. Boujemaa, C. Vertan</i>	
A Fuzzy Theoretic Approach for Camera Motion Detection	985
<i>R.S. Jadon, S. Chaudhury, K.K. Biswas</i>	
Improving Clustering and Visualization of Multimedia Data Using Interactive User Feedback	993
<i>A. Nurnberger, A. Klose</i>	

Fuzzy Multimedia Mining Applied to Video News <i>M. Detyniecki, C. Marsala</i>	1001
Uncertainty and Fuzziness Management in Evolutionary Processes	1009
Software Uncertainty in General and in KBS Applications in Particular <i>M.M. Lehman, J.F. Ramil</i>	1011
Bacterial algorithm applied for fuzzy rule extraction <i>J. Botzheim, B. Hamori, L. Koczy, A.E. Ruano</i>	1021
Neuro-Fuzzy System for On-line Prediction of Diseases Evolution <i>A. Rotshstein, M. Posner, H. Rakytyanska</i>	1027
Fuzzy theory of evolutionary processes: Two types of dynamics <i>U. Sandler</i>	1035
Plenary Session III Berthold SCHWEIZER, University of Massachusetts (USA)	1041
Probabilistic measurement	1043
Possibility and Imprecise Probability	1045
Reasoning with Partially Ordered Information in a Possibilistic Logic Framework <i>S. Benferhat, S. Lagrue, O. Papini</i>	1047
On Interpretation of T-product Possibility Distributions <i>J. Vejnarova</i>	1053
Imprecise probabilities induced by multi-valued mappings <i>E. Miranda, G. De Cooman, I. Couso</i>	1061
Transforming Imprecise Probabilities into Partial Possibilities <i>P. Baroni, P. Vicig</i>	1069
Probability-possibility transformations, triangular fuzzy sets and probabilistic inequalities <i>D. Dubois, L. Foulloy, H. Prade, G. Mauris</i>	1077
Mathematics	1085
Fuzzy Control and t-Norm-Based Fuzzy Logic - Some Recent Results <i>S. Gottwald, V. Novak, I. Perfilieva</i>	1087
A Framework for Unification using Powersets of Terms <i>P. Eklund, M.A. Galan, J. Medina, M. Ojeda-Aciego, A. Valverde</i>	1095
A note on ergodic transformations on MV-algebras <i>B. Riecan</i>	1099
BZW algebras for an abstract approach to roughness and fuzziness <i>G. Cattaneo, D. Ciucci</i>	1103

A characterization of the lattice of fuzzy weak subalgebras of a partial algebra <i>W. Bartol, J. Casasnovas, F. Rossello</i>	1111
Fuzzy extension of interval-based temporal sub-algebras <i>S. Badaloni, M. Giacomin</i>	1119
Computing with words: Models and Applications - II	1127
Towards a Higher Level of Linguistic Granulation <i>R. John</i>	1129
Implementation of Linguistic Labels Based Group Decision-Making on the Web/Intranet <i>A. Marimin, D. Risnawati Kumala</i>	1135
Towards the construction of regression models for categorical variables <i>V. Torra, M. Ng</i>	1143
A linguistic decision-making method using fuzzy integral <i>C.T. Chen</i>	1149
Fusion of Multigranular Linguistic Information based on the 2-tuple Fuzzy Linguistic Representation Model <i>F. Herrera, L. Martinez, E. Herrera-Viedma, F. Chilclana</i>	1155
NPN Logic Based Reasoning With Linguistic Preferences <i>G. Devedzic</i>	1163
Intelligent Information Systems - II	1169
Multi-Objective Resource Selection in Distributed Information Retrieval <i>S. Wu, F. Crestani</i>	1171
Image Database Summarization with the SaintEtiQ System <i>R. Saint-Paul, G. Raschia, N. Mouaddib</i>	1179
Methods for Intelligent Information Access. A real experience <i>J. Cardenosa, L. Iraola, E. Tovar</i>	1187
Reducing term to term relationships in an extended Bayesian Network Retrieval model <i>L.M. De Campos, J.F. Huete Guadix, J.M. Fernandez-Luna</i>	1195
Efficient importance weighted aggregation between min and max <i>H.L. Larsen</i>	1203
Mining data about web usage: a Markov based modeling technique <i>S. Massa, P.P. Puliafito</i>	1209
Plenary Session IV Walter KINTSCH, University of Colorado at Boulder (USA)	1217
Predication	1219

Computing with words: Models and Applications - III	1221
Intelligent linguistic characterization and retrieval of textual documents: an Internet-based application	1223
<i>S. Zadrożny, K.A. Lawcewicz, J. Kacprzyk</i>	
A Linguistic Aggregation Operator Based on the Weak Majority Process	1231
<i>J.I. Pelaez, J.M. Dona</i>	
Using Likelog for Computing with Words	1237
<i>F. Arcelli, F. Formato</i>	
Linguistic Modelling Using a Semi-Naïve Bayes Framework	1243
<i>N.J. Randon, J. Lawry</i>	
Modeling majority opinion in multi-agent decision making	1251
<i>G. Pasi, R.R. Yager</i>	
Probability	1259
Detection of Independence Relations from Persegrams	1261
<i>R. Jirousek</i>	
Estimation of Probabilistic Dependencies of Processes in Nonlinear Systems	1269
<i>K. Chernyshov</i>	
Probabilistic Approach using MCMC for Indirect Measurement by Knowledge-Based Models - Applications to Thermophysics and Biology	1277
<i>H. Baili, G. Fleury</i>	
Estimating tetragram probabilities by using multiple data samples from a natural text. Case study: printed Romanian	1285
<i>A. Vlad, A. Mitrea, M. Mitrea</i>	
Weighted entropy : an optimal measure	1293
<i>R.P. Singh, R. Kumar, R. Gorshi</i>	
Metaphor and Analogy - I	1301
What is Metaphor? From Aristotle to Cognitive Science	1303
<i>E. Hamilton</i>	
Spontaneous Analogies: Analogies or Categorizations?	1309
<i>E. Sander</i>	
Reasoning: The Psychological Relevance of the Hofstadter's Copycat Model	1317
<i>B. Vivicorsi</i>	
Analogical Reasoning: Unity or Diversity?	1323
<i>E. Marmeche, N. Bonnardel, A. Didierjean</i>	
Analogy and Cognitive Ergonomics: Experimentation and Simulation	1329
<i>J. Barcenilla, C. Leproux, S. Poitrenaud</i>	

The role of context on the comprehension of referential metonymies <i>T. Baccino, S. Grossin</i>	1335
Aggregation Operators	1341
On Order Invariant Synthesizing Functions <i>J.L. Marichal</i>	1343
On Symmetric Pseudo-Additions and Pseudo-Multiplications: Is it Possible to Build Rings on [-1,+1]? <i>M. Grabisch, B. De Baets, J. Fodor</i>	1349
An overview of the definition of uninorm <i>M. Mas, M. Monserrat, J. Torrens</i>	1357
Symmetric aggregation functions on a finite chain <i>J. Martin Pelayo, G. Mayor, J. Suner</i>	1365
Information Retrieval and Querying	1373
Disambiguation translation in multilingual queries <i>S. Benferhat, M. Boughanem, C. Chrsiment, N. Nassr, H. Prade</i>	1375
Improving meta-search by using query-weighting and numerical aggregation operators <i>M. Gomez, J.M. Abasolo</i>	1383
Fuzzy Degrees of Knowledge Integrity <i>J. Debenham</i>	1391
Information retrieval in heterogeneous XML knowledge bases <i>G. Menier, P.F. Marteau</i>	1399
Connexion de Galois floue : extension et application au textmining <i>C. Latiri Cherif, S. Elloumi, S. Ben Yahia</i>	1407
Statistical Processing	1415
A fuzzy method for handling measurement data gathered from channel electron multipliers: estimation of statistic noise and pile up phenomena <i>A. Bakhti, F. Khaber</i>	1417
An optimal rule for many outliers detection <i>A. Mahfoudi, J. Aguilar-Martin</i>	1423
Random Sampling and Uncertain Inference <i>H.E. Kyburg, C.M. Teng</i>	1429
A new adaptive kernel density estimation <i>M. Herbin, N. Bonnet, P. Vautrot</i>	1437
Towards an Efficient Density-Based Clustering of Spatial Data <i>A. Badee Salem, A. Ella Hassanien, T. El Areef, M.F. Khater</i>	1445

Boosting up Support Vector Machines in Density Estimation Problems <i>M. Gonzalez Mendoza, A. Titli, N. Hernandez-Gress</i>	1453
Metaphor and Analogy - II	1459
A computational theory of metaphor comprehension <i>W. Kintsch</i>	1461
The Metaphor between Categorization and Similarity <i>B. Pudelko, D. Legros</i>	1465
Metaphor and N400 ERPs <i>P. Cristini, C. Tijus</i>	1473
A Critical Analysis of Current Models of Analogy <i>T. Ripoll, J. Eynard</i>	1477
Le traitement des expressions idiomatiques - Intérêt d'un corpus et de l'Analyse Sémantique Latente <i>F. Pariollaud, G. Denhie, J.C. Verstiggle</i>	1481
La Compréhension des Métaphores par les Enfants : Questions Développementales, Différentielles, Méthodologiques <i>C. Guerini</i>	1485
Fuzzy Systems	1493
Adjustment of parallel queuing processes by multi-agent control <i>R. Palm, T.A. Runkler</i>	1495
Fuzzy Graphs and Error-proof Keyboards <i>F.L. Luccio, A. Sgarro</i>	1503
Schedulability Analysis of Real-Time Systems under Uncertainty: Fuzzy Approach <i>A.P. Cucala, J. Villar</i>	1509
Perception-based Data Processing by Introducing n -dimensional Metric Space of Linguistic Variables <i>S. Ribaric, J. Drozdek</i>	1517
Effectiveness as Function of Information Uncertainties and Timeliness <i>P. Labbe</i>	1525
Calcul d'itinéraires flous dans les réseaux de transport de surface <i>A. Boumakoul, R. Laurini, M. Janati</i>	1533
Advances in Database Technology - I (Operators)	1539
About difference operations on fuzzy bags <i>P. Bosc, D. Rocacher</i>	1541
On the comparison of aggregates over fuzzy sets <i>P. Bosc, O. Pivert, L. Lietard</i>	1547

Fuzzy Summarization of Data Using Fuzzy Cardinalities <i>P. Bosc, D. Dubois, O. Pivert, H. Prade, M. De Calmes</i>	1553
On knowledge-guided fuzzy aggregation <i>T. Andreasen</i>	1561
Compressing sets of objects by means of fuzzy object oriented structures <i>F. Berzal, N. Marin-Ruiz, O. Pons, M.A. Vila</i>	1569
Dealing with Uncertainty in Spatial Representation and Reasoning	1577
A model for lines with a broad boundary <i>E. Clementini</i>	1579
On the Representation of Fuzzy Spatial Relations in Robot Maps <i>I. Bloch, A. Saffiotti</i>	1587
Quantification of neurotransmission defects in functional imaging using information fusion: a prospective study <i>E. Frenoux, V. Barra, J.Y. Boire</i>	1595
Fuzzy Fusion of Different Space Representations in Mobile Robotics <i>G. Trainito, P. Bison</i>	1601
World Modelling with Local Uncertainty for Robot Navigation <i>H. Martinez Barbera, M.A. Zamora Izquierdo, A. Gomez Skarmeta</i>	1609
Rough Sets Methods and Applications - II	1617
Rough Sets, Bayes' Theorem and Flow Graphs <i>Z. Pawlak</i>	1619
An Application of Approximated Entropy Measures in Decision Tree Induction <i>S.H. Nguyen, H.S. Nguyen</i>	1625
Rough Set Based Feature Extraction for Medical Data <i>D. Slezak, P. Synak, J. Wroblewski</i>	1633
Generating approximate concepts for the UAV <i>M.S. Szczuka</i>	1639
Order-based genetic algorithms for extraction of approximate bayesian networks from data <i>D. Slezak, J. Wroblewski</i>	1645
Reasoning	1653
A similarity-based approach to deal with inconsistency in systems of fuzzy gradual rules <i>L. Godo, S. Sandri</i>	1655
Coherent Conditional Probability as a Tool for Default Reasoning <i>G. Coletti, R. Scozzafava, B. Vantaggi</i>	1663

Subjective Evidential Reasoning	1671
<i>A. Josang</i>	
Qualitative Reasoning with Statistical Knowledge Expressed in Natural Language	1679
<i>L. Garcia, M.Y. Khayata, D. Pacholczyk</i>	
A Distributed Self-stabilizing Approach to Defeat Status Computation in Argumentation	1687
<i>P. Baroni, M. Giacomin</i>	
Advances in Database Technology - II (Applications and Perspectives)	1695
Uncertainty in an OODB Modeled by Rough Sets	1697
<i>T. Beaubouef, F.E. Petry</i>	
Fuzzy Querying in Crisp and Fuzzy Relational Databases: An Overview	1705
<i>A. Rosado, J. Kacprzyk, R.A. Ribeiro, S. Zadrozny</i>	
Fuzzy and Uncertain Spatio-Temporal Database Models: A Constraint-Based Approach	1713
<i>G. De Tre, R. De Caluwe, A. Hallez, J. Verstraete</i>	
Contourline Based Modeling of Vague Regions	1721
<i>A. Hallez, J. Verstraete, G. De Tre, R. De Caluwe</i>	
Plenary Session V	1727
Paul M. FRANK, University of Duisburg (Germany)	
Handling Modelling Uncertainty in Fault Detection and Isolation Systems	1729
Intelligent Information Processing	1747
Characterization of approximate plane symmetries for 3D fuzzy objects	1749
<i>O. Colliot, I. Bloch, A.V. Tuzikov</i>	
Recognition of dynamic situations in the classroom using multi-modal sensor information	1757
<i>M. Minoh, S. Nishiguchi, H. Higashi</i>	
Intelligent Information Processing for User Modeling	1763
<i>A. Tzanavari, P. Paulson</i>	
Modeling the Perception of the Physical Effort in Manual Lifting Tasks	1771
<i>W. Tembe, A. Ralescu, S.S. Yeung, A. Genaidy</i>	
Linguistic Modeling of Physical Task Characteristics	1779
<i>S. Visa, A. Ralescu, S.S. Yeung, A. Genaidy</i>	
Fuzzy Modeling and Control	1787
A step towards conceptually improving Takagi-Sugeno's Approximation	1789
<i>S. Guadarrama, E. Trillas, J. Gutierrez, F. Fernandez</i>	
Mamdani and Takagi-Sugeno Inference: a Unified View	1795
<i>P.Y. Glorennec</i>	

Multi-Architecture Application Framework for Efficient Fuzzy Processing Using Interpolator <i>J.C. Crespo, J.J. Iglesias</i>	1803
Some conditions for non quadratic stability of a class of non linear systems <i>T.M. Guerra, L. Vermeiren, H. Tirmant</i>	1811
Estimation of the Validity of a Partial Model: Fuzzy and Multi-Models Approaches <i>F. Delmotte, T.M. Guerra</i>	1817
On-line Adaptive Fuzzy Controller in Real Time: Application to Water Supply System of a City <i>H. Pomares, I. Rojas, J. Gonzalez, M. Damas</i>	1825
Intuitionistic Fuzzy Sets - Theory and Applications	1831
On the Temporal Intuitionistic Fuzzy Sets <i>K.T. Atanassov</i>	1833
Intuitionistic Fuzzy Connectives Revisited <i>G. Deschrijver, C. Cornelis, E.E. Kerre</i>	1839
Soft Querying via Intuitionistic Fuzzy Sets <i>P. Grzegorzewski, E. Mrowka</i>	1845
Independence, Conditional Probability and the Bayes Formula for Intuitionistic Fuzzy Events <i>P. Grzegorzewski, E. Mrowka</i>	1851
Analysis of Agreement in Group of Experts via Distances Between Intuitionistic Fuzzy Preferences <i>E. Szmidt, J. Kacprzyk</i>	1859
Intuitionistic Fuzzy S-Implications <i>H. Bustince, E. Barrenechea, V. Mohedano</i>	1867
Textile Applications	1873
Using Internet Distributed Communication in Management of a Textile Research Project <i>P. Bastos, L. Amaral, M. Santos, T. Amorim, R. Vasconcelos</i>	1875
Using Clementine Data Mining System in the Process of Analysis of Cotton Fiber Properties <i>S. Dias, R. Vasconcelos, M. Santos, T. Amorim, L. Amaral</i>	1881
A short term forecasting system adapted to textile distribution <i>S. Thomassey, M. Happiette, J.M. Castelain</i>	1889
Reduction of the estimation uncertainty of the textile sales profiles by using a data-mining technique <i>J.J. Denimal, F. Boussu, O.W. Diallo</i>	1895
Modeling the relationship between subjective and objective fabric hand evaluations using fuzzy techniques <i>M. Sahnoun, X. Zeng, L. Koehl, M.A. Bueno, M. Renner</i>	1901

Measurement and Processing of Sewing Variables towards Real-Time Control and Off-Line Process Planning	1909
<i>H.M.T. Carvalho, A.M. Rocha, J. Monteiro</i>	
Learning from Partially Labeled Samples	1917
Handling uncertain labels in multiclass problems using belief decision trees	1919
<i>P. Vannoorenberghe, T. Denoeux</i>	
Text Classification from Positive and Unlabeled Examples	1927
<i>F. Denis, R. Gilleron, M. Tommasi</i>	
Logistic regression for partial labels	1935
<i>Y. Grandvalet</i>	
Contextual Learning and Retrieval in a stochastic Network	1943
<i>M. Spies</i>	
Linguistic Methods	1951
Binary Ordering-Based Modifiers	1953
<i>U. Bodenhofer</i>	
A Fuzzy Set Theoretical Approach to the Automatic Generation of Absenteism Analyses in Natural Language	1961
<i>N. Du Bois, M. De Cock, E.E. Kerre, R. Babuska</i>	
Hybridization of Components to Improve the Accuracy in Linguistic Fuzzy Modeling	1969
<i>R. Alcalá, J. Casillas, O. Cordon, F. Herrera</i>	
A Fuzzy Fusion Sensor of the Speed of a Railway Car During the Sliding of the Wheels, Including a Model of the ABS Braking Equipment	1979
<i>V. Balas</i>	
Image Processing	1987
Motion adaptive de-interlacing using fuzzy logic	1989
<i>D. Van De Ville, R. Van De Walle, W. Philips, I. Lemahieu</i>	
Une nouvelle approche connexionniste pour la segmentation d'images couleur	1997
<i>P. Biela Enberg, J.G. Postaire</i>	
Segmentation des images de cellules biologiques par une approche multifractale	2005
<i>N. Lassouaoui, L. Hamami</i>	
Approche exploratoire multirésolution basée sur le contenu d'une base d'images paléontologique	2013
<i>J. Landre, F. Truchetet</i>	