

10th IEEE International Conference on Fuzzy Systems

The University of Melbourne, Australia

December 2001

Sunday 2nd to Wednesday 5th

Final Program

Program Summary

Sunday (2/12/2001)			
8:30	Registration for Workshops Venue: Old Arts (near Theatre B)		
9:15 to 16:50	W1a: Workshop on Fuzzy Filters for Image Processing Venue: Old Arts, Theatre A Chair: M Nachtegael	8:30 to 18:30	W2a: Workshop on Modeling with Words Venue: Old Arts, Theatre C Chairs: J Lawry, J Shanahan
18:00	Welcome Reception Venue: St Mary's College, Swanstons Street, Parkville (D12 on campus map)		

Monday (3/12/2001)						
8:00	Registration Venue: Copland Theatre Foyer, Economics and Commerce					
8:30	Opening Venue: Economics and Commerce, Copland Theatre					PS1: Poster Session 1, papers in T1 and T3 Venue: North Dining Room, Union House
9:00	Plenary 1, Lotfi Zadeh Venue: Economics and Commerce, Copland Theatre					
10:00	Tea/Coffee, Copland Theatre Foyer					
10:30	T1a: Pattern recognition and image processing Venue: Old Arts, Theatre A Chairs: J Keller, X Zhao	T2a: Electronic and robotic systems Venue: Zoology, Agar Theatre Chairs: L Reznik, C-L Chen	T3a: Soft computing and hybrid systems Venue: Old Arts, Theatre C Chairs: N Kasabov, P Mastorocostas	T4a: Control systems Venue: Old Arts, Theatre D Chairs: J Kacprzyk, J Q Yi	T5a: Mathematics Venue: Old Arts, Theatre E Chairs: A Ramer, J Li	
12:30	Lunch					
14:00	T1b: Pattern recognition and image processing Venue: Old Arts, Theatre A Chairs: T Pham, A Voisin	T2b: Electronic and robotic systems Venue: Zoology, Agar Theatre Chairs: G Y Lim, A Homaifar	T3b: Soft computing and hybrid systems Venue: Old Arts, Theatre C Chairs: L Wang, J-H Cheng	T4b: Control systems Venue: Old Arts, Theatre D Chairs: C-H Wang, C-L Hwang	T5b: Mathematics Venue: Old Arts, Theatre E Chairs: P Diamond, R Sabbadin	PS2: Poster Session 2, papers in T3 and T4 Venue: North Dining Room, Union House
16:00	Tea/Coffee, Copland Theatre Foyer					
16:30 to 18:30	T1c: Pattern recognition and image processing Venue: Old Arts, Theatre A Chairs: Z Chi, I B Turksen	T2c: Electronic and robotic systems Venue: Zoology, Agar Theatre Chairs: G Y Lim, M C Garcia-Alegre	T3c: Soft computing and hybrid systems Venue: Old Arts, Theatre C Chairs: Y Guo, B Liu	T4c: Control systems Venue: Old Arts, Theatre D Chairs: L Wang, G-T Park	T5c: Mathematics Venue: Old Arts, Theatre E Chairs: M Nicoletti, V Loia	

Tuesday (4/12/2001)						
8:00	Registration Venue: Copland Theatre Foyer, Economics and Commerce					
9:00	Plenary 2, Jerry M. Mendel Venue: Economics and Commerce, Copland Theatre					PS3: Poster Session 3, papers in T1 and T4 Venue: North Dining Room, Union House
10:00	Tea/Coffee, Copland Theatre Foyer					
10:30	T1d: Pattern recognition and image processing Venue: Old Arts, Theatre A Chairs: J Keller, S Medasani	S1a: New techniques for fuzzy controller design Venue: Zoology, Agar Theatre Chair: G Feng	T3d: Soft computing and hybrid systems Venue: Old Arts, Theatre C Chairs: N Kasabov, J-H Chiang	T4d: Control systems Venue: Old Arts, Theatre D Chairs: J Kacprzyk, P P Bonissone	T5d: Mathematics Venue: Old Arts, Theatre E Chairs: M Nicoletti, D Dubois	
12:30	Lunch					
13:30	T1e: Pattern recognition and image processing Venue: Old Arts, Theatre A Chairs: T Pham, C-C Lo	S2a: Fuzzy optimization and decision making Venue: Zoology, Agar Theatre Chair: M Inuiguchi	T3e: Soft computing and hybrid systems Venue: Old Arts, Theatre C Chairs: Z Chi, B Pham	T4e: Control systems Venue: Old Arts, Theatre D Chairs: T Gedeon, D J King	T5e: Mathematics Venue: Old Arts, Theatre E Chairs: D Dubois, D G Joder	PS4: Poster Session 4, papers in T2 and T5 Venue: North Dining Room, Union House
15:30	Tea/Coffee, Copland Theatre Foyer					
16:00 to 18:00	S3a: Human-centered systems Venue: Old Arts, Theatre A Chair: T Onisawa	S2b: Fuzzy optimization and decision making Venue: Zoology, Agar Theatre Chair: H Katagiri	T3f: Soft computing and hybrid systems Venue: Old Arts, Theatre C Chairs: Y Yam, P Bosc	T4f: Control systems Venue: Old Arts, Theatre D Chairs: C-H Wang, W Perruquetti	S4a: Soft computing on the net Venue: Old Arts, Theatre E Chairs: T Takagi	
19:00	Conference Banquet, Grand Hyatt Hotel, 123 Collins Street, Melbourne 19:00 Pre-dinner drinks, 19:30 Dinner					

Wednesday (5/12/2001)						
9:00	S5a: Neuro-fuzzy applications in new and emerging areas Venue: Old Arts, Theatre A Chair: Y Yam	S7a: Fuzzy/Soft computing based virtual characters and agents Venue: Zoology, Agar Theatre Chair: A Cheek	T3g: Soft computing and hybrid systems Venue: Old Arts, Theatre C Chairs: T Onisawa, C-H Yeh	T4g: Control systems Venue: Old Arts, Theatre D Chairs: P Diamond, B Pham		PS5: Poster Session 5, papers in T3 and T4 Venue: North Dining Room, Union House
11:00	Tea/Coffee, Copland Theatre Foyer					
11:20 to 13:00	S6a: Rough sets Venue: Old Arts, Theatre A Chair: S Tsumoto		T3h: Soft computing and hybrid systems Venue: Old Arts, Theatre C Chairs: A Cheek, H Ishibuchi	T4h: Control systems Venue: Old Arts, Theatre D Chairs: G Feng, P S Lee		

Sunday, 2 December 2001

Workshop on Fuzzy Filters for Image Processing (Session W1a)

Sunday, 2 December 2001, Venue: Old Arts, Theatre A
Organizers: M Nachtegael, D Van De Ville, D Van der Weken, E Kerre

- 9:00 Welcome, with tea/coffee and biscuits
- 9:15 W104: An Overview and Comparison of Classical, Fuzzy-Classical and Fuzzy Filters for Noise Reduction
M. Nachtegael, D. Van der Weken, D. Van De Ville, W. Philips, I. Lemahieu, E. Kerre
- 10:30 Tea/Coffee
- 10:45 W102: Fuzzy-similarity-based Noise Cancellation for Real-time Image Processing
G. Tolt, I. Kalaykov
- 11:25 W103: Perceptual Fuzzy Multiscale Color Edge Detection
C. Vertan, A. Stoica, C. Fernandez-Maloigne
- 12:05 Lunch
- 14:00 W101: Invited talk: Observer-dependent Image Enhancement
H. R. Tizhoosh
- 15:15 Tea/Coffee
- 15:30 W107: Fuzzy Integral Based Region Merging for Watershed Image Segmentation
H. Zhu, O. Basir, F. Karray
- 16:10 W108: Online Maneuvering Target Tracking Using Neuro-Fuzzy Adaptive Filters
M. Menhaj, S. Amani
- 16:50 End of the Workshop

Workshop on Modeling with Words (Session W2a)

Sunday, 2 December 2001, Venue: Old Arts, Theatre C
Organizers: J Lawry and J Shanahan

- 8:30 W201: Semantic Aspects of Computing with Words
Paul Wang (Invited)
- 9:30 W202: Review of Fuzzy Learning Algorithms
Anca Ralescu (Invited)
- 10:30 Tea/Coffee
- 11:00 W203: The Perceptual Computer: An Architecture for Computing with Words
Jerry Mendel
- 11:30 W204: Query Evaluation from Linguistic Prototypes
Jonathan Lawry
- 12:00 W205: Modelling of Task-oriented Vocabularies: an Example in Fuzzy Temporal Reasoning
F. Diaz-Hermida, P. Carinena, A. Bugarin, S. Barro
- 12:30 W206: Linguistic Modelling for Function Approximation Using Grid Partitions
Hisao Ishibuchi, Takashi Yamamoto, Tomoharu Nakashima
- 13:00 Lunch
- 14:30 W207: Selection of Features in Transparent Fuzzy Modelling

Qiang Shen (Invited), Alexios Chouchoulas

- 15:30 W208: Linguistic Algebras: An Algebraic Concept for Modelling with Words
Helmut Thiele
- 16:00 W209: Modeling the Perception of Physical Effort Associated with Manual Lifting Tasks
Waibhav Tembe, Simon. S. Young, Anca Ralescu, Ash. M. Genaidy
- 16:30 Tea/Coffee
- 17:00 W210: Object-oriented Modelling with Words
Jonathan Rossiter, Tru Cao, Trevor Martin, Jim Baldwin
- 17:30 W211: Modeling with Words: an Approach to Text Categorization
Jimi Shanahan
- 18:00 W212: The Physical Meaning of Linguistic Descriptions of Lifting Task Variables
Sofia Visa, Simon S Yeung, Anca Ralescu, Ash M Genaidy
- 18:30 End of the Workshop

Monday, 3 December 2001

Opening Speeches

Venue: Economics and Commerce, Copland Theatre
8:30-9:00, Monday, 3 December 2001

Plenary Session 1: Causality is Undefinable Toward a Theory of Hierarchical Definability

Professor Lotfi Zadeh, University of California, Berkeley
Venue: Economics and Commerce, Copland Theatre
9:00-10:00, Monday, 3 December 2001

Tea/Coffee, 10:00-10:30

Session T1a: Pattern Recognition and Image Processing

Venue: Old Arts, Theatre A, Chairs: J Keller, X Zhao
10:30-12:30, Monday, 3 December 2001

P003: Clustering Data With Spatial Continuity
Tuan D. Pham

P023: A Fuzzy Classifier System Based on Generalized Exemplars
Flavia O.S. Sa Lisboa, Maria do Carmo Nicoletti, Arthur Ramer

P043: Fuzzy Object Patterns for Visual Indexing and Segmentation
Joo-Hwee Lim

P073: Color-naming System Using Fuzzy Set Theoretical Approach
Naotoshi Sugano

P079: An Application of Fuzzy Intergral to the Analysis of Joint Products
Yachachiro Tsukamoto, Xiaodong Zhao

P092: A New Validity Index for Fuzzy Clustering
Miin-Shen Yang, Kuo-Lung Wu

Session T2a: Electronic and Robotic Systems

Venue: Zoology, Agar Theatre, Chairs: L Reznik, C-L Chen
10:30-12:30, Monday, 3 December 2001

P119: Intelligent Tuning of a PID Controller for Multivariable Process Using Immune Network Model Based on Fuzzy Set
Dong Hwa Kim

P148: Fuzzy Logic Traffic Control in Broadband Communications Networks
Hiam Hiok Lim, Bin Qui

P192: Fuzzy Tracking Method With a Switching Grey Prediction for Mobile Robot
Ching-Chang Wong, Bo-Chen Lin, Chi-Tai Cheng

P255: Programmable Fuzzy Logic Device for Sequential Fuzzy Logic Synthesis
Chao-Lieh Chen

P271: Fuzzy Anchoring
Silvia Coradeschi, D. Driankov, L. Karlsson, A. Saffiotti

P440: Estimating the Length of a Radar Shadow in Shadow-feature-enhanced Detection Using a Fuzzy System
James W. Minett, S. W. Leung, Y. M. Siu, K. T. Ng, W. N. Chau

Session T3a: Soft Computing and Hybrid Systems

Venue: Old Arts, Theatre C, Chairs: N Kasabov, P Mastorocostas
10:30-12:30, Monday, 3 December 2001

- P024: D-OLS: An Orthogonal Least Squares Method for Dynamic Fuzzy Models
Paris Mastorocostas, John Theocharis
- P034: A Genetic Based Method for Training Fuzzy Systems
Yee Leung, Yong Gao, Wenxiu Zhang
- P041: A New Fuzzy Information Retrieval System Based on User Preference Model
Dae-Won Kim, Kwang Hyung Lee
- P054: Estimating Itemsets of Interest by Sampling
Shichao Zhang, Chengqi Zhang
- P058: Learning Graphical Models With Hypertree Structure Using a Simulated Annealing Approach
Christian Borgelt, Rudolph Kruse
- P059: Evolutionary Optimization of An Industrial Hydraulic Valve With the Help of a Fuzzy Performance-Index
Barbara Nicolaus, Harro Kiendl, Wilhelm Blumendeller, Ulf Schwane

Session T4a: Control Systems

Venue: Old Arts, Theatre D, Chairs: J Kacprzyk, J Q Yi
10:30-12:30, Monday, 3 December 2001

- P001: Stability Analysis of SIRMs Dynamically Connected Fuzzy Inference Model
Jianqiang Yi, Naoyoshi Yubazaki, Kaoru Hirota
- P011: Design of Optimally Bounded Linear State Feedback Laws for Fuzzy Dynamical Systems.
Phil Diamond
- P013: A New Theory of Fuzzy Chaos and Its Application for Simulation and Control of Robotic Dynamic Systems
Oscar Castillo, Patricia Melin
- P014: Adaptive Control of a Stepping Motor Drive Using a Hybrid Neuro-Fuzzy Approach
Patricia Melin, Oscar Castillo
- P018: Fuzzy Control Based on H_{∞} Output Feedback for Attitude Stabilization of Flexible Satellite
Sae Kyu Nam, Kyung Keun Kim
- P021: Using Default Rules in Fuzzy Control
Gero Presser

Session T5a: Mathematics

Venue: Old Arts, Theatre E, Chairs: A Ramer, J Li
10:30-12:30, Monday, 3 December 2001

- P004: Relations Between Fuzzy Implication Algebra and Heyting Algebra
Chong-you Zheng, Zhi-wei Li
- P048: Order Continuity of Fuzzy Measure and Convergence of Measurable Functions Sequence
Jun Li
- P102: Aggregation of Fuzzy Opinions Under Group Decision Making Environment
Hsuan-Shih Lee
- P103: Noiseless Coding Theorems Corresponding to Fuzzy Entropies
Om Parkash, P. K. Sharma
- P128: Quotient Fuzzy Cognitive Maps
Jian Ying Zhang, Zhi-Qiang Liu
- P129: Methods of Construction of OWA Operators From Data
Gleb Belaikov

Session PS1: Poster Session 1

Venue: North Dining Room, Union House
8:30-12:30, Monday, 3 December 2001

- P025: Fuzzy-Reasoning-based Diagnosis Scheme for Automated Classification of Heart Disease From Ultrasonic Images
Du-Yih Tsai, Yongbum Lee
- P046: The Logical Inferences in Possibility Theory Based on the Concept of Upper (Lower) Probability
Andrew G. Bronevich, Alexander N. Karkishchenko
- P049: A Classifier Based on the Maximal Fuzzy Similarity in the Generalized Lukasiewicz-Structure
Pasi Luukka, Kalle Saastamoinen, Ville Kononen
- P064: Fuzzy K-Means Clustering With Crisp Regions
Norio Watanabe, Tadashi Imaizumi
- P097: Rotation and Scaling Invariant Self-organizing Mapping
Kingkarn Sookhanaphibarn, Chidchanok Lursinsap
- P098: Generalization Improvement of a Fuzzy Classifier With Ellipsoidal Regions
Shigeo Abe, Keita Sakaguchi
- P104: The Influence of the Probability Density Function on Similarity in MEC
Chengyi Sun, Jianqing Zhang, Junli Wang, Hongyan Jia
- P121: A Mathematical Programming Approach to Fuzzy Efficiency Ranking
Kao, Chiang
- P167: Fuzzy Clustering of Non-convex Patterns Using Global Optimisation
Gleb Beliakov
- P179: Line Object Matching Based on Fuzzy Similarities
Zhanggui Zeng, Hong Yan
- P204: Characteristic Extraction From An Ambiguous Image Using Fuzzy Mathematical Morphology With Adaptive Structuring Elements
Takuo Kikuchi, Shuta Murakami
- P246: Joint Cohort Normalization in a Multi-Feature Speaker Verification System
Conrad Sanderson, Kuldip K Paliwal
- P277: A K-Nearest Neighbourhood Based Fuzzy Reasoning Schema
Kemal Kilic, I. B. Turksen, Beth A. Sproule, Claudio A. Naranjo
- P010: A TSK-type Recurrent Fuzzy Network for Dynamic Systems Processing Via Supervised and Reinforcement Learning
Chia-Feng Juang, Yuan-Chang Liou
- P032: Design of Fuzzy Control System by a New DNA-Based Immune Genetic Algorithm
Lihong Ren, Yongsheng Ding
- P036: A Fuzzy Projection Pursuit Model for Prediction in High-Dimensional Space With Fuzzily Dependent Inputs
Li-Xin Wang
- P038: Put Fuzzy Cognitive Maps to Work in Virtual Worlds
Marc Parento, Patrick Reignier, Jacques Tisseau
- P057: Learning Approximate Fuzzy Rules From Training Examples
Tzung-Pei Hong, Tzu-Ting Wang, Been-Chian Chien
- P060: Task Decomposition Based on Output Parallelism
Sheng-Uei Guan, Shanchun Li

- P062: A Distance Metric Suitable for Fuzzy Partitioning
Serge Guillaume, Brigitte Charnomordic, Andre Titli
- P066: PCMNN: A Parallel Cooperative Modularized Neural Network Architecture
Wei-xin Ling, Qilun Zheng, Qiong Chen, Cui-ying Lu
- P067: A Fuzzy Approach to Fulfilling Personalized Service Through Association Rules Derived From Large Databases
Yo-Ping Huang, Chi-Peng Ouyang, Ya-Hui Ke, Kent Lin
- P074: Intelligent Isolated Intersection
Dusan Teodorovic, Panta Lucic, Jovan Popovic, Shinya Kikuchi, Branimir Stanic
- P089: Rule Based Fuzzy Cognitive Maps- Expressing Time in Qualitative System Dynamics
Joao Paulo Carvalho, Jose A. B. Tome
- P109: On Interpretability of Fuzzy Models Using Conciseness Measure
T. Furuhashi, T. Suzuki
- P113: Redundancy Optimization Problems With Fuzzy Random Lifetimes
Ruiqing Zhao, Kaoping Song, Jianhua Zhu
- P114: Expected Value Goal Programming Model for Fuzzy Scheduling Problem
Jin Peng, Kaoping Song
- P120: Heuristic Rule Based Neuro-Fuzzy Approach for Adaptive Buffer Management for Internet-based Computing
Dianhui Wang, Allan K.Y. Wong, Tharam S. Dillon
- P132: Nonlinear System Input Structure Identification Based on Rough Set Data Analysis
Ming Li, Huaguang Zhang
- P135: JFSolver: A Tool for Modeling and Solving Fuzzy Constraint Satisfaction Problems
Ryszard Kowalczyk, Van Bui

Lunch 12:30-14:00

Session T1b: Pattern Recognition and Image Processing

Venue: Old Arts, Theatre A, Chairs: T Pham, A Voisin
14:00-16:00, Monday, 3 December 2001

- P125: Modeling PH Neutralization Process Using Fuzzy Satisfactory Clustering
Ning Li, Shaoyuan Li, Yugeng Xi
- P133: A Comparison of the Linguistic Choquet & Sugeno Fuzzy Integrals
Sansanee Auephanwiriyaikul, James M. Keller
- P149: Implementation of a General Real-time Visual Anomaly Detection System Via Soft Computing
Jesus A. Dominguez, Steve Klinko, Bob Ferrell
- P205: Likelihood-based Vs Distance-based Evidential Classifiers
Patrick Vannoorenberghe, Thierry Denoeux
- P215: Fuzzy Image Classification and Combinatorial Optimization Strategies for Exploiting Structural Knowledge
Hirotaka Suzuki, Pascal Matsakis, Jacky Desachy
- P229: Fuzzy Granulation in Image Processing Using Fuzzy Linguistics Rules. Application to a Fuzzy Reasoning
Edge Detector
Vincent Bombardier, Alexandre Voisin, Eric Levrat

Session T2b: Electronic and Robotic Systems

Venue: Zoology, Agar Theatre, Chairs: G Y Lim, A Homaifar
14:00-16:00, Monday, 3 December 2001

P288: Robotic Excavation Swing Control Using Fuzzy Rotating Sliding Mode
Q. P. Ha, D. C. Rye

P300: Solution of the Inverse Kinematic Problem of a Serial Manipulator by a Fuzzy Algorithm
Alberto Borboni

P308: A Multi-Layered Fuzzy Inference Systems for Autonomous Robot Navigation and Obstacle
Abdollah Homaifar, Bahram Kimiaghalam, Bodin Suttikulvet, Bijan Sayyarodsari

P326: Fuzzy Clearance in Printed Circuit Board Designs
Masayuki Murakami, Nakaji Honda

P334: Position and Velocity Control of a Flexible Joint Robot Manipulator Via a Fuzzy Controller Based on a
Singular Perturbation Analysis.
R. F. Amjadi, S. E. Khadem, H. Khaloozadeh

P338: A General Purpose Processor Oriented Fuzzy Reasoning
Giuseppe Ascia, Vincenzo Catania

Session T3b: Soft Computing and Hybrid Systems

Venue: Old Arts, Theatre C, Chairs: L Wang, J-H Cheng
14:00-16:00, Monday, 3 December 2001

P070: A View of Public & Private Sectors for Taiwan's BOT Transportation Project Financing Using Fuzzy
Multi-criteria Methods
Jao-Hong Cheng

P083: A Fuzzy Apriori Tid Algorithm With Reduced Computational Time
Tzung-Pei Hong

P090: On the Regulatisation-enhanced Training of RBF Networks
Ozer Ciftcioglu, S. Durmisevic, S. Sariyildiz

P093: Fuzzy Frequent Episodes for Real-time Intrusion Detection
Jianxiong Luo, Susan Bridges, Rayford B. Vaughan

P094: Re-granulating a Fuzzy Rulebase
Scott Dick, Adam Schencker, Mark Last, Horst Bunke, Abraham Kandel

P118: A Method for Structure Identification in Complete Rule-based Fuzzy Systems
Hector Pomares, I. Rojas, J. Gonzalez, A. Prieto

P123: Fuzzy Distance Approach to Routing Algorithms for Optimal Web Path Estimation
S. R. Sudharsanan

Session T4b: Control Systems

Venue: Old Arts, Theatre D, Chairs: C-H Wang, C-L Hwang
14:00-16:00, Monday, 3 December 2001

P069: "Rejected, Optimal & Reinforced Robustness Designs of Fuzzy Variable Structure Control for a Class
of Nonlinear Discrete-time Systems"
Chih-Lyang Hwang

P106: A Dual Design Problem Via Multiple Lyapunov Functions
Kazuo Tanaka, Tsuyoshi Hori, Hua O. Wang

P140: Combination of Adaptive-Network Fuzzy Inference System and Incremental Best Estimate Directed
Search
Feijun Song, Samuel M. Smith

P142: Rule-base Generation via Symbiotic Evolution for a Mamdani-type Fuzzy Control System

Mahdi Mahfouf, M. Jamei, D. A. Linkens

P151: Application of a Fuzzy Controller to Seismically Excited Nonlinear Buildings
Mohammed Al-Dawod, Bijan Samali, Kenny Kwok, Fazel Naghdy

Session T5b: Mathematics

Venue: Old Arts, Theatre E, Chairs: P Diamond, R Sabbadin

14:00-16:00, Monday, 3 December 2001

P134: Towards Possibilistic Reinforcement Learning Algorithms
Regis Sabbadin

P137: Towards Temporal Linguistic Variables
Joe Halliwell, Qiang Shen

P153: Linguistic Hedges on Tradezoidal Fuzzy Sets: A Revisit
Javier G. Marin-Blazquez, Qiang Shen

P173: Fuzzy Derivative & Its Application to Data Classification
Musa A Mammadov

P188: "Discrete (Set) Derivatives & "Algebraic" Fuzzy Logic Operations"
Bernadette Bouchon-Meunier, Hung T. Nguyen, Vladik Kreinovich

Session PS2: Poster Session 2

Venue: North Dining Room, Union House

14:00-18:30, Monday, 3 December 2001

P147: Rule-base Self-generation & Simplification for Data-driven Fuzzy Models
Min-You Chen, D.A. Linkens

P158: Fuzzy and Chaotic Neuro-Network Modeling
Algis Garliauskas

P178: Modeling of Indentation for Fuzzy Systems Symptoms: An Aggregated Statistics Based Approach
Lin Miao

P193: A Fuzzy CMAC Structure and Learning Method for Function Approximation
Hung-Ren Lai, Ching-Chang Wong

P197: Grey Matrix Application in the Optimal Design of Rifle Muzzle Noise Reducer
Chung-Shang Chang, Ren-Chieh Liao, Tai-Chang Hsia, Kun-Li Wen

P200: Modeling of Agent Negotiation Via Fuzzy Constraint Processing
Robert Lai, Menq-Wen Lin

P225: Daily Load Forecasting With a Fuzzy-input-Neural Network in An Intelligent Home
S. H. Ling, F. H. F Leung, P. K. S. Tam

P240: Fuzzy and Hybrid Methods Applied to GIS Interpolation
Juan A Botia, Antonio F. Gomez-Skarmeta, Mercedes Valdes, Antonio Padilla

P252: An Automatic Drawing of a Fuzzy Graph
Yoshinori Ueda, Isami Nomoto, Masayuki Matsumoto, Akira Stou

P281: On Fuzzy Association Rules Based on Fuzy Cardinalities
Patrick Bosc, Olivier Pivert, Didier Dubois, Henri Prade

P284: A Fuzzy Cognitive Map-based Stock Market Model: Synthesis, Analysis & Experimental Results
D. E. Koulouriotis, I. E. Diakoulakis, D. M. Emiris

P287: Fuzzy Relations Neural Network: Some Preliminary Results
A Ciaramella, R. Tagliaferri, W. Pedrycz

- P291: SQLF Flexible Querying Language Extension by Means of the Norm SQL2
Marlene Goncalves, Leonid Tineo
- P292: SQLf3: An Extension of SQLf With SQL3 Features
Marlene Goncalves, Leonid Tineo
- P299: Air Quality Prediction Using a Neuro-Fuzzy System
M. Negnevitsky, Galina Kelareva
- P019: Fuzzy Time Delay Control for D.c. Servo Motor
Sae Kyu Nam
- P020: Backing Up Control of Truck-Trailer Systems
Jianqiang Yi, Naoyoshi Yubazaki, Kaoru Hirota
- P022: Adaptive Neuro-Fuzzy Controller for Improved Performance of a Permanent Magnet Brushless DC Motor
S. Ushakumari, R. Sankaran, P. S. Chandramohannan Nair
- P029: Direct Adaptive Control of Nonlinear Process Based on Fuzzy Model
Igor Škrjanc, Saso Blazic, Drago Matko
- P031: HGA Fuzzy Supervisory Control System of a Binary Distillation Column
Suvalai Pratishtananda, Wasu Glankwamdee
- P037: Generating Persistently Exciting Inputs for Nonlinear Dynamic System Identification Using Fuzzy Models
Feng Wan, Li-Xin Wang, He-Yun Zhu, You-Xian Sun
- P042: Fuzzy Logic Modeling & Control for Drilling Composite Laminates
Byeong-Mook Chung, Masayoshi Tomizuka
- P050: Fuzzy Logic in Control: Truck Backer-Upper Problem Revisited
Andri Riid, Ennu Rustern
- P055: Development of An Intelligent Fuzzy Controller
Hassan B. Kazemian
- P075: Compensation & Division Control Law for Fuzzy Models
Thierry-Marie Guerra, Francois Delmotte, Laurent Vermeiren, Helene Tirmant
- P085: Genetic Algorithm Approach to Generate Rule and Membership Functions of Fuzzy Traffic Controller
Jongwan Kim, Byeong Man Kim, Nam Chul Huh
- P087: Self-adaptive Fuzzy Controller Based on An Exact Fast Simulated Annealing Algorithm
Jing-Song Hu, Qi Lun Zheng, Dan Pan, Hong Peng
- P105: Linguistic Reward-orientated Takagi-Sugeno Fuzzy Reinforcement Learning
Xionghuawei Yan, Z. D. Deng, Z. Q. Sun
- P111: Takagi-Sugeno Recurrent Fuzzy Neural Networks for Identification & Control of Dynamic Systems
Ying-Chung Wang, Chiang-Ju Chien, Ching-Cheng Teng

Tea/Coffee, 16:00-16:30

Session T1c: Pattern Recognition and Image Processing

Venue: Old Arts, Theatre A, Chairs: Z Chi, I B Turksen
16:30-18:30, Monday, 3 December 2001

- P247: Selecting Parameter Values for Mahalanobis Distance Fuzzy Classifiers
Peter Deer, Peter Eklund
- P251: Texture Classification Based on DCT and Soft Computing
Golam Sorwar, Ajith Abraham, Laurence S. Dooley

- P262: Fuzzy Approach of Motion Estimation
Frederic Comby, Olivier Strauss, Marie-Jose Aldon
- P269: Fuzzy Clustering Evaluation of Time-Frequency Distribution (TFD) Schemes for Audio Stream Segregation
Melanie A. Jackson, Ian S. Burnett
- P276: A Novel Fuzzy System Modeling Approach: Multidimensional Structure Identification and Inference
Ozge Uncu, I. B. Turksen
- P307: A Fuzzy Metric for Image Quality Assessment
Zheru Chi, Gang Chen, Junli Li
- P329: How to Determine the Minimum Number of Rules to Achieve Given Accuracy
Feng Wan, Li-xin Wang, He-Yun Zhu, You-Xian Sun

Session T2c: Electronic and Robotic Systems

Venue: Zoology, Agar Theatre, Chairs: G Y Lim, M C Garcia-Alegre
16:30-18:30, Monday, 3 December 2001

- P009: Adaptive Fuzzy Position Controller for Induction Servomotor Drive Using Sliding-Mode Technique
Rong-Jong Wai, Chih-Min Lin, Chun-Fei Hsu
- P344: A Novel Current Mode Membership Function Circuit for Mixed Signal Fuzzy Hardware
Mahmut Tokmakci, Mustafa Alci, Recai Kilic
- P356: Fuzzy and Neural Network Control System of Intelligent RLED Arm Manipulators for Dynamic Obstacles
Wei Wu, Sheng Zeng, Xianyong Gan
- P383: Multiagent Systems for the Hoist Scheduling Problem
Kwang H. Lee, David Jegou, Pierre Baptiste
- P414: Navigation of a Mobile Robot With Fuzzy Segments
Humberto Martinez, Miguel A. Zamora, Antonio G. Skarmenta
- P435: A Simulation Environment to Test Fuzzy Navigation Strategies Based on Perceptions
Maria C. Garcia-Alegre, L.garcia - Perez

Session T3c: Soft Computing and Hybrid Systems

Venue: Old Arts, Theatre C, Chairs: Y Guo, B Liu
16:30-18:30, Monday, 3 December 2001

- P124: Neuro-Fuzzy Controller for Helicopter Motion Control
Tito G. B. Amaral, Manuel M. Crisostomo
- P126: The Application of Equilibrium Chances to Fuzzy Random Dependent-chance Programming
Yian-Kui Liu, Baoding Liu
- P136: Risk Evaluation in Broadband Telecommunications Planning Under Services' Imprecise Penetration-A Fuzzy Approach
Marcos A DeSousa, Joana Machado, Paul V. Ribeiro, Carlos M. F. Carlson
- P150: Automatically Constructing Multi-relationship Fuzzy Concept Networks in Fuzzy Information Retrieval Systems
Yih-Jen Horng, Shyi-Ming Chen, Chia-Hoang Lee
- P155: Data-driven Design of Fuzzy System With Rational Input Partition
Adam E. Gaweda, Jacek M. Zurada
- P156: Growing a Fuzzy Decision Forest

Keeley A. Crockett, Zuhair Bandar, David McLean

P171: On Convergence of Fuzzy Reinforcement Learning
Hamid R. Berenji, David Vengerov

Session T4c: Control Systems

Venue: Old Arts, Theatre D, Chairs: L Wang, G-T Park

16:30-18:30, Monday, 3 December 2001

P185: Direct Adaptive Fuzzy-neural Control With State Observer & Supervisory Controller for Unknown Nonlinear Dynamical Systems
Chi-Hsu Wang, Han-Leih Liu, Tsung-Chih Lin

P198: Fuzzy Looper Control With Neural-Net Based Tuning for Rolling Mills
F. Janabi-Sharifi, J. Fan

P199: Application of Constraint-based Fuzzy Logic Controller for PH Control of a Flue Gas Desulfurization System
Robert Lai, Trank Li, David Chiang

P201: Fuzzy Stability Analysis Using Interlacing Condition
Ji-Chang Lo, Min-Long Lin

P218: A Histogram-based Rule Extraction Technique for Fuzzy Systems
A. Chong, T. D. Gedeon, K. W. Wong, L. T. Koczy

P222: Adaptive Fuzzy Control of General Nonaffine Nonlinear Systems Using Takagi-Sugeno Fuzzy Models
Pil-Sang Yoon, Jang-Hyun Park, Gwi-Tae Park

Session T5c: Mathematics

Venue: Old Arts, Theatre E, Chairs: M Nicoletti, V Loia

16:30-18:30, Monday, 3 December 2001

P190: Logic-motivated Choice of Fuzzy Logic Operators
Pratit Santiprabhob, Hung T. Nguyen, Witold Pedrycz, Vladik Kreinovich

P196: Similarity-based SLD Resolution and Its Implementation in An Extended Prolog System
Vincenzo Loia, Sabrina Senatore, Maria I. Sessa

P207: A Pseudo Metric on Fuzzy Sets Based on the Satisfaction Function With Viewpoint
Young-il Kim, Kwang H. Lee

P234: On a New Theory of Fuzzy Sets With Just One Self-Contradiction
E. Trillas, E. Renedo, S. Guadarrama

P248: Introduction to Uncertainty Bounds and Their Use in the Design of Interval Type-2 Fuzzy Logic Systems
Hongwei Wu, Jerry M. Mendel

P261: Improved Ant Agents System by the Dynamic Parameter Decision
SeungGwan Lee, TaeUng Jung, TaeChoong Chung

Tuesday, 4 December 2001

Plenary Session 2: Uncertain Rule-Based Fuzzy Logic Systems for Wireless Communications

Professor Jerry M. Mendel, University of Southern California

Venue: Economics and Commerce, Copland Theatre

9:00-10:00, Tuesday, 4 December 2001

Tea/Coffee, 10:00-10:30

Session T1d: Pattern Recognition and Image Processing

Venue: Old Arts, Theatre A, Chairs: J Keller, S Medasani

10:30-12:30, Tuesday, 4 December 2001

P332: An On-line Method for Self Organized Learning and Extraction of Fuzzy Rules From High Dimensional Data

Swarup Medasani, N. Srinivasa, Y. Owechko

P350: Fuzzy Adaptive Edge Definition Based on the Complexity of the Image

Mario Ignacio Chacon Murguia, Luis Enrique Aguilar, Abdi Delgado

P361: "Shape Understanding System: The Application of Fuzzy Sets, Neural Works and Statistical Methods in the

Process of Visual Thinking"

Zbigiew Les, Magdalena Les

P362: Facial Landmarks Localization Based on Fuzzy and Gabor Wavelet Graph Matching

Resmana Lim, Marcel Reinders

P366: Generation of Brightness Membership Functions for Labeled Image Segmentation

P. Sobrevilla, E. Montseny

P369: Fuzzy Scene Matching in LADAR Imagery

Pascal Matsakis, J. Marjamaa, O. Sjahputera, J. M. Keller

Session S1a: Special Session on New Techniques for Fuzzy Controller Design

Venue: Zoology, Agar Theatre, Chair: G Feng

10:30-12:30, Tuesday, 4 December 2001

S101: Structure-Oriented Design for a Class of Nonlinear Systems

K. Tanaka, T. Tanaguchi, S. Hori, H. Wang

S102: Fuzzy Observers

P. Bergsten, R. Palm, D. Driankov

S103: On Relaxed LMI-Based Design for Fuzzy Controllers

Marcelo C. M. Teixeira, Edvaldo Assuncao, Rodrigo G. Avellar

S104: Adaptive Fuzzy Solution of Hamilton-Jacobi Partial Differential Inequality and Its Application to H-inf Nonlinear Control

Y. Y. Chen, Bor-Sen Chen

S105: Controller Synthesis of Fuzzy Dynamic Systems Based on Piecewise Lyapunov Functions

G. Feng, L. Wang

S106: Fuzzy Gain Scheduling for Flight Control Laws

Marcel Oosterom, Robert Babuska

Session T3d: Soft Computing and Hybrid Systems

Venue: Old Arts, Theatre C, Chairs: N Kasabov, J-H Chiang
10:30-12:30, Tuesday, 4 December 2001

- P174: Hierarchical Fuzzy-KNN Networks for News Documents Categorization
Jung-Hsien Chiang, Yan-Chang Chen
- P182: Interactive Query Expansion Based on Fuzzy Association Thesaurus for Web Information Retrieval
Hahn-Ming Lee, Sheng-Kang Lin, Chiung-Wei Huang
- P219: Fuzzy Neural Inference System Using Mutual Subsethood Products With Applications in Medical Diagnosis \ and Control
Sandeep Paul, Satish Kumar
- P220: Decentralized Adaptive Fuzzy Sliding-Mode Controller Design for Large Scale Nonlinear Uncertain Systems
Chiang-Cheng Chiang, Zu-Hung Kuo, Tzu-Ching Tung
- P227: Addition of Facial Expressions to Facial Caricature Drawn Using Linguistics Expressions
Shino Iwashita, Yuuki Takeda, Takehisa Onisawa, Michio Sugeno
- P235: User Recognition in Uncertain Object Oriented User Modelling
Jonathan Rossiter, T. H. Cao, T. P. Martin, J. F. Baldwin
- P217: Entropy Based Rule Derivation From Data With Uncertainty
Junping Sun

Session T4d: Control Systems

Venue: Old Arts, Theatre D, Chairs: J Kacprzyk, P P Bonissone
10:30-12:30, Tuesday, 4 December 2001

- P224: Robust Adaptive Observer Using Fuzzy Systems for Uncertain Nonlinear Systems
Jang-Hyun Park, Pil-Sang Yoon, Gwi-Tae Park
- P273: Fuzzy Sliding Mode Control for Inverted Pendulum Swing-Up With Restricted Travel
Mariagrazia Dotoli, Guido Maione, David Naso, Biagio Turchiano
- P236: Fuzzy Automated Braking System for Collision Prevention
Piero P. Bonissone, Kareem S. Aggour
- P238: Performance-based Adaptive Fuzzy Control of Aircrafts
Jan Vascak, Peter Kovacic, Kaoru Hirota, Peter Sincak
- P244: Fuzzy Robust Control for Discrete-Time Nonlinear Systems Using Input-Output Linearization and H_∞ Optimization
Reda Boukezzoula, Sylvie Galichet, Laurent Foulloy
- P256: Analysis of Interactions in MIMO Takagi-Sugeno Fuzzy Models
Stanimir Mollov, R. Babuska, H. B. Verbruggen

Session T5d: Mathematics

Venue: Old Arts, Theatre E, Chairs: M Nicoletti, D Dubois
10:30-12:30, Tuesday, 4 December 2001

- P265: Subjective Interpretation of Probability of Fuzzy Events
Brunella Gerla
- P275: Upper and Lower Memberships in CWW
I. B. Turksen
- P280: An Information-Based Discussion of Vagueness
Didier Dubois, Francesc Esteva, Lluís Godó, Henri Prade
- P293: On Some Extensions for S-decomposable Fuzzy Measures
Vicenc Torra

P341: Combining Fuzzy Words
Martin Spott

P345: A Clash in Dempster-Shafer Theory
Wei Xiong, Xudong Luo, Shier Ju

Session PS3: Poster Session 3

Venue: North Dining Room, Union House

9:00-12:30, Tuesday, 4 December 2001

P294: Fuzzy Clustering Using Deterministic Annealing Method & Its Sttistical Mechanical Characteristics
Makoto Yasuda, Taseshi Furuhashi, Motoaki Matsuzaki, Shigeru Okuma

P296: Adaptive Spatially Constrained Fuzzy Clustering for Image Segmentation
Alan Wee-Chung Liew, Hong Yan

P303: Evaluation of a Sensory Measurement Fuzzy System for Car Seat Comfort
Alexander Voisin, Eric Levrat

P305: NEW VERSION SUBMITTED AT P406: A Possibilistic Image Classifier
Paulo Malinski, Sandra Sandri, Corina Freitas

P306: A Fuzzy Approach to Edge Level Detection
Mario Chacon, Luis Aguilar

P333: Majority-Voting FCM Algorithm in the Vague Fuzzy Classification
Ganghwa Lee, YoonChul Lee, SukGyu Lee, SoonHak Kwon

P376: Rolling Bearing Fault Diagnostic System Using Fuzzy Logic
Silmara Vicente, Rodrigo Yoshiaki Fujimoto, Linilson Rodrigues Padovese

P397: Fuzzy Filters Design on Image Processing by Gentle Algorithm Approach
Hung-Ching Lu, Shian-Tang Tzeng

P405: Color Image Segmentation by Fuzzy Morphological Transformation of the 3D Color Histogram
Aymeric Gillet, Claudine Botte-Lecocq, Jack-Gerard Postaire

P406: A Imprecision-Based Image Classifier
Sandra Sandri, Paulo Malinski, Corina Freitas

P408: Application of Fuzzy Logic in Seismic Zonation
Wanwu Guo, Dongguang Li, Anthony Watson

P416: A GA Based Fuzzy Feature Evaluation Algorithm for Pattern Recognition
Han-Pang Huang, Yi-Hung Liu

P422: Learning of Fuzzy Decision Regions Using Genetic Algorithm
Yao Leehter, Chin-chin Lin

P433: An Automatic Hardness Measuring Method Using Hough Transform and Fuzzy C-means Algorithm.
Yao Leehter, Chih-Heng Fang

P442: Fuzzy Measures for Vehicle Detection
Zhi-Qiang Liu, Xiaobo Li, Ka-Ming Leung

P115: A Dynamic Weight-Fuzzy Neural Network With Nonlinear Dynamic System Control
D. P. Kwok, C. K. Li, T. P. Leung, Z. D. Deng, Z. Q. Sun

P117: An Enhanced Self-organizing Controller for Real-time Process-control Applications
Hector Pomares, I. Rojas, J. Gonzalez, M. Damas, A. Prieto

P127: Automatic Helicopter Motion Control Using Fuzzy Logic

Tito G. B. Amaral, Manuel M. Crisostomo

- P139: Fast Incremental Best Estimate Direct Search- A Significantly Expedited Algorithm for Takagi-Sugeno Type Fuzzy Logic Controller Automatic Optimization
Feijun Song, Samuel M. Smith
- P152: Predictive Control Based Fuzzy Model: A Case Study
Marko Lepectic, Igor Skrijanc, Hector G. Chiaccharini, Drago Matko
- P165: A VSS-type FCMAC Controller
Jen-Yang Chen
- P175: Indirect Adaptive Fuzzy-neural Control With Observer & Supervisory Control for Unknown Nonlinear Systems
Chi-Hsu Wang, Tsung-Chih Lin, Han-Leih Liu, Tsu-Tian Lee
- P186: Combined Direct/indirect Adaptive Fuzzy-neural Control With State Observer & Supervisory Controller for Unknown Nonlinear Dynamic Systems
Chi-Hsu Wang, Han-Leih Liu, Tsung-Chih Lin
- P189: A New Derivation of Centroid Defuzzification
Mourad Oussalah, Hung T. Nguyen, Vladik Kreinovich
- P191: Hyperbolic Approach to Fuzzy Control Is Optimal
Hung T. Nguyen, Vladik Kreinovich, Michael Margaliot, Gideon Langholtz
- P203: Adaptive Fuzzy Control for a Class of Discrete-Time Nonlinear Systems
Hugang Han, Chun-Yi Su, Shuta Murakami
- P211: Optimization of Fuzzy Feedback Control in L_2 Space
Takashi Mitsuishi, Jun Kawabe, Katsumi Wasaki, Yasunari Shidama
- P214: Fuzzy System With Adaptive Rulebase
Bin Zhang, Liyun Xu, Jingcheng Wang, Huihe Shao
- P221: Robust Output Feedback Control for Fuzzy Descriptor Systems
Kuang-Low Lian, Peter Liu, Jieih-Jang Liou, Tsu-Cheng Wu
- P231: Optimal and Stable Fuzzy Controllers for Nonlinear Systems Subject to Parameter Uncertainties Using Genetic Algorithm
H. K. Lam, S. H. Ling, F. H. F Leung, P. K. S. Tam
- P254: Design of a Fuzzy Controller: Some Experience by M. Negnevitsky
Michael Negnevitsky
- P263: "Model Based Predictive Control With Fuzzy Characterization of Goals and Constraints, Applied to the Dynamic Optimization of Grinding Plants"
M. Orchard, A. Flores, C. Munoz, A. Cipriano

Lunch 12:30-13:30

Session T1e: Pattern Recognition and Image Processing

Venue: Old Arts, Theatre A, Chairs: T Pham, C-C Lo
13:30-15:30, Tuesday, 4 December 2001

- P375: Video Segmentation Using a Histogram-Based Fuzzy C-Means Clustering Algorithm
Chi-Chun Lo, Shuenn-Jyi Wang
- P377: Fuzzy C-Means Clustering With Regularization by K-L Information
Hidetomo Ichihashi, Kiyotaka Miyagishi, Katsuhiko Honda

- P394: Handwritten Character Membership Function Estimation for Word Recognition
Hichem Frigui, Paul Gader, Raghu Krishnapuram
- P409: A Proposed Fuzzy Pattern Verification System
Dat Tran, Michael Wangner
- P415: On Agent Based Visual Data Mining for Intelligent Web Browsing With E-commerce Applications
Jane You, J. Liu
- P420: A Camera Control Based Fuzzy Behaviour Recognition of Lecturer for Distance Lecture
Shinji Tsuruoka, Toru Yamaguchi, Kenji Kato, Tomohiro Yishikawa, Tsuyoshi Shinogi
- P437: Combination of Multiple Classifiers by Fuzzy Integrals: An Application to Synthetic Aperture Radar (SAR) Data
P. Blonda, C. Tarantino, A. D'Addabbo, G. Satalino, G. Pasquariello

Session S2a: Special Session on Fuzzy Optimization and Decision Making

Venue: Zoology, Agar Theatre, Chair: M Inuiguchi
13:30-15:30, Tuesday, 4 December 2001

- S205: Interactive Fuzzy Satisficing Method for Multiobjective Stochastic Linear Programming Problems Using a Fractile Criterion Model
Masatoshi Sakawa, Hideki Katagiri, Kosuke Kato
- S206: Interval Probability and Its Application to Decision Problems
Hideo Tanaka, Kazutomi Sugihara
- S203: Analytic Hierarchy Process Based on Interval Analysis
Tomoe Entani, Hidetomo Ichihashi, Kazutomi Sugihara, Hideo Tanaka
- S204: Option Pricing Models for Fuzzy Decision Making in Financial Engineering
Yuji Yoshida
- S209: Fuzzy Decision Making With Interacting Goals Applied to Cross-selling Decisions in the Field of Private Customer Banking
Rudolf Felix

Session T3e: Soft Computing and Hybrid Systems

Venue: Old Arts, Theatre C, Chair: Z Chi, B Pham
13:30-15:30, Tuesday, 4 December 2001

- P237: A New Approach to Hybrid SOM Implementations for Text Classification
Paul Gunther, Phoebe Chen
- P243: Fuzzy Models in Evaluation of Information Uncertainty in Engineering and Technology Applications
Leon Reznik, Binh Pham
- P266: Anytime Extension of the Iterative Fuzzy Model Inversion
Annamaria R. Varkonyi-Koczy, Orsolya Takacs
- P267: Non Exact Complexity Reduction of Generalized Neuro-Fuzzy Networks
Orsolya Takacs, Annamaria R. Varkonyi-Koczy
- P268: A User-Adaptive Indexing Model of Structured Documents
Gloria Bordogna, Gabriella Pasi
- P272: Recent Developments in the Application of Computational Intelligence to Multi-Agent Manufacturing Control
David Naso, Guido Maione
- P278: Fuzzy Case-Based Reasoning for Decision Making
Piero Bonissone, William Cheetam

Session T4e: Control Systems

Venue: Old Arts, Theatre D, Chairs: T Gedeon, D J King
13:30-15:30, Tuesday, 4 December 2001

- P257: Fault-Tolerant Output-Feedback Control Via Fuzzy State Blending
Robert Babuska
- P264: Design of a Supervisory Predictive Controller Based on Fuzzy Models
Doris Saez, Aldo Cipriano
- P270: Using a Fuzzy Inference System to Control a Pumped Storage Hydro Plant
D. J. King, D. A. Bradley, S. Mansoor, D. Jones, F. C. Aris
- P232: Linear Controllers for Fuzzy Systems Subject to Unknown Parameters: Stability Analysis and Design Based on Linear Matrix Inequality (LMI) Approach
H. K. Lam, F. H. F. Leung, P. K. S Tam
- P285: Development of Feedback Error Learning Strategies for Training Neurofuzzy Controllers Online
Woei Wan Tan, Chang How Lo
- P286: "Nonlinear Neuro-Fuzzy Prediction: Methodology, Design & Applications"
A. R. Sadeghian

Session T5e: Mathematics

Venue: Old Arts, Theatre E, Chairs: D Dubois, D G Joder
13:30-15:30, Tuesday, 4 December 2001

- P352: Implications of the Frequentist Interpretation of Fuzzy Logic
Donald G Joder
- P359: A Completeness Theorem for Multi-Adjoint Logic Programming
Jesus Medina, Manuel Ojeda-Aciego, Peter Vojtas
- P360: Probabilistic and Statistical Fuzzy Set Foundations of Competitive Exception Learning
J. van den Berg, W. M. van den Bergh, U. Kaymak
- P387: PT(CP) - Resolution
Faye F Liu
- P393: A Logical Framework for Fuzzy Collaborative Filtering
Stefano Aguzzoli, Paolo Avesani, Brunella Gerla

Session PS4: Poster Session 4

Venue: North Dining Room, Union House
13:30-18:00, Tuesday, 4 December 2001

- P033: Electronic Prototype for Fuzzy C-Means Clustering: Analog Building Blocks
Felipe Gomez-Castaneda, Jose A Moreno-Cadenas, Luis M. Flores-Nava, Alfredo Reyes-Barranca
- P068: Trajectory Tracking of Frictional Direct-drive Motors Using Fuzzy-linear-model-based Robust Variable Structure Control
Chih-Lyang Hwang, Yung-Ming Chen, Sheng-Huei Huang
- P080: A High Speed VLSI Fuzzy Logic Controller With Pipeline Architecture
Shih-Hsu Huang, Jian-Yuan Lai
- P095: Map Building Via Integration of Fuzzy Systems and Clustering Algorithms
Y. L. Ip, A. B. Rad, Y. K. Wong
- P143: Dynamic Obstacle Avoidance Based on Fuzzy Inference & Transitional Principle for Soccer Robots
Ping Tang, Yimin Yang, Xia Li
- P162: Fuzzy Optimization of Separate Zone Water Shutoff

Kaoping Song, Yuzhuo Wang, Jicheng Zhang, Erlong Yang

- P166: A Measurement Theory Perspective for MCDM
Francois Modave, Peter Eklund
- P168: Fault Detection & Isolation in Nonlinear Dynamic Systems: A Fuzzy Neural Approach
Mehdi Sotudeh-Chafi, M. R. Akbarzadeh-T, M Moavenian
- P169: Fuzzy Modeling of Human Control Strategy for Overhead Crane
Amir H. Meghdadi, Mohammad-R Akbarzadeh-T
- P213: Optimization of Combustion Control Based on Fuzzy Logic
Bin Zhang, Liyun Xu, Jingcheng Wang, Huihe Shao
- P249: Genetic Tuned FPGA Based PD Fuzzy LUT Controller
Julian Bonilla, Victor H. Grisales, Miguel A Melgarejo
- P431: Embedded Fuzzy Control for Reefer Refrigeration Systems
Shane Spiteri, Leon Reznik, Paul. Vilas-Boas
- P434: Fuzzy Diagnose Microcontroller Based System for Air Quality Surveillance
Maria C. Garcia-Alegre, R. Gz. Bueno, D. Guinea, A. Ribeiro
- P012: A Shortest-Path Network Problem in A Fuzzy Environment
Feng-Tse Lin
- P015: Fuzzy Colouring for Fuzzy Graphs
Leonid S. Bershtein, Alexander V. Bozhenuk
- P081: Synthetic Language System
Sha Li, Xiao-zhe Zhao
- P086: Fuzzy Model and Membership for Two- Dimensional Variables
Chao-Chih Tsai, Yung-Dann Yu
- P096: Function Approximation by Hierachial Fuzzy System With Constraints on the Fuzzy Role
Moon G Joo, Jin S Lee
- P110: A Fuzzy Model With Exponential Partition for Approximating SISO Nonlinear Functions
You-Wei Teng, Wen-June Wang, Pei-Jun Lee
- P112: Multi-Unterval Truth Valued Logic
Noboru Takagi, Hiroaki Kikuchi, Kyoichi Nakashima
- P157: A New Method to Measure the Similarity Between Fuzzy Numbers
Shi-Jay Chen, Shyi-Ming Chen
- P170: Probabilistic Fuzzy Logic & Probabilistic Systems
Amir H Meghdadi, Mohammad-R Akbarzadeh-T
- P177: Weighting Contrainst in Fuzzy Optimization
Uzay Kaymak, J. M. Sousa
- P184: Fuzzy Entropy: a Brief Survey
Salah Al-sharhan, F. Karray, W. Gueaieb, O. Basbir
- P206: Evolutionary Computation Based Identification of a Monotonic Takagi-Sugeno-Kang Fuzzy System
Jin Myung Won, Keehong Seo, Seok K. Hwang, Jin S. Lee
- P226: Several Results on De Morgan Algebra and Kleene Algebra of Fuzzy Logic
Jianming Deng, Motohide Umamo, Tetsuhisa Oda, Yushi Uno
- P245: On Axiomatic Characterization of Fuzzy Approximation Operators III. The Fuzzy Diamond and Fuzzy Box

Based Cases
Helmut Thiele

- P274: Logical Foundations for Constraints on Fuzzy Sets in Soft Computing: MV-Partitions and Refinement
Paolo Amato, Corrado Manara, Domenico Porto
- P283: Anamorphosis of Fuzzy Cognitive Maps for Operation in Ambiguous & Multi-stimulus Real World
Environ
D. E. Koulouriotis, I. E. Diakoulakis, D. M. Emiris
- P301: On Complex Fuzzy Sets
Daniel Ramot, Menahem Friedman, Gideon Langholz, Ron Milo, Abraham Kandel
- P339: Quasi Fuzzy Paths in Semantic Network
M. Abdus Salam
- P349: Ranking Fuzzy Numbers Using Reference Sets and Degree of Dominance
Chung-Hsing Yeh, Hepu Dong
- P371: A Spectrum of Compensation Aggregation Operators
Xudong Luo, Ho-Fung Leung, Jimmy Ho-man Lee
- P372: Weighted/Prioritised Compensatory Aggregation
Xudong Luo, Ho-Fung Leung, Jimmy Ho-man Lee
- P417: Realism in Fuzzy Cognitive Maps: Incorporating Synergies and Conditional Effects
D. E. Koulouriotis, I. E. Diakoulakis, D. M. Emiris
- P438: Random Sets and Histograms
Javier Nunez-Garcia, Olaf Wolkenhauer

Tea/Coffee, 15:30-16:00

Session S3a: Special Session on Human-Centered Systems

Venue: Old Arts, Theatre A, Chair: T Onisawa
16:00-18:00, Tuesday, 4 December 2001

- S301: A User Friendly Interface Operated by the Improved DTW Method
Myung-Kyung Chu, Young-Sun Sohn
- S302: An Adaptive Meta-heuristic Approach Using Partial Optimization to Non-convex Polygons Allocation
Problem
Shigeyuki Takahara, Yoshiyuki Kusumoto, Sadaaki Miyamoto
- S303: Effective Intention Reading Technique As a Means of Human-robot Interaction for Human Centered
Systems
Dae-Jin Kim, Won-Kyung Song, Jeong-Su Han, Zeungnam Bien
- S304: Comparative Analysis of Ecological Expert and Fuzzy Controller Using Lens Model
Tetsuo Sawaragi, Yukio Horiguchi, Motoi Ishizuka
- S305: Composition of Music Using Human Evaluation
Muneyuri Unehara, Takehisa Onisawa
- S306: Use of a Novel Generalized Fuzzy Hidden Markov Model for Speech Recognition
Adrian David Cheok, Kuntal Sengupta, Ko Chi Chung, Sylvain Chevalier, Mustafa Kaynak

Session S2b: Special Session on Fuzzy Optimization and Decision Making

Venue: Zoology, Agar Theatre, Chair: H Katagiri
16:00-18:00, Tuesday, 4 December 2001

- S208: Computational Methods for Two-level Linear Programming Problems With Fuzzy Parameters Through
Genetic Algorithms

Keiichi Niwa, Ichiro Nishizaki, Masatoshi Sakawa

- S207: Possibilistic Linear Programming With Globally Interactive Fuzzy Numbers
Masahiro Inuiguchi, Tetsuzo Tanino
- S210: Optimization Under Uncertainty: Methods and Applications in Radiation Therapy
Weldon Lodwick, Arnold Neumaier, Francis Newman
- S201: Mean-variance Portfolio Optimization Model With Uncertain Coefficients
Masaaki Ida
- S202: Fuzzy Crop Planning Problem Based on Possibility Measure
Takeshi Itoh, Hiroaki Ishii

Session T3f: Soft Computing and Hybrid Systems

Venue: Old Arts, Theatre C, Chairs: Y Yam, P Bosc
16:00-18:00, Tuesday, 4 December 2001

- P279: Aggregate Operators in Database Flexible Querying
Patrick Bosc, Olivier Pivert, Ludovic Lietard
- P282: Comparison of Three Modern Controllers for Wide Range Power Regulation Nuclear Reactors
Mehrdad N Khajavi, Mohammad B. Menhaj, Amir A Suratgar
- P295: Clusterwise Data Mining Within a Fuzzy Querying Interface
Janusz Kacprzyk, Jan W. Owsinski, Slawomir Zadrozny
- P317: A New Sequential Learning Algorithm Using Pseudo-gaussian Functions for Neuro-fuzzy Systems
Ignacio Rojas Ruiz, H. Pomares, J. Gonzales, P. Gloesekotter, J. Diestuhl
- P324: Fuzzy Image Retrieval System
A. Aguilera, A. R. Subero, L. Martinez, A. Subero, L. J. Tineo
- P335: Input Selection in Data-Driven Fuzzy Modelling
Adam Gaweda, Jacek M. Zurada, Rudy Setiono
- P379: Tracking a Maneuvering Target Using Fuzzy Neural Network
Chin-Teng Lin, Fun-Bin Duh

Session T4f: Control Systems

Venue: Old Arts, Theatre D, Chairs: C-H Wang, W Perruquetti
16:00-18:00, Tuesday, 4 December 2001

- P289: Stability Analysis & Design of Fuzzy Observer-controller for Fuzzy Systems
H. K. Lam, F. H. F. Leung, P. K. S. Tam
- P290: On Design of Switching Controller for Non-linear Systems With Unknown Parameters Based on a Model Reference Approach
H. K. Lam, F. H. F. Leung, P. K. S. Tam
- P297: Some Remarks About Output & State Feedback Stabilization of Takagi-Sugeno Models
Wilfrid Perruquetti, Thierry Marie Guerra, Yann Morere, Yann Blanco
- P298: Non Quadratic Stabilization of Discrete Takagi Sugeno Fuzzy Models
Thierry Marie Guerre, Wilfrid Perruquetti
- P309: Development of a Neuron Chip Based Smart Embedded Fuzzy Logic Controller With Intelligent Control Strategies for Process Control
R. Raji, Y. G. Srinivasa, A. Kistner
- P320: The Optimization of Traffic Signal Light Using Artificial Intelligence

GiYoung Lim, Jeong-Jin Kang, YouSik Hong

Session S4a: Soft Computing on the Net

Venue: Old Arts, Theatre E, Chairs: T Takagi, V Cross

16:00-18:00, Tuesday, 4 December 2001

S401: A Similarity-based View to Distributed Information Retrieval With Mobile Agents
Vincenzo Loia, Paolo Luongo, Sabrina Senatore, Maria Sessa

S402: Similarity Or Inference for Assessing Relevance in Information Retrieval
Valerie V. Cross

S403: A Fuzzy Ontology-based Abstract Search Engine and Its User Studies
Dwi H. Widyantoro, John Yen

S404: WWW Information Visualization Based on Plastic Clustering
Yasufumi Takama, Kaoru Hirota

S405: Language Communication Protocol for Everyday Language Computing
Ichiro Kobayashi, Michiaki Iwazume, Michio Sugeno

S406: Query Expansion Using Conceptual Fuzzy Sets For Search Engine
Masanori Tajima, Tomohiro TAKAGI

Conference Banquet

Venue: Grand Hyatt Hotel, 123 Collins Street, Melbourne

19:00 Pre-dinner drinks, 19:30 Dinner, Tuesday, 4 December 2001

Wednesday, 5 December 2001

Session S5a: Special Session on Neuro-fuzzy Applications in New and Emerging Areas

Venue: Old Arts, Theatre A, Chair: Y Yam

9:00-11:00, Wednesday, 5 December 2001

- S501: Terrain-Based Robot Navigation Using Multi-Scale Traversability Indices
Homayoun Seraji
- S502: Control of A SMA Actuated Artificial Face Via Neuro-fuzzy Techniques
Yeung Yam, Kin-fong Lei, Peter Baranyi
- S503: Automatic Story Segmentation for Spoken Document Retrieval
Pui-Yu Hui, Xiaou Tang, Helen M Meng, Wai Lam, Xinbo Gao
- S504: Neural Network Modeling and Controllers for Magnetorheological Fluid Dampers
Dai-Hua Wang, Wei-Hsin Liao
- S505: A Proposal for Manipulating Nafion Micro Actuators Using Neural-fuzzy Based Control
Wen J. Li, Wenli Zhou, Kin-fong Lei, Yeung Yam
- S506: Ruled-based Formation Estimation of Distributed Spacecraft
Fred Y. Hadaegh, Bryan H Kang, Daniel P Scharf
- S507: Fuzzy Image Processing in Sun Sensor
Sohrab Mobasser, Carl C. Liebe, Ayanna M. Howard

Session S7a: Special Session on Fuzzy/Soft Computing Based Virtual Characters and Agents

Venue: Zoology, Agar Theatre, Chair: A Cheok

9:00-11:00, Wednesday, 5 December 2001

- S701: MEME* a Society of Virtual Characters in An Adaptive Information Sharing System
Jack Brzezinski, Michael Dain
- S702: Increasing Believability: Agents That Justify Their Actions
Yusuf Pisan, Abhaya Nayak
- S703: Avatar Control by Facial Expressions
Guo Yan, Haihong Zhang
- S704: Computer Games With Intelligence
Daniel Johnson, Janet Wiles
- S705: Real-time Lip Tracking for Virtual Lip Implementation in Virtual Environments and Computer Games
Jian Zhang, Mustafa Kaynak, Kuntal Sengupta, Ko Chi Chung

Session T3g: Soft Computing and Hybrid Systems

Venue: Old Arts, Theatre C, Chairs: T Onisawa, C-H Yeh

9:00-11:00, Wednesday, 5 December 2001

- P380: Prediction of Parthenium Weed Infestation Using Fuzzy Logic Applied to Geographic Information System (GIS) Spatial Image
Andrew Chiou, Xinghuo Yu
- P382: Efficient Training Algorithm for Takagi-Sugeno Type Neuro-Fuzzy Network
Ajoy Kumar Palit, Robert Babuska
- P384: Using Fuzzy Labels As Background Knowledge for Linguistic Summarization of Databases
G. Raschia, N. Mouaddib
- P391: Computer Aided System to Solve Uncertainty in Project Management
Hongqi Pan, Chung-Hsing Yeh, Robert J. Willis

P392: A New Hybrid Learning Method for Fuzzy Decision Trees
Nicolas Ragot, Eric Anquetil

P395: Connecting Image Similarity Retrieval With Consistent Labeling Problem by Introducing a Match-all Label
Paul W. H. Kwan, Keisuke Kameyama, Kazuo Toraichi

Session T4g: Control Systems

Venue: Old Arts, Theatre D, Chairs: P Diamond, B Pham
9:00-11:00, Wednesday, 5 December 2001

P322: Constructing Heirarchical Fuzzy Rule Bases for Classification
Tamas D Gedeon, Kok Wai Wong, Domonkos Tikk

P342: Robust Fuzzy Decentralized Control for Nonlinear Interconnected Descriptor Systems
Y. Wang, Q. L. Zhang

P353: Fuzzy Model of Generator Bidding System in Competitive Electricity Markets
Moeljono Widjaja, Ly Fie Sugianto, Robert E. Morrison

P363: A Fuzzy Logic Model of Visual Importance for Efficient Image Synthesis
Ross Brown, Binh Pham, Anthony Maeder

P399: Fuzzy Model-Based Discrete-Time Chiang Type Chaotic Cryptosystem
Tung-Sheng Chiang, Peter Liu

Session PS5: Poster Session 5

Venue: North Dining Room, Union House
9:00-13:00, Wednesday, 5 December 2001

P304: A Recurrent Neurofuzzy Network Structure & Learning Procedure
Rosangela Ballini, Fernando Gomide, Secundino Soares

P315: Multideme Evolution Algorithm Based Approach to the Generation of Fuzzy Systems
Ignacio Rojas Ruiz, H. Pomares, J. Gonzales, P. Gloesekotter, J. Diestuhl

P319: Closures of Fuzzy Linguistic Truth Value With Regards to the Extension Principle
Kikuchi, Hiroaki

P323: Compact TS - Fuzzy Models Through Clustering and OLS Plus FIS Model Reduction
Janos Abonyi, J. A. Roubos, M. Oosterom, F. Szeifert

P343: Fuzzy Genetic Algorithms Based on Level Interval Algorithm
Jinglan Zhang, Binh Pham, Phoebe Chen

P351: A General Approach to Neuro-Fuzzy Systems
Leszek Rutkowski

P365: Integration of Abductive CBR and Deductive CBR
Zhaohao Sun, Gavin Finnie, Klaus Weber

P374: Fuzzy Classifier System Using Hyper-Cone Membership Functions and Rule Reduction Techniques
Hiroyuki Inoue, Keita Hatase, Katsuari Kamei

P385: Influence and Conditional Influence - New Interestingness Measures in Association Rule Mining
Guoqing Chen, De Liu, Jiexen Li

P390: Redundant Object and Dependency of Domain Attributes in - Coverings of the Universe
Rolly Intan, Masao Mukaidono

P401: Adaption of Fuzzy Rule-Based Systems for Game Playing
Hisao Ishibuchi, Ryoji Sakamoto, Tomoharu Nakashima

- P411: A Fuzzy Reasoning Method Based on Linguistic Approximation
Yasuhiro Maruyama, Masao Mukaidono
- P423: A Neural Fuzzy Network With Optimal Number of Rules for Short Term Load Forecasting in An Intelligent Home
S. H. Ling, H. K. Lam, F. H. F. Leung, P. K. S. Tam
- P425: Neuro Fuzzy Systems for Fault Detection and Isolation in Nuclear Reactors
Alexandre Evsukoff, Roberto Schirru
- P426: On Interpretation of Graffiti Commands for EBooks Using a Neural Network and An Improved Genetic Algorithm
H. K. Lam, S. H. Ling, K. F. Leung, F. H. F. Leung
- P439: Imprecision Analysis of PSK Modulation by Fuzzy Logic
M. K. Lee, S. W. Leung, J. W. Minett, Y. M. Siu, K. T. Ng
- P302: Design of Fuzzy Controller Using Fuzzy Lyapunov Synthesis With Constrained Fuzzy Arithmetic
Changjiu Zhou, Yansheng Yang
- P314: Variable Structure Adaptive Robust Fuzzy Control for a Class of Uncertain Nonlinear Systems
Yahsheng Yang, Changjiu Zhou
- P316: Fine Tuning of Fuzzy of Fuzzy Controllers Using a Two-stage Algorithm
H. Pomares, I. Rojas, J. Gonzales, M. Damas, A. Prieto
- P318: A Defuzzication Method Relating to Fuzzification in Fuzzy Control Systems Using Quadrature Fuzzy Parting
Yonquan Yu
- P328: Demand Side Management Using Fuzzy Inference
Teresa Ponce de Leao, Miguel Sousa, Ana Morais
- P336: Insurance Fraud Evaluation - A Fuzzy Expert System
Stefano Bordoni, Reggio Emilia, Gisella Facchinetti
- P378: A Model-based Fuzzy Logic Controller for Tracking Mean Arterial Pressure
Chin-Teng Lin, Shing-Hong Liu, Jia-Jung Wang
- P381: Fault Detection and Isolation Using Multiple Takagi-Sugeno Fuzzy Models
Alexandar Ichtev, J. Hellendoorn, R. Babuska
- P407: Analysis and Design of a Fuzzy System Based on Fuzzy Entropy of Fuzzy Partition
Ming Qing
- P412: Design of Container Crane Controller Using Intelligence Algorithms
Dal-Young Ha, Shin-chul Kang, Young-do Lim
- P413: A Predictive Demand of the Maximum Electric Power Using Chaos0Fuzzy
Seung-Cheol Kim, Yeon-Gyu Choo, Jong-Oh Park, Young-do Lim
- P419: Sliding Mode Fuzzy Controller for Highly Non Linear Systems
Basil M. Al-Hadithi, Fernando Matia, Agustin Jimenez
- P428: Model Based Fuzzy Controller Design on Tracking Control Problem of Nonlinear Dynamic System
P. W. Wong, L. F. Yeung, A. Wu
- P429: A Simplified Fuzzy Logic Controller for DC Series Motor With Improved Performance
H. L. Tan, W. P. Hew, N. A. Rahim
- P430: A Fuzzy Inference System for Identification of Crossflow Filtration Processes
Ivan Nunes da Silva, Paulo Cezar Razuk, Rogerio Andrade Flauzino
- P443: Fuzzy Control for Active Perceptual Docking

Nick Barnes, Zhi-Qiang Liu

Tea/Coffee, 11:00-11:20

Session S6a: Rough Sets

Venue: Old Arts, Theatre A, Chair: S Tsumoto
11:20-13:00, Wednesday, 5 December 2001

- S601: Meticulous Rough Inclusion and Its Relations to Fuzzy Inclusion
Masahiro Inuiguchi, Lechi Polkowski
- S602: Fuzzy Multisets and Fuzzy Clustering of Documents
Sadaaki Miyamoto
- S603: Data Dependencies Over Rough Relational Expressions
Michinori Nakata, Tetsuya Murai
- S604: Analysis of Time-series Medical Databases Using Multiscale Structure Matching and Rough Sets-based Clustering Technique
Shoji Hirano, Xiaoguang Sun, Shusaku Tsumoto
- S605: Medical Diagnostic Rules As Upper Approximation of Rough Sets
Shusaku Tsumoto

Session T3h: Soft Computing and Hybrid Systems

Venue: Old Arts, Theatre C, Chairs: A Cheok, H Ishibuchi
11:20-13:00, Wednesday, 5 December 2001

- P402: Determination of Rule Weights of Fuzzy Association Rules
Hisao Ishibuchi, Takashi Yamamoto, Tomoharu Nakashima
- P404: Fuzzy Hypersphere Neural Network Classifier
U. V. Kulkarni, T. R. Sontakke
- P427: "Twofold Fuzzy Sets in Single and Multiple Fault Diagnosis, Using Information About Normal Values"
Henri Prade, O. de Mouzon, D. Dubois
- P432: Small Sample Quantization Effects on the Equilibrium Behaviour of Combined Fuzzy Cognitive Maps
Rod Taber, Ronald Yager
- P441: Ensembles of EFuNNs: An Architecture for a Multimodule Classifier
Brendon J. Woodford, Nikola K. Kasabov

Session T4h: Control Systems

Venue: Old Arts, Theatre D, Chairs: G Feng, P S Lee
11:20-13:00, Wednesday, 5 December 2001

- P400: Robust Chaotic Fuzzy Output Feedback Tracking Control
Kuang-Yow Lian, Peter Liu, Wei-Chi Lin
- P403: Model Based Control Using Fuzzy Relational Models
Brent Gormandy, B. E. Postlethwaite
- P418: A Fuzzy Approach to Fault Diagnosis in the Presence of Sensor Bias
Pui Shan Lee, Arthur L. Dexter
- P421: Track Seeking Hybrid Fuzzy Controller for the Compact Disc Player
Yao Leehter, An-Min Wang, Yung-fu Cheng
- P424: Incremental Fuzzy Modelling
Alexandre Evsukoff, Antonia C. S. Branco, Syvieve Galichet

