

# Schedule at Glance

## Monday, May 23<sup>rd</sup> 2011

Time: 6:00pm - 8:00pm

### Welcome Reception

location: Sir Francis Drake Hotel Union Square  
450 Powell Street, San Francisco, CA 94102

## Tuesday, May 24<sup>th</sup> 2011

location: San Francisco State University

8:00am 9:00am	<b>Breakfast</b>				
9:00am 10:00am	<b>Opening Session</b>				
10:00am 11:00am	<b>The Concept of a Z-number - Toward a Higher Level of Generality in Uncertain Computation Lotfi A. Zadeh</b>				
11:00am 11:30am	<b>Coffee break</b>				
11:30am 12:30pm	SpS: Aggregation Operators and their Soft Computing Applications	SpS: Inter-Relation Between Interval and Fuzzy Techniques	History and Beyond	Evolutionary Computing	Education and Economics
12:30pm 1:45pm	Lunch				
1:45pm 2:45pm	<b>Information Boom: New TRENDS and Expectations Ali M. Abbasov</b>				
3:00pm 4:00pm	SpS: Aggregation Operators and their Soft Computing Applications (cont.)	SpS: Inter-Relation Between Interval and Fuzzy Techniques (cont.)	History and Beyond (cont.)	Evolutionary Computing and Monitoring	Education and Economics (cont.)
4:00pm 4:30pm	<b>Coffee break</b>				
4:30pm 6:30pm	SpS: Aggregation Operators and their Soft Computing Applications (cont.)	SpS: Inter-Relation Between Interval and Fuzzy Techniques (cont.)	Image Processing and Camera Control	Modeling, Knowledge, Intelligence and Cognition	Databases, Concepts and Decision Making

## Wednesday, May 25<sup>th</sup> 2011

location: San Francisco State University

8:00am 9:00am	<b>Breakfast</b>				
9:00am 11:00pm	SpS: Computing with Words	SpS: Soft Computing in Soft Sciences	Fuzzy Sets – I	Fuzzy and Neural/Neuronal Networks	Clustering and Classification
11:00am 11:30am	<b>Coffee break</b>				
11:30am 12:30pm	<b>Panel: Soft Computing Challenges and Future Directions in Society and Industry</b>				
12:30pm 1:45pm	Lunch				
1:45pm 3:45pm	Uncertainty and Probability	SpS: Industrial, Financial, and Commercial Applications	Fuzzy Sets – II	Rules and Rule-based Systems	SpS: Theory and Application of Fuzzy logic Based Methods
3:45pm 4:15pm	<b>Coffee break</b>				
4:15pm 6:15pm	Distributed Systems and Agents	SpS: Granular Computing	Higher Order Sets and Preferences	Aggregation	SpS: Theory and Application of Fuzzy logic Based Methods (cont.)

Time: 8:00pm

### Banquet

location: Tommy Toy's Restaurant  
655 Montgomery Street, San Francisco, CA CA 94111

## Thursday, May 26<sup>th</sup> 2011

location: San Francisco State University

8:00am 9:00am	<b>Breakfast</b>			
9:00am 11:00pm	Logic	SpS: Forecasting Models and Tools for Analyzing Operational Environment	Rough Sets	Data and Text Analysis
11:00am 11:30am	<b>Coffee break</b>			
11:30am 12:30pm	<b>Panel: Round Table on Uncertainty</b>			
12:30pm 1:45pm	Lunch			
1:45pm 3:45pm	Time Series	Applications - I	Fuzzy Concepts and Ontology	Decision Making
3:45pm 4:15pm	<b>Coffee break</b>			
4:15pm 6:15pm	Applications - II	SpS: Hybrid Intelligent Systems	Control	Computations and Implementations

**Monday, May 23<sup>rd</sup> 2011**

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***Time: 6:00pm - 8:00pm***

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location: Sir Francis Drake Hotel Union Square  
450 Powell Street, San Francisco, CA 94102

**WELCOME RECEPTION**



**Tuesday, May 24<sup>th</sup> 2011**  
San Francisco State University

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***Time: 8:00am - 9:00am***

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room: entrance to Jack Adams Hall, C. Chavez Student Centre

**BREAKFAST**

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***Time: 9:00am - 10:00am***

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chair: *Ronald R. Yager*      room: Jack Adams Hall, C. Chavez Student Centre

**Welcome**

Shankar Sastry, Dean of Engineering, University of California, Berkeley

**Biography and Scientific Activity of L.A Zadeh**

*Shahnaz N. Shahbazova*

**Presentation of Azerbaijan Presidential Friendship Award to L. A. Zadeh**

*Ali M. Abbasov*, Minister of Communications and Information Technology

**Special Video on L. A. Zadeh**

*Shahnaz N. Shahbazova*

**Medal of the Foundation for the Advancement of Soft Computing to L. A. Zadeh**

**Fuzzy Fellow Awards**

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***Time: 10:00am - 11:00am***

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chair: *Shahnaz N. Shahbazova*      room: Jack Adams Hall, C. Chavez Student Centre

**THE CONCEPT OF A Z-NUMBER - TOWARD A HIGHER LEVEL OF GENERALITY  
IN UNCERTAIN COMPUTATION**

Lotfi A. Zadeh

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***Time: 11:00am - 11:30am***

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room: TH335, Thornton Hall

**COFFEE BREAK**

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***Time: 11:30am - 12:30pm***

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**SpS: AGGREGATION OPERATORS AND THEIR SOFT COMPUTING APPLICATIONS**

chair: *Jozo Dujmovic*

room: TH327, Thornton Hall

**Fuzzy Weighted Power Means in Evaluation Decisions**

*Terry Rickard, Janet Aisbett, Ronald R. Yager, Greg Gibbon*

**A Family of Soft Computing Decision Models for Selecting Multi-Species  
Habitat Mitigation Projects**

*Jozo Dujmovic, William Allen III*

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**SpS: INTER-RELATION BETWEEN INTERVAL AND FUZZY TECHNIQUES**

chair: *Vladik Kreinovich*

room: TH325, Thornton Hall

**Measures of Deviation (and Dependence) for Heavy-Tailed Distributions  
and their Estimation under Interval and Fuzzy Uncertainty**

*Nitaya Buntao, Vladik Kreinovich*

**Equational Bases For Type-2 Fuzzy Sets**

*John Harding, Carol Walker, Elbert Walker*

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**HISTORY AND BEYOND**

chair: *I. Burhan Turksen*

room: TH329, Thornton Hall

**In the Beginning: A Short History of NAFIPS IFSA and FUZZ-IEEE**

*James Bezdek*

**Fuzzy Logic: A Mathematical Formulation of Human Logic**

*Madan M. Gupta*

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**EVOLUTIONARY COMPUTING**

chair: *Rudolf Kruse*

room: TH326, Thornton Hall

**Soft Computing in Multiscale Bioinspired Optimization of Physical  
and Biological Systems**

*Waclaw Kus, Tadeusz Burczynski*

**On Hybridizations in Soft Computing: Rough Sets and Metaheuristics**

*Rafael Bello, Jose Luis Verdegay*

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## **EDUCATION AND ECONOMICS**

chair: *Jie Lu*

room: TH331, Thornton Hall

### **Features of Development of the Knowledge Base Learning System in Environments of Distance Education**

*Shahnaz N. Shahbazova*

### **A Computer-based Advanced System for Teaching Algorithms**

*Suchitra Abel, Shanyuan Fang*

### **Definition of Knowledge in Conditions of Uncertainty in Decision Making for Applications in Educational Process**

*H. A. Mammadov, Shahnaz N. Shahbazova*

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***Time: 12:30pm - 1:45pm***

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## **LUNCH**

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***Time: 1:45am - 2:45m***

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chair: *Shahnaz N. Shahbazova*

room: Jack Adams Hall, C. Chavez Student Centre

## **INFORMATION BOOM: NEW TRENDS AND EXPECTATIONS**

**Ali M. Abbasov**

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***Time: 3:00pm - 4:00pm***

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## **SpS: AGGREGATION OPERATORS AND THEIR SOFT COMPUTING APPLICATIONS (cont.)**

chair: *Jozo Dujmovic*

room: TH327, Thornton Hall

### **Quantifier Based Aggregation in LSP Suitability Map Construction**

*Guy De Tre, Jozo J. Dujmovic, Antoon Bronselaer, Tom Matthe*

### **Preference Oriented Aggregation of Bipolar Query Conditions**

*Janusz Kacprzyk, Slawomir Zadrozny*

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## **SpS: INTER-RELATION BETWEEN INTERVAL AND FUZZY TECHNIQUES (cont.)**

chair: *Vladik Kreinovich*

room: TH325, Thornton Hall

### **Decision Making in Dynamic Environment with an Interval Tule Matrix Model**

*Chenyi Hu*

## **Estimating Covariance for Privacy Case under Interval and Fuzzy Uncertainty**

*Ali Jalal-Kamali, Vladik Kreinovich, Luc Longpre*

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### **HISTORY AND BEYOND (cont.)**

chair: *Madan M. Gupta*

room: TH329, Thornton Hall

#### **Developments in Fuzzy System Models**

*I. Burhan Turksen*

#### **Fuzziness: The Emergence of a New Scientific Concept.**

*Settimo Termini*

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### **EVOLUTIONARY COMPUTING AND MONITORING**

chair: *Jose Luis Verdegay*

room: TH326, Thornton Hall

#### **Evolutionary Fuzzy Rules for Ordinal Binary Classification with Monotonicity Constraints**

*Christian Moewes, Rudolf Kruse*

#### **A Mixture Fuzzy Logic System for Forest-Fire-Size Prediction using Quantum-Behaved Particle Swarm Optimization**

*Daoyuan Zhai, Minshen Hao, Jerry M. Mendel*

#### **Technology of Noise Monitoring in the Latent Period of Failures**

*T. A. Aliev*

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### **EDUCATION AND ECONOMICS (cont.)**

chair: *Aldo G.S. Ventre de Finetti*

room: TH331, Thornton Hall

#### **Fuzzy Refinement-based Transductive Transfer Learning for Bank Failure Prediction**

*Vahid Behbood, Jie Lu, Guangquan Zhang*

#### **A Fuzzy Economic Production Quantity Problem with Backorders**

*Kaj-Mikael Bjork*

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**Time: 4:00pm - 4:30pm**

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room: TH335, Thornton Hall

**COFFEE BREAK**

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**Time: 4:30pm - 6:30pm**

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**SpS: AGGREGATION OPERATORS AND THEIR SOFT COMPUTING APPLICATIONS (cont.)**

chair: *Jozo Dujmovic*

room: TH327, Thornton Hall

**Soft Operators for Exploring Information Granules of Web Search Results**

*Gloria Bordogna, Giuseppe Psaila*

**Union and Intersection of Level-2 fuzzy Regions**

*Jorg Verstraete*

**Aggregating Individual Assessments in a Finite Scale**

*Eduarne Falco, Jose Luis Garcia-Lapresta*

**Generalized Product and Logical Aggregation**

*Dragan Radojevic*

**A Medical Application of Aggregation in Fuzzy Models**

*Dragan Saletic*

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**SpS: INTER-RELATION BETWEEN INTERVAL AND FUZZY TECHNIQUES (cont.)**

chair: *Vladik Kreinovich*

room: TH325, Thornton Hall

**Robust Stability via Interval Positivity**

*L. H. Keel, T. F. Stratton, S. P. Bhattacharyya*

**Optimizing Trajectories for UAV Patrolling the Border**

*Chris Kiekintveld, Vladik Kreinovich, Octavio Lerma*

**How to Make Sure that the Grading Scheme Encourages Students to Learn All the Material: Fuzzy-Motivated Solution and Its Justification**

*Olga Kosheleva*

**Why are Students Risk-prone**

*Karen Villaverde, Olga Kosheleva*

**The Interval Overlapping Relation as a Base for Interval Comparisons**

*Marco Nehmeier, Juergen Wolff von Gudenberg*

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**IMAGE PROCESSING AND CAMERA CONTROL**

chair: *Tomohiro Takagi*

room: TH329, Thornton Hall

**Model Reduction of Massive High Dimensional Biological Image Data and Soft Computing**

*Amir Assadi, Rita Ribeiro, Jose Fonseca, Andre Mora, Gianluca Campanella*

**Activity Segmentation of Infrared Images Using Fuzzy Clustering Techniques**

*Tanvi Banerjee, James Keller, Zhongna Zhou, Marjorie Skubic, Erik Stone*

**Annotated Image Retrieval Using Combination Confabulation Model**

*Ryo Izawa, Naoki Motohashi, Tomohiro Takagi*

**Fuzzy Preference Structures for Floor-Obstacle Classification in Omnidirectional Images**

*Frank Hoffmann, Luis Felipe Posada, Torsten Bertram*



## **Fuzzy-Interpolative Linguistic Controllers for Custom HDR Photo Cameras**

*Valentina Emilia Balas, Marius Mircea Balas*

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### **MODELING, KNOWLEDGE, INTELLIGENCE AND COGNITION**

chair: *Vilem Novak*

room: TH326, Thornton Hall

#### **Granular Fuzzy Models: At the Junction of Fuzzy Modeling and Knowledge Management**

*Witold Pedrycz*

#### **Randomization is Endemic to the Realization of Computational Intelligence**

*Stuart H. Rubin*

#### **Fuzzy Dynamic Logic for Joint CWW Combining Language and Cognition**

*Leonid I. Perlovsky, Roman Ilin*

#### **Leveraging Uncertainty in Digital Advertising**

*James G. Shanahan*

#### **OWA based Fuzzy Time Series Forecasting Model**

*Bindu Garg, M.M Sufyan Beg, A.Q. Ansari*

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### **DATABASES, CONCEPTS AND DECISION MAKING**

chair: *Janusz Kacprzyk*

room: TH331, Thornton Hall

#### **On Three Semantics of Queries in a Possibilistic Database Framework**

*Patrick Bosc, Olivier Pivert*

#### **Fuzzy Bipolar DLR-Lite Based Approach for Flexible Querying of Information Systems**

*Nouredine Tamani, Ludovic Lietard, Daniel Rocacher*

#### **Beyond the Known Unknowns - Finding Fuzzy Concepts for Creative Knowledge Discovery**

*Trevor Martin, Andrei Majidian*

#### **Multiple Attribute Decision Making in a Dynamic Environment**

*Gianluca Campanella, Rita A. Ribeiro*

#### **Comparative Study of Splay Tree Implemented Databases**

*Namdeo Kalyankar*

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Wednesday, May 25<sup>th</sup> 2011  
San Francisco State University

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**Time: 8:00am - 9:00am**

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room: TH335, Thornton Hall

**BREAKFAST**

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**Time: 9:00am - 11:00am**

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**SpS: COMPUTING WITH WORDS**

chairs: *Sergio Guadarrama and Dongrui Wu*

room: TH327, Thornton Hall

**A Study on Verbalizing Electricity Consumption at Home for Raising Home Residents' Ecology Consciousness**

*Ichiro Kobayashi, Yumi Endo, Jun Ozawa*

**On Solving Zadeh's Tall Swedes Problem**

*M.R. Rajati, Dongrui Wu, Jerry M. Mendel*

**Reflecting on Computing with Words and Perceptions: Approaches for Learning the Meanings of Words**

*Sergio Guadarrama*

**Some (Unended) Queries on Conjecturing**

*Itziar Garcia-Honrado, Adolfo R. de Soto, Enric Trillas*

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**SpS: SOFT COMPUTING IN SOFT SCIENCES**

chair: *Rudolf Seising*

room: TH325, Thornton Hall

**Hard/Soft Sciences–Hard/Soft Computing**

*Rudolf Seising*

**Measures of Fuzziness and Information: some challenges from reflections on aesthetic experience**

*Marco Tabacchi, Settimo Termini*

**Degree-Based (Fuzzy) Techniques in Math and Science Education**

*Olga Kosheleva, Vladik Kreinovich*

**On Charles Ragin's Fuzzy Set Qualitative Comparative Analysis (fsQCA)**

*Jerry M. Mendel*

**Evolving Dynamic Cognitive Maps**

*Joao Paulo Carvalho*

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## **FUZZY SETS - I**

chair: *Irina Perfilieva*

room: TH329, Thornton Hall

### **Making Sense of Fuzzy Sets: Ontic vs Epistemic Representations**

*Didier Dubois, Henri Prade*

### **The Kendall Rank Correlation between Intuitionistic Fuzzy Sets**

*Eulalia Szmidt, Janusz Kacprzyk*

### **An introduction of Trice fuzzy set**

*Kiyomitsu Horiuchi*

### **Fuzzy Sets and $\alpha$ -Cuts**

*Jiri Mockor*

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## **FUZZY AND NEURAL/NEURONAL NETWORKS**

chair: *Laszlo Koczy*

room: TH326, Thornton Hall

### **Fuzzy-Neural-Network-based Brain Computer Interaction and Its Applications on Driving Cognition and Tele-Healthcare**

*Chin-Tengq Lin*

### **Fuzzy Bio-Interface: Logicality of Living Neuronal Network and Control of Fuzzy Bio-Robot System**

*Isao Hayashi, Megumi Kiyotoki, Ai Kiyohara, Minori Tokuda, Suguru N. Kudoh*

### **Anytime Generalized Fuzzy Neural Network Models**

*Annamair R. Varkonyi-Koczy*

### **Radial Basis Function Networks with an Approach of Dimensionality Reduction Applied to the Classification of Learning Styles**

*Oswaldo Velez-Langs, Marco Villalobos Abarca*

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## **CLUSTERING AND CLASSIFICATION**

chair: *Sankar Pal*

room: TH331, Thornton Hall

### **Quality-driven Soft Hierarchical Clustering for Textual Documents**

*Gloria Bordogna, Gabriella Pasi*

### **Clustering Based on Fuzzy Tolerance Quotient Spaces**

*Shu Zhao, Ling Zhang, Yangping Zhang*

### **Clustering with Prototype Extraction for Census Data Analysis**

*Oleg Chertov, Rita Alexandrova*

### **A First Study on a Fuzzy Rule-Based Multiclassification System Framework Combining FURIA with Bagging and Feature Selection**

*Krzysztof Trawinski, Oscar Cordon, Arnaud Quirin*

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***Time: 11:00am - 11:30am***

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room: TH335, Thornton Hall

**COFFEE BREAK**

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***Time: 11:30am - 12:30pm***

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chair: *Duan Ra*

room: Jack Adams Hall, C. Chavez Student Centre

**PANEL: SOFT COMPUTING CHALLENGES  
AND FUTURE DIRECTIONS IN SOCIETY AND INDUSTRY**

panelists:

Piero P. Bonissone, Oscar Castillo, Ashok Deshpande, Dimitar Filev,  
Jie Lu, Luis Magdalena, Javier Montero, Witold Pedrycz, Rita Ribeiro, Lotfi A. Zadeh,

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***Time: 12:30pm - 1:45pm***

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**LUNCH**

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***Time: 1:45pm - 3:45pm***

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**UNCERTAINTY AND PROBABILITY**

chair: *Giulianella Coletti*

room: TH327, Thornton Hall

**On Three Types of Graphical Markov Models in Dempster-Shafer Theory of Evidence**

*Radim Jirousek*

**On the Relationship between Fuzzy State Models and Transition Probability Models with Fuzzy Encoding**

*Dimitar Filev, Ilya Kolmanovsky, Ronald R. Yager*

**On the Links Between Fuzzy Set Theory and Other Uncertainty Models**

*Etienne E. Kerre*

**From Dice Games and Rock-Paper-Scissors to Pokémon: the Role of Transitivity in Understanding Dycles**

*Bernard De Baets*

**SSA-Caterpillar in Group Anonymity**

*Dan Tavrov, Oleg Chertov*

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## **SpS: INDUSTRIAL, FINANCIAL, AND COMMERCIAL APPLICATIONS**

chairs: *Dongrui Wu and Piero Bonissone*

room: TH325, Thornton Hall

### **Detecting Oscillations in SCADA Data in Predictive Maintenance of Windmills with Singular Spectral Analysis for Imprecise data**

*Luciano Sanchez, Ines Couso*

### **Fuzzy Computing Applications for Anti-Money Laundering and Distributed Storage System Load Monitoring**

*Yu-To Chen, Johan Mathe*

### **Hardware Implementable Neural Networks Based on Fuzzy Operators**

*Rita Lovassy, Laszlo T. Koczy, Imre J. Rudas, Laszlo Gal*

### **Predicting X-Ray Tube Failure in CT Machines**

*Ya Xue, Neil Eklund, Feng Xue, Piero Bonissone, Yibin Zheng, Kamal Mannar*

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## **FUZZY SETS - II**

chair: Bernadette Bouchon-Meunier

room: TH329, Thornton Hall

### **Fuzzy token systems**

*Sergei Ovchinnikov*

### **Intermediate Quantifiers of Natural Language and Their Syllogisms**

*Vilem Novak, Petra Murinova*

### **Can Fuzzy Relation Equations Be Treated Like Linear Equations?**

*Irina Perfilieva, Jiri Kupka*

### **Generalized Quantifiers as Fuzzy Sets for Inference and Fuzzy Probabilities**

*Anca L. Ralescu, Dan A. Ralescu*

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## **RULES AND RULE-BASED SYSTEMS**

chair: Christer Carlsson

room: TH326, Thornton Hall

### **Analyzing Interpretability of Fuzzy Rule-based Systems by Means of Fuzzy Inference-grams**

*Jose M. Alonso, Oscar Cordon, Arnaud Quirin, Luis Magdalena*

### **Fuzzy and Classic Rule Learning Methods: a Comparative Analysis**

*Marcos Cintra, Maria C. Monard, Heloisa A. Camargo*

### **Evolving Fuzzy Systems from Data: the Computational eFSLab(oratory)**

*Antonio Dourado, Jose Victor Ramos*

### **Brain-Inspired Modeling to Achieve Knowledge Acquisition and Fuzzy Inference - Dynamical Self-Organizing Relationship Network (DSOR) -**

*Takeshi Yamakawa, Shunsuke Sakaguchi, Keiichi Horio*

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**SpS: THEORY AND APPLICATION OF FUZZY LOGIC BASED METHODS**

chairs: *Rehan Sadiq and Ashok Deshpande*

room: TH331, Thornton Hall

**Modelling Water quality Failures Potential in Distribution Networks: A Soft Computing Approach**

*Rehan Sadiq, Yehuda Kleiner, Balvant Rajani*

**FPGA Implementation of Type I Fuzzy Inference System for Intravenous Anesthetic Drug Delivery**

*K A Bhole, S D Agashe, D N Sonawane, Vinayak Desurkar, Ashok Deshpande*

**Similarity Based Inverse Approximate Reasoning**

*Banibrata Mondal, Swapan Raha*

**Sustainability of Water Resources with Focus on Fuzzy Description of River Water Quality**

*Kedar Rijal, Ashok Deshpande*

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***Time: 3:45pm - 4:15pm***

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room: TH335, Thornton Hall

**COFFEE BREAK**

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***Time: 4:15pm - 6:15pm***

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**DISTRIBUTED SYSTEMS AND AGENTS**

chair: *Takeshi Yamakawa*

room: TH327, Thornton Hall

**A Framework for Possibilistic Multi-source Data Fusion with Monitoring of Sensor Reliability**

*Stefan Glock, Karl Voth, Johannes Schaede, Volker Lohweg*

**Performance Evaluation of the Fuzzy Logic Congestion Detection Mechanism in Networked Control Systems**

*Clement Nyirenda, Fangyan Dong, Kaoru Hirota*

**Cooperation of Agents in Fuzzy Environments**

*Claudiu Pozna, L. T. Koczy, R.-E. Precup, N. Minculete, A. Ballagi*

**Learning Mechanisms and Uncertainty: Necessity or Trend?**

*Parisa D. Hossein Zadeh, Marek Z. Reformat*

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## **SpS: GRANULAR COMPUTING**

chair: *T.Y. Lin*

room: TH325, Thornton Hall

### **Perception based Modeling on Energy Options? - Towards Decision Making under Risk**

*Vidyottama Jain, Ashok Deshpande*

### **On the Topological Structure of Granular Reduction Based on Covering Rough Sets**

*Tian Yang, Qingguo Li, Bilei Zhou*

### **The Belief and Plausibility Functions of Incomplete Fuzzy Covering Systems**

*Tao Feng, Ju-Sheng Mi, Shaopu Zhang*

### **Toward the Concept and Axioms of Neighborhood Systems - a Unified Model for Rough Set Theories**

*Yu Ru Syau, Tsau Young (T. Y.) Lin*

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## **HIGHER ORDER FUZZY SETS AND PREFERENCES**

chair: *Anca L. Ralescu*

room: TH329, Thornton Hall

### **Verification of Ordinal Preference Models based on S-Integrals**

*Michio Sugeno*

### **Making Sense of Higher Order Fuzzy Sets: Uncertainty vs. Bipolarity**

*Didier Dubois, Henri Prade*

### **Aggregation Weights for a Fuzzy Preference-Aversion Model**

*Camilo Franco, Javier Montero, T. Rodriguez*

### **A Constrained Representation Theorem for Interval Type-2 Fuzzy Sets Using Convex and Normal Embedded Type-1 Fuzzy Sets and Its Application to Centroid Computation**

*Dongrui Wu*

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## **AGGREGATION**

chair: *Gabriella Pasi*

room: TH326, Thornton Hall

### **Fuzzy Associative Summaries for Databases**

*Gloria Bordogna, Giuseppe Psaila*

### **Moving Averages in a Unified Model between the OWA Operator and the Weighted Average**

*Jose M. Merigo, Ronald R. Yager*

### **A dynamic Mixed Strategy for an Adversarial Model Based on OWA Weights**

*Pablo J. Villacorta, David A. Pelta, Maria Teresa Lamata*

### **On the Definition of Aggregation Rules**

*Daniel Gomez, Javier Montero, J. Tinguaro Rodriguez, K. Rojas*

### **Employing OWA to Optimize Fuzzy Predicator**

*Bindu Garg, M.M Sufyan Beg A.Q. Ansari*

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**SpS: THEORY AND APPLICATION OF FUZZY LOGIC BASED METHODS (cont.)**

chairs: *Rehan Sadiq and Ashok Deshpande*

room: TH331, Thornton Hall

**A Novel Paradigm for Performance Prediction in Software Development Projects using Soft Computing Methods**

*Ajit K Verma, Anil Nair, A Srividya*

**Using Belief Degree Distributed Fuzzy Cognitive Maps for Similarity and Conflict Analysis in Energy Policy Evaluation**

*Lusine Mkrtchyan, Da Ruan*

**Modified Robust Fuzzy C-means for Complex Data Analyzing**

*S R Kannan, R Devi, R. Ramthilagam*

**GA-Fuzzy Naive Bayes Method for Medical Decision Support**

*Kavishwar B. Waghlikar, Sundararajan Vijayraghavan, Ashok Deshpande*

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***Time: 8:00pm***

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location: Tommy Toy's Restaurant  
655 Montgomery Street, San Francisco, CA 94111

**BANQUET**





Thursday, May 26<sup>th</sup> 2011  
San Francisco State University

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**Time: 8:00am - 9:00am**

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room: TH335, Thornton Hall

**BREAKFAST**

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**Time: 9:00am - 11:00am**

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**LOGIC**

chair: *Etienne E. Kerre*

room: TH327, Thornton Hall

**Improving Multi-adjoint Logic Programs by Unfolding Fuzzy Connective Definitions**

*Pedro-Jose Morcillo, Gines Moreno*

**Generalized Complex Fuzzy Propositional Logic**

*Dan E. Tamir, Mark Last, Abraham Kandel*

**Default Rules as Fuzzy Inclusion of Degree 1**

*Giulianella Coletti, Romano Scozzafava, Barbara Vantaggi*

**Solving Fuzzy Answer Set Programs**

*Martine De Cock, Jeroen Janssen, Steven Schockaert, Dirk Vermeir*

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**SpS: FORECASTING MODELS AND TOOLS FOR ANALYZING OPERATIONAL ENVIRONMENT**

chair: *Vesa A. Niskanen*

room: TH325, Thornton Hall

**Meta-Level Analogies between Statistical Multi-Variate Analysis and Soft Computing**

*V. A. Niskanen*

**A Fuzzy Random Regression Based Goal Programming Approach to Multi-Level Multi-Objective Problem**

*N. Arbaiy, J. Watada*

**From Weak Signals to Weak Scenarios to Support Transportation Demand – a Methodological Approach**

*J. Kohl, R. Koivisto, A. Tervonen, I. Salovaara*

**Key Factors Affecting the Development of Road Freight Transportation and Implications for Modeling**

*Pollanen, P. Aaltonen, R. Koivisto*

## Early Warning Signal Detection using Fuzzy Logic - a Case Study in Freight Transportation

*T. Mutanen, T. Korvola*

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### **ROUGH SETS**

chair: *Eulalia Szmidt*

room: TH329, Thornton Hall

#### **F-granulation and Generalized Rough Sets: Uncertainty Analysis and Pattern Recognition**

*Sankar Pal*

#### **Neighborhood Rough Sets for Dynamic Data Mining**

*Junbo Zhang, Tianrui Li, Da Ruan, Dun Liu*

#### **Research on the Properties of a New Dominance-based Rough Set Approach**

*Hongmei Chen, Tianrui Li, Anping Zeng*

#### **Attribute Generalization with Rough Set Hierarchies**

*Theresa Beaubouef, Fred Petry, Ronald R. Yager*

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### **DATA AND TEXT ANALYSIS**

chair: *Fernando Gomide*

room: TH326, Thornton Hall

#### **Making Molehills out of Mountains A Methodology for Shallow Processing for Text-Based Information Fusion**

*Kellyn Rein, Ulrich Schade*

#### **Toward Time-Sensitive Structure Analysis for SPAM Filtering: A Data Mining Approach**

*Atsushi Inoue, Isao Hayashi, Toshiyuki Maeda, Yoshinori Arai,  
Takashi Kobayashi*

#### **Towards Identification of Sick Feedlot Cattle Using Sensor Data**

*Y. Zhou, Scott Dick*

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**Time: 11:00am - 11:30am**

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room: TH335, Thornton Hall

### **COFFEE BREAK**

**Time: 11:30am - 12:30pm**

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chair: Bernadette Bouchon-Meunier

room: Jack Adams Hall, C. Chavez Student Centre

### **PANEL: ROUND TABLE ON UNCERTAINTY**

panelists

Janusz Kacprzyk, Boris Kovalerchuk, Leonid Perlovsky,  
Bernard Widrow, Lotfi A. Zadeh

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**Time: 12:30pm - 1:45pm**

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**LUNCH**

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**Time: 1:45pm - 3:45pm**

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**TIME SERIES**

chair: *Slawomir Zadrozny* room: TH327, Thornton Hall

**Predicting Future Events using Time Series Linguistic Data**

*Tomoki Takada, Tomohiro Takagi*

**Temporal Sequence Related Protoforms in Linguistic Summarization of Time Series**

*Anna Wilbik, Janusz Kacprzyk*

**Streamflow Forecasting using Evolving Fuzzy Systems**

*Andre Lemos, Rosangela Ballini, Walmir Caminhas, Fernando Gomide*

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**APPLICATIONS - I**

chair: *Atsushi Inoue* room: TH325, Thornton Hall

**Analysis of the state of plant species in urban environment based on semantic spaces**

*Olga Poleshchuk, Evgeniy Komarov*

**Traffic Signs Recognition System**

*Krzysztof Dyczkowski, Pawel Gadecki, Adam Kulakowski*

**Path Planning for Lunar Exploration Rovers**

*Xing Zhou, Zhi-jun Gao, James N.K. Liu*

**Neuro-Fuzzy Based Vehicle Speed Controller: A Design Approach**

*Sanjay Wankhede, Milind Khanapurkar, A.Y. Deshmukh, D.V. Padole, S.D. Giripunje*

**Arrhythmia Detection using Mutual Information-Based Integration**

*Othman Mohammad Soufan, Samer Arafat*

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**FUZZY CONCEPTS AND ONTOLOGY**

chair: *Martine De Cock* room: TH329, Thornton Hall

**Knowledge Mobilisation through Fuzzy Ontology and Information Granulation**

*Christer Carlsson, Matteo Brunelli, Jozsef Mezei*

**Aggregation and Ranking for Information Retrieval using Fuzzy Ontologies**

*Henrik Legind Larsen*

**An Approach to Summarization through Domain Ontologies**

*Henrik Bulskov, Troels Andreasen*

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## **DECISION MAKING**

chair: *Dan A. Ralescu*

room: TH326, Thornton Hall

### **de Finetti Prevision Fuzzy Prevision, and Applications to Multiobjective Decision Making**

*Antonio Maturo, Aldo G.S. Ventre de Finetti*

### **A Weights Representation of Fuzzy Measure AHP by use of Sensitivity Analyses**

*Shin-ichi Ohnishi, Takahiro Yamanoi, Hideyuki Imai*

### **Neural and Fuzzy Logic Approach to Decision-Making (Common Law Trials - as an Example)**

*Madan M. Gupta, Gerald T.G. Seniuk, Janusz Kozinski*

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***Time: 3:45pm - 4:15pm***

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room: TH335, Thornton Hall

## **COFFEE BREAK**

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***Time: 4:15pm - 6:15pm***

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## **APPLICATIONS - II**

chair: *Olga Poleshchuk*

room: TH327, Thornton Hall

### **Forecast of Wind Shear at the Hong Kong International Airport Using Data from Automatic Weather Stations**

*James N.K. Liu*

### **Basic Fuzzy Control for Air/Fuel Management in Internal Combustion Engine**

*Jorge Luis Chacon Velasco, Richard A Gomez Jorge Ariza Luque*

### **Unmanned Aerial Vehicles Training**

*Hamid Berenji*

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## **SpS: HYBRID INTELLIGENT SYSTEMS**

chairs: *Oscar Castillo and Patricia Melin*

room: TH325, Thornton Hall

### **Optimization of Type-2 Fuzzy Reactive Controllers For a Mobile Robot**

*Abraham Meléndez, Oscar Castillo*

### **Chemical Optimization Paradigm applied to a Fuzzy Controller for an Autonomous Mobile Robot**

*Leslie Astudillo, Patricia Melin*

### **Optimal Design of a Type-2 Fuzzy Controller and its Comparison with Type-1 Fuzzy and PID Controllers for Velocity Regulation in a DC Motor**

*Yazmin Maldonado, Oscar Castillo*

## **Gain Optimization for Inertia Wheel Pendulum Stabilization using a Bio-Inspired and Evolutionary Methods**

*Ricardo Martinez-Soto, Luis T. Aguilar*

## **Genetic Optimization of Type-2 Fuzzy Systems as Integration Methods in Modular Neural Networks to explore different Levels of Uncertainty**

*Denisse Hidalgo, Patricia Melin*

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### **CONTROL**

chair: *Anna Wilbik*

room: TH329, Thornton Hall

#### **Optimal Design and Tuning of Fuzzy PID Controllers**

*Sayali Nandedkar, Heidar Malki, Leang-San Sheih*

#### **On the Robust Controller for Dynamic Systems using Some Fuzzy Design Features**

*Madan M. Gupta, Ki-Young Song, WenJun (Chris) Zhang*

#### **A New Sufficient Condition for Controllability of Discrete-Time TSK Fuzzy Models**

*Seyed Mehran Dibaji, A. A. Suratgar, M. B. Menhaj*

#### **Reducing Optimal Control Problem to the Norm Minimization for the Fuzzy Systems**

*F.A. Aliev, A.A. Niftiyev, C.I. Zeynalov*

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### **COMPUTATIONS AND IMPLEMENTATIONS**

chair: *Da Ruan*

room: TH326, Thornton Hall

#### **An Interval Type-2 Fuzzy Logic System Cannot Be Implemented by Traditional Type-1 Fuzzy Logic Systems**

*Dongrui Wu*

#### **FPGA Implementation of (p, I-p)-Monotone Sum of Basic t-norms**

*Prometeo Cortes Antonio, Ildar Z. Batyrshin, Luis Villa Vargas, Imre Rudas, Heron Molina Lozano*

#### **On q-Extended Eigenvectors of the Finite Fourier Transform**

*Natig M. Atakishiyev*

#### **Towards Computational Forensics with f-geometry**

*Mohammed Imran, Mohd Sufyan Beg*