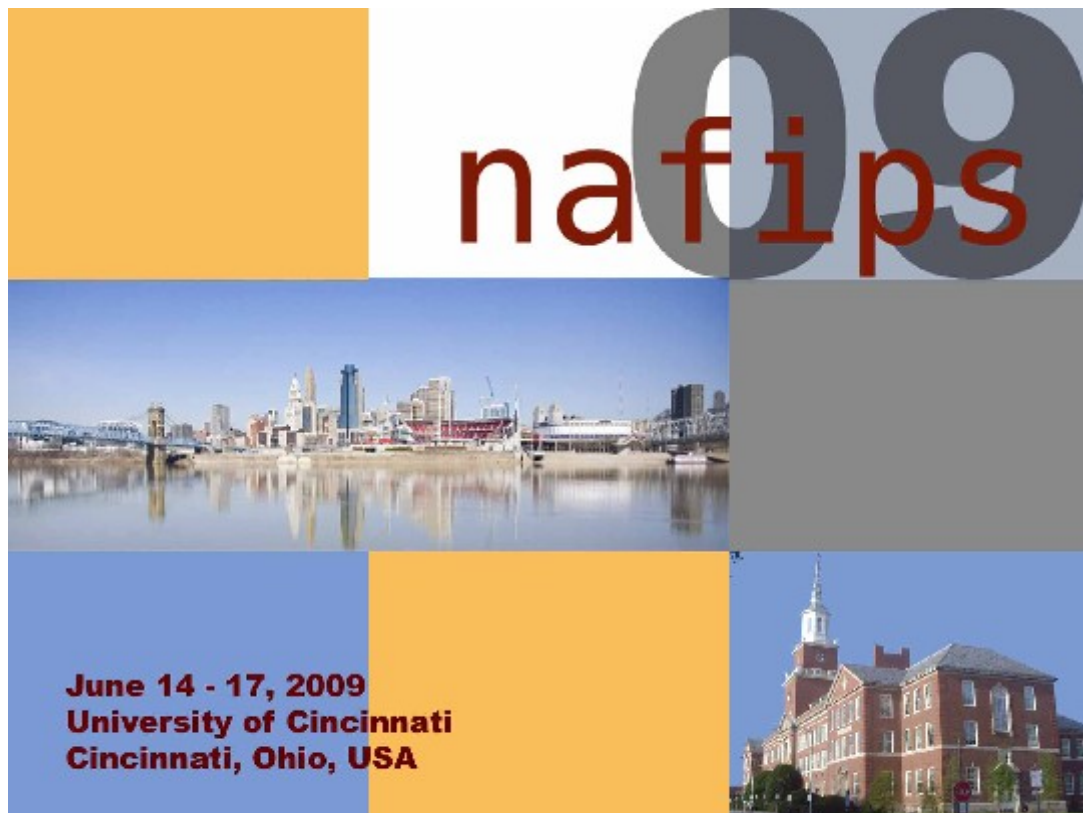


NAFIPS2009 Conference Program



Plenary Talks

June 15th (Monday)

900-1000 @ Salon A/B

(PM1) From Fuzzy Logic to Extended Fuzzy Logic—A First Step

Lotfi A. Zadeh (Chair: *Dan Ralescu*)

120-220 @ Salon A/B

(PM2) Decision and Stability Analysis in Fuzzy Economics

Rafik A. Aliev (Chair: *Atsushi Inoue*)

June 16th (Tuesday)

900-1000 @ Salon A/B

(PT1) Intelligent Social Network Modeling

Ronald R. Yager (Chair: *Vladik Kreinovich*)

120-220 @ Salon A/B

(PT2) Fuzzy Models in Analogy and Case-Based Reasoning

Bernadette Bouchon-Meunier (Chair: *Anca Ralescu*)

240-340 @ Salon A/B

(PT3) A Review of Several Fuzzy Function Structures

I Burhan Turksen (Chair: *Asli Celikyilmaz*)

June 17th (Wednesday)

900-1000 @ Salon A/B

(PW1) Theory and Applications of Fuzzy Random Variables

Dan Ralescu (Chair: *Atsushi Inoue*)

Program

June 14th (Sunday)

440-640 @ Auditorium of Engineering Research Center (ERC Auditorium)

Tutorial on Fuzzy Neural Computing Systems

Mandan M Gupta

700-900

Welcome Reception

June 15th (Monday)

830-850 @ Salon A/B

Open Remarks

Anca Ralescu

900-1000 @ Salon A/B

(PM1) From Fuzzy Logic to Extended Fuzzy Logic—A First Step

Lotfi A. Zadeh (Chair: Dan Ralescu)

1000-1020 Coffee Break

1020-1200

Parallel Sessions

@ Mt. Auburn

(SM1.1) Regular session: Classification, Clustering and Segmentation

@ Mt. Echo

(SM1.2) Special Session: Intelligent E-Services and Multi-Agent Systems for Web-Based B2C E-Commerce – Part I

@ Mt. Lookout

(SM1.3) Special Session: The Meaning of Information, Cognition, and Fuzziness

@ Salon A/B

(SM1.4) Regular Session: Database and Ontology

1200-120 Lunch Break

120-220 @ Salon A/B

(PM2) Decision and Stability Analysis in Fuzzy Economics

Rafik A. Aliev (Chair: Atsushi Inoue)

220-240 Coffee Break

240-420

Parallel Sessions

@ Mt. Auburn

(SM2.1) Regular Session: Modeling

@ Mt. Echo

(SM2.2) Special Session: Intelligent E-Services and Multi-Agent Systems for Web-Based B2C E-Commerce – Part II + Regular Session: Generalization and Summarization

@ Mt. Lookout

(SM2.3) Regular Session: Applications in Biology, Health and Medicine

@ Salon A/B

(SM2.4) Regular Session: Fuzzy Rules

420-440 Coffee Break

440-640

Parallel Sessions

@ Mt. Auburn

(SM3.1) Regular Session: Forecasting and Prediction

@ Mt. Echo

(SM3.2) Special Session: Inter-Relation Between Interval and Fuzzy Techniques

@ Mt. Lookout

(SM3.3) Special Session: Rough Sets and Granular Computing + Special Session: Soft Computing and Biosciences

@ Salon A/B

(SM3.4) Preliminary Reports: Informatics and Image Processing

700-900

Reception

June 16th (Tuesday)

900-1000 @ Salon A/B

(PT1) Intelligent Social Network Modeling

Ronald R. Yager (Chair: Vladik Kreinovich)

1000-1020 Coffee Break

1020-1140

Parallel Sessions

@ Mt. Auburn

(ST1.1) Regular Session: Control – Part I

@ Mt. Echo

(ST1.2) Regular Session: Decision

@ Mt. Lookout

(ST1.3) Regular Session: Applications in Business and Social Science

@ Salon A/B

(ST1.4) Special Session: Best Student Paper Session

1140-120 Lunch Break

120-220 @ Salon A/B

(PT2) Fuzzy Models in Analogy and Case-Based Reasoning

Bernadette Bouchon-Meunier (Chair: Anca Ralescu)

220-240 Coffee Break

240-340 @ Salon A/B

(PT3) A Review of Several Fuzzy Function Structures

I Burhan Turksen (Chair: Asli Celikyilmaz)

340-400 Coffee Break

400-500 @ Salon A/B

NAFIPS General Meeting

600-1000

Banquet

June 17th (Wednesday)

900-1000 @ Salon A/B

(PW1) Theory and Applications of Fuzzy Random Variables

Dan Ralescu (Chair: Atsushi Inoue)

1000-1020 Coffee Break

1020-1220

Parallel Sessions

@ Mt. Auburn

(SW1.1) Regular Session: Control – Part II + Preliminary Reports: Systems

@ Mt. Echo

(SW1.2) Special Session: Fuzzy Risk Management

@ Mt. Lookout

(SW1.3) Regular Session: Theory

@ Salon A/B

(SW1.4) Preliminary Reports: Methods

1220-130

Farewell Lunch

End Of Program

June 15th (M)

1020-1200 @ Mt. Auburn

(SM1.1) Regular Session: Classification, Clustering and Segmentation

Chairs: Nick J. Pizzi and Asli Celikyilmaz

1020-1040

A Fuzzy Logic Network for Pattern Classification

Nick J. Pizzi and Witold Pedrycz

1040-1100

Fuzzy Based Seeded Region Growing for Image Segmentation

Chung-Chia Kang and Wen-June Wang

1100-1120

K-Means Clustering using Max-Min Distance Measure

N. Karthikeyani Visalakshi and J. Suguna

1120-1140

Robust Fuzzy Clustering as a Multi-Objective Optimization Procedure

Amit Banerjee

1140-1200

Kernel Based Hybrid Fuzzy Clustering for Non-Linear Fuzzy Classifiers

Asli Celikyilmaz and I Burhan Turksen

June 15th (M)

1020-1200 @ Mt. Echo

(SM1.2) Special Session: Intelligent E-Services and Multi-Agent Systems
for Web-Based B2C E-Commerce – Part I

Chair: Luis Martinez

1020-1040

Towards Microaggregation of Log Files for Web Usage Mining in B2C E-Commerce

Guillermo Navarro-Arribas and Vicenc Torra

1040-1100

Improving Searching Usability in Direct Shopping Portals

Lorenzo M Lopez-Lopez, Raul Miguel, Javier Albusac and Jose Jesus Castro-Sanchez

1100-1120

Incomplete Preference Relations to Improve the Cold Start in Collaborative Recommender Systems

Luis Martinez, Luis G Perez and Manuel Barranco

1120-1140

A Multi-Agent Platform for the Provisioning of U-commerce Services

Nayat Sanchez-Pi and Jose Manuel Molina

1140-1200

Recommendation Technique-Based Government-to-Business Personalized E-Services

Jie Lu, Qusai Shambour and Guangquan Zhang

June 15th (M)

1020-1140 @ Mt. Lookout

(SM1.3) Special Session: The Meaning of Information, Cognition, and Fuzziness

Chairs: Rudolf Seising and Andreas Nuernberger

1020-1040

On Two 60 Years Old Theories and the Theory of Fuzzy Sets and Systems:
Cybernetics and Information Theory

Rudolf Seising

1040-1100

On the Fuzzy Interrelationships of Data, Information, Knowledge and Wisdom

Andreas Nuernberger, Rudolf Seising and Constanze Wenzel

1100-1120

Economic Value of Intelligence

Thomas Whalen

1120-1140

What is the Best Way of Distribute Efforts Among Students: Towards
Quantitative Approach to Human Cognition

Olga Kosheleva and Vladik Kreinovich

June 15th (M)

1020-1200 @ Salon A/B

(SM1.4) Regular Session: Database and Ontology

Chairs: Patrick Bosc and Julia Taylor

1020-1040

On a Possibilistic Database Model with Incomplete Possibility Distributions

Patrick Bosc and Olivier Pivert

1040-1100

On the extension of SQL to Fuzzy Bipolar Conditions

Ludovic Lietard, Daniel Rocacher and Patric Bosc

1100-1120

An Extension of Semantic Proximity for Fuzzy Functional Dependencies

Wei-Hsuan Lee and Chin-Tzong Pang

1120-1140

Fuzzy Ontology Implementation and Query Answering on Databases

Afef Bahri, Rafik Bouaziz and Faiez Gargouri

1140-1200

The (Not So) Unbearable Fuzziness of Natural Language: The Ontological Semantic Way of Computing With Words

Victor Raskin and Julia M. Taylor

June 15th (M)

240-420 @ Mt.Auburn

(SM2.1) Regular Session: Modeling

Chairs: Elizabeth Diaz and Vilem Novak

240-300

Hybrid Fuzzy Result Merging for Metasearch Using Analytic Hierarchy Process

Arijit De and Elizabeth Diaz

300-320

Hierarchical Linguistic Variables

Adolfo R de Soto

320-340

Extending Fuzzy Semantic Model by Advanced Decision Rules

Lassaad Ellouze, Rafik Bouaziz and Salem Chakhar

340-400

Representing Causality Using Fuzzy Cognitive Maps

Lawrence J. Mazlack

400-420

A General Methodology for Modeling with Words

Vilem Novak

June 15th (M)

240-400 @ Mt. Echo

(SM2.2a) Special Session: Intelligent E-Services and Multi-Agent Systems for Web-Based B2C E-Commerce – Part II

Chair: Jie Lu

240-300

Emergency Decision Model Management Based on SOA

Yanxin Wang and Xiangyang Li

300-320

A Theoretical Approximation to the Psychological Aspects Related to the Consumer's Adoption and Use of a Website Recommendation System

Francisco J. Martinez-Lopez, Claudia C. Cabal, Juan C. Gazquez-Abad and Inma Rodriguez-Ardura

(SM2.2b) Regular Session: Generalization and Summarization

Chair: Fred Petry

320-340

Creativity Aspects of Data Generalization

Frederick E. Petry and Ronald R. Yager

340-400

Towards an Efficient Generation of Linguistic Summaries of Time Series Using a Degree of Focus

Janusz Kacprzyk and Anna Wilbik

June 15th (M)

240-420 @ Mt. Lookout

(SM2.3) Regular Session: Applications in Biology, Health and Medicine

Chairs: I Burhan Turksen and Bozena Malysiak-Mrozek

240-300

An Intelligent Fuzzy Multi-Agent System for Reduction of Bullwhip Effect in Supply Chains

Mohammad Hossein Fazel Zarandi, Milad Avazbeigi and I Burhan Turksen

300-320

IReNNS: a Recurrent Neural Network with Independent Neurons and its Application in Bioinformatics

Giuseppina Gini, Antonino Trovato and Thomas Ferrari

320-340

Word Prediction in Assistive Technologies for Aphasia Rehabilitation Using Systemic Functional Grammar

Chris Sorna, Richard Steele and Atsushi Inoue

340-400

Application of the Extended Fuzzy Discrete Event Systems Theory to HIV/AIDS Treatment Regimen Selection

Kiattisak Wongsopanakul, Yanqing Ji, Xinyu Du, Feng Lin and Hao Ying

400-420

Alignment of Protein Structure Energy Patterns Represented as Sequences of Fuzzy Numbers

Dariusz Mrozek, Bozena Malysiak-Mrozek and Stanislaw Kozielski

June 15th (M)

240-400 @ Salon A/B

(SM2.4) Regular Session: Fuzzy Rules

Chairs: Andrew Hamilton-Wright and Trevor Martin

240-300

Visualization of Assertion Confidence in Fuzzy Rules

Tyler Doan and Andrew Hamilton-Wright

300-320

Rule Set Reduction in Fuzzy Decision Trees

Na'el M. Abu-halaweh and Robert W. Harrison

320-340

RFuzzy---A Framework for Multi-Adjoint Fuzzy Logic Programming

Victor Pablos Ceruelo, Hannes Strass and Susana Munoz Hernandez

340-400

Fuzzy Association Rules in Soft Conceptual Hierarchies

Trevor Martin and Yun Shen

June 15th (M)

440-640 @ Mt. Auburn

(SM3.1) Regular Session: Forecasting and Prediction

Chairs: Martine De Cock and Fernando Gomide

440-500

An Evolved Fuzzy Logic System for Fire Size Prediction

Alan Fowler, Ankur M Teredesai and Martine De Cock

500-520

An Improved Fuzzy Time Series Forecasting Model Based on Particle Swarm Intervalization

Soheil Davari, Mohammad Hossein Fazel Zarandi and I Burhan Turksen

520-540

Application of Type-2 Fuzzy Estimation on Uncertainty in Machining: An Approach on Acoustic Emission During Turning Process

Qun Ren, Luc Baron and Marek Balazinski

540-600

Generating Dynamic Fuzzy Models for Prediction Problems

Juan Contreras and Oscar Acuna

600-620

Fuzzy Machine Vision Based Porosity Detection

Pejman Mehran, Kudret Demirli, Gary Bone and Brian Surgenor

620-640

Uninetwoks in Time Series Forecasting

Michel Hell, Fernando Gomide, Rosangela Ballini and Pyramo Costa Jr

June 15th (M)

440-640 @ Mt. Echo

(SM3.2) Special Session: Inter-Relation Between Interval and Fuzzy Techniques

Chairs: Vladik Kreinovich and Weldon Lodwick

440-500

A Family of Finite De Morgan Algebras

Carol L. Walker and Elbert A. Walker

500-520

Expert Knowledge Is Needed for Design under Uncertainty: For p-Boxes, Backcalculation is, in General, NP-Hard

Vladik Kreinovich

520-540

Empirical Formulas for Economic Fluctuations: Towards A New Justification

Tanja Magoc and Vladik Kreinovich

540-600

Ordering of Type-2 Values: Representation Theorems

Karen Villaverde and Olga Kosheleva

600-620

Babylonian Method of Computing the Square Root: Justifications Based on Fuzzy Techniques and on Computational Complexity

Olga Kosheleva

620-640

Pseudo-Optimal Solutions of FLP Problems by Using the Cumulative Membership Function

Juan Carlos Figueroa Garcia and Cesar Amilcar Lopez Bello

June 15th (M)

440-640 @ Mt. Lookout

(SM3.3a) Special Session: Rough Sets and Granular Computing

Chairs: Tsau Young Lin and Shusaku Tsumoto

440-500

Qualitative Fuzzy Sets: Context Based Reasoning System in GrC

Tsau Young Lin

500-520

A Multi-level Ant-Based Algorithm for Fuzzy Data Mining

Tzung-Pei Hong, Ya-Fang Tung, Shyue-Liang Wang and Yu-Lung Wu

520-540

Multivariate Statistical Independence on Contingency Table

Shusaku Tsumoto, Shoji Hirano and Hidenao Abe

(SM3.3b) Special Session: Soft Computing and Biosciences

Chair: Rudolf Seising and Cathy M Helgason

540-600

Cybernetics, Systems, and Medical Thinking: Scientific Theories, Fuzziness and the State of Health

Rudolf Seising and Julia Limberg

600-620

Fuzzy Modelling of Prescribed Burning Effects on Soil Physical Properties

Joao Paulo Carvalho and Ana Cristina Meira Castro

620-640

Capturing the Dynamic of Perception in Fuzzy Space Time

Cathy M Helgason and Thomas H Jobe

June 15th (M)

440-640 @ Salon A/B

(SM3.4) Preliminary Reports: Informatics and Image Processing

Chairs: Hiromi Ban and Nallappan Palaniappan

440-500

Metrical Analysis of the Speeches of 2008 American Presidential Election Candidates

Hiromi Ban and Takashi Oyabu

500-520

Predicting Burst in Threads of Bulletin Board Systems Based on “Connoisseurs”

Takuya Nomura and Tomohiro Takagi

520-540

A Study on Triggers of Informal Communication Using Questionnaires

Dai Nishioka, Atsushi Inoue, Yasuhiro Fujiwara and Yuko Murayama

540-600

Support Vector Machines in the Prediction of Mutagenicity of Chemical Compounds

Thomas Ferrari, Giuseppina Gini and Emilio Benfenati

600-620

A Fuzzy Inferencing System for Gait Recognition

Aditi Roy and Shamik Sural

620-640

Applications of Intuitionistic Fuzzy Sets of Root Type in Image Processing

Nallappan Palaniappan and Raghavendran Srinivasan

June 16th (T)

1020-1140 @ Mt. Auburn

(ST1.1) Regular Session: Control – Part I

Chairs: Da Ruan and Hao Ying

1020-1040

Belief Rule-Based Inference Methodology to Improve Nuclear Safeguards Information Evaluation

Da Ruan, Roland Carchon, Klaas van der Meer, Jun Liu, Hui Wang and Luis Martinez

1040-1100

Longitudinal Stability Augmentation using a Fuzzy Logic based PID Controller

Andrew Vick and Kelly Cohen

1100-1120

Adaptive Fault-Tolerant Fuzzy Control of Robotic Systems

Xiaodong Zhang, Luis Farfan-Ramos and Kuldip Rattan

1120-1140

Adaptive Real-Time Advisory System for Fuel Economy Improvement in a Hybrid Electric Vehicle

Fazal U. Syed, Dimitar Filev, Fling Tseng and Hao Ying

June 16th (T)

1020-1140 @ Mt. Echo

(ST1.2) Regular Session: Decision

Chairs: M M Sufyan Beg and Shih-Chuan Cheng

1020-1040

Modified Rough Set Based Aggregation for Effective Evaluation of Web Search Systems

Rashid Ali and M M Sufyan Beg

1040-1100

The Determination of Rating Points of Objects and Groups of Objects with Qualitative Characteristics

O. Poleshchuk and E. Komarov

1100-1120

Ranking of Intuitionistic Fuzzy Alternatives in a Multi-Criteria Decision Making Problem

Eulalia Szmidt and Janusz Kacprzyk

1120-1140

A Note on the Inverse Fuzzy Integrated Judgment

Shih-Chuan Cheng

June 16th (T)

1020-1140 @ Mt. Lookout

(ST1.3) Regular Session: Applications in Business and Social Science

Chairs: Karaman Pagava and Mark Wierman

1020-1040

Modeling Uncertainty in the Connection between Socio-Economic Factors and Health & Health-Related Behavior of Adolescents in Georgia

Tatiana Kiseliova, Helen Phagava and Karaman Pagava

1040-1100

An Inductive Fuzzy Classification Approach Applied to Individual Marketing

Michael Kaufmann and Andreas Meier

1100-1120

The Extension of Buckley-Feuring Solutions for Non-Polynomial Fuzzy Partial Differential Equations. Application to Microeconomics Utility Theory

David Galvez and Jose Luis Pino

1120-1140

Factors Contributing to Successful Democratic Consolidation in Former Communist States: An Exploration of Solutions to the Property Ranking Issue

Jennifer Larsen, Mark J. Wierman, Adam Karnik, John N. Mordeson, and Terry D. Clark

June 16th (T)

1020-1140 @ Salon A/B

(ST1.4) Special Session: Best Student Papers

Chairs: Atsushi Inoue and Vladik Kreinovich

1020-1040

Novel Visualization Scheme for Reasoning With Uncertainty

Kyle Springer and Atsushi Inoue

1040-1100

Evidence Aggregation for Diagnosis: Bayesian and Fuzzy Strategies

Robert Varga, Sarah Matheson and Andrew Hamilton-Wright

1100-1120

A Meronomic Relatedness Measure for Domain Ontologies using Concept Probability and Multiset Theory

Paul Witherell, Sundar Krishnamurty, Ian Grosse and Jack Wileden

1120-1140

Biological Data Classification Using Rough Sets and Support Vector Machines

Yanjun Zhao, Yanqing Zhang and Naixue Xiong

June 17th (W)

1020-1220 @ Mt. Auburn

(SW1.1a) Regular Session: Control – Part II

Chairs: Madan Gupta and Devinder Kaur

1020-1040

Design of a Robust Neuro-Controller for Complex Dynamic Systems

Ki-Young Song, Madan M. Gupta, Debashisha Jena and Bidyadhar Subudhi

1040-1100

Design of Fuzzy System with Linear Constraints

Sengjae Cho and Jin S. Lee

1100-1120

Proposal of a Minimal Expression for Nonlinear Fuzzy Approximation for the Vapor Liquid Equilibrium VLE of the Ethanol-Water System at 560 mm Hg Using Defuzification Based on Boolean Relations DBR and Singleton Model

Jose Jairo Soriano M

1120-1140

Design and Implementation of a Mamdani Fuzzy Inference System on an FPGA

S. Uppalapati and D. Kaur

Presentation Canceled

Disturbance Rejection in Information-Poor Systems Using an Adaptive Model-Free Fuzzy Controller

M. B. Kadri and A. L. Dexter

(SW1.1b) Preliminary Reports: Systems

Chairs: Madan Gupta and Devinder Kaur

1140-1200

Interval Type-2 Takagi-Sugeno Fuzzy Systems with Linear Rule Consequent Are Universal Approximators

Hao Ying

1200-1220

Fuzzy Supervised Roll Axis Controller for a Hovering System

Kourosh Rahnarnai, Kevin Gorman, Olalekan Adeoyin and Tim Allard

June 17th (W)

1020-1220 @ Mt. Echo

(SW1.2) Special Session: Fuzzy Risk Management

Chair: Thomas Whalen

1020-1040

Tools for Evaluating Risk of Terrorist Acts Using Fuzzy Sets and Belief/Plausibility

John L. Darby

1040-1100

Increasing Uncertainty About High-Stakes Risks: The Impetus for Radical Change?

Mark Jablonowski

1100-1120

Audit Client Composition and Predicting Large Bank Failures: A Possibilistic Approach

Jan Smolarski and Thomas Whalen

1120-1140

Why We Need Fuzzy Models in Bio-Risk Assessment

Thomas Taylor Jr, Thomas Whalen and Murray Cohen

1140-1200

Visualization of Mutual Fund Risk Using the Consensus Theory Measure of Agreement

William J Tastle and Mark J Wierman

1200-1220

Interpreting Medical Risk at the Bedside Using Fuzzy Measures

Cathy M Helgason and Thomas H Jobe

June 17th (W)

1020-1220 @ Mt. Lookout
(SW1.3) Regular Session: Theory
Chairs: Joseh Barone and Valerie Cross

1020-1040
T-algebras as Predictors
Joseph M. Barone

1040-1100
The Square Root of Not: Geometric, Permutation, and Matrix Representations
Mark J. Wierman

1100-1120
Distances Between Interval-Valued Fuzzy Sets
Chen Li

1120-1140
An Interval Type-2 Fuzzy Logic System to Test Statistical Hypothesis on Means
Juan Carlos Figueroa Garcia, Daniel Rodriguez and Alejandro Sierra

1140-1200
L-Fuzzy Mathematical Morphology: An Extension of Interval-Valued and Intuitionistic Fuzzy Mathematical Morphology
Peter Sussner, Mike Nachtegael and Tom Melange

1200-1220
Approximation and Similarity in Concept Lattices
Valerie Cross and Wenting Yi

June 17th (W)

1020-1120 @ Salon A/B

(SW1.4) Preliminary Reports: Methods

Chairs: Premchand Nair and Irina Perfilieva

1020-1040

Consolidation Operator for Intuitionistic Fuzzy Set

Premchand S. Nair

1040-1100

Generation of Optimal Functions Using Particle Swarm Method over Discrete Intervals

Frederick Shamieh and Chengying 'Cheryl' Xu

1100-1120

F-transform versus Takagi-Sugeno Models

Irina Perfilieva

1120-1140

Coding Mode Determination by Using Fuzzy Logic in H.264 Motion Estimation

Pei-Jun Lee, Han-Kui Chang, Shun-Hsing Huang and Wen-June Wang

Presentation Canceled

Clustering based Fuzzy Particle Swarm Optimization

Meysam Alizadeh, Elnaz Fotoohi, Vahid Roshanaei and Ehsan Safavieh