

35th Annual Conference of the North American Fuzzy Information
Processing Society NAFIPS'2016

Plenary talks and Room A - Tomas Rivera Conference Center
Room B - Templeton Suite
Room C - University Suite

Monday, October 31, 2016

9:00- 4:00 pm Symposium on Interdisciplinary Approaches to
Cyber-Security, Room B (Templeton Suite)
6:00- 7:30 pm welcome reception and registration, Room A

Tuesday, November 1, 2016

8:00- 8:40 am registration
8:40- 8:45 am official opening and welcome
8:45- 9:30 am plenary talk, Chair: Martine Ceberio
Dongrui Wu, "Fuzzy logic and machine learning for brain-computer
interface (BCI)"
9:30- 9:45 am official welcome by Dr. Diana Natalicio, President
of the University of Texas at El Paso
9:45-10:05 am coffee break
10:05-12:10 pm parallel sessions

10:05-12:10 pm Applications to Economics and Decision making
Co-chairs: Anna María Gil Lafuente and
Worrawate Leela-Apiradee (Room A)

10:05-10:30 am Fabio Blanco, Jose María Merigo Lindahl and
Anna Maria Gil Lafuente, "A Bibliometric Analysis of Fuzzy
Decision Making Research"
10:30-10:55 am Ernesto Leon Castro, Ezequiel Aviles Ochoa,
Jose Maria Merigo Lindahl, and Anna Maria Gil Lafuente, "Heavy
moving averages in exchange rate forecasting"
10:55-11:20 am Worrawate Leela-Apiradee and
Phantipa Thipwivatpotjana, "Acceptable product pricing problem
using L-localized solutions of max-plus interval linear equations"
11:20-11:45 pm Allison Newcomb and Robert Hammell, "FLUF: Fuzzy
Logic Utility Framework to Support Computer Network Defense
Decision Making"
11:45-12:10 pm Luis Alessandri Perez Arellano, Ernesto Leon Castro,
Ezequiel Aviles Ochoa, and Jose Maria Merigo Lindahl,
"Prioritized induced probabilistic OWA for dispute resolution
methods"

10:05-12:10 pm Inter-Relation Between Interval and Fuzzy Techniques
Co-chairs: Martine Ceberio and Vladik Kreinovich (Room B)

10:05-10:30 am Leobardo Valera and Martine Ceberio, "Using interval
constraint solving techniques to understand and predict future
future behaviors of dynamic problems"
10:30-10:55 am Fernando Cervantes, Brian Usevitch, and Vladik
Kreinovich, "Why l^p -methods in Signal and Image Processing: A
Fuzzy-Based Explanation"
10:55-11:20 am Sarah Greenfield, Francisco Chiclana, and Scott Dick,
"Join and Meet Operations for Interval-Valued Complex Fuzzy Logic"
11:20-11:45 am Juan Carlos Figueroa-Garcia, "On alpha-representation
of Type-2 Fuzzy sets"

- 11:45-12:10 pm Angel F. Garcia Contreras and Martine Ceberio,
"Comparison of Strategies for Solving Global Optimization
Problems Using Speculation and Interval Computations"
- 12:10- 1:35 pm lunch
- 1:35- 2:20 pm plenary talk, Chair: Barnabas Bede
Samir Abou-Samra, "Calibrating a Video Game Using Fuzzy Logic"
- 2:25- 4:05 pm parallel sessions
- 2:25- 4:05 pm Fuzzy Logic Applications in Construction Engineering
and Management (Room A)
Co-chairs: Aminah Robinson Fayek and Chrysostomos Stylios
- 2:25- 2:50 pm Mohammad Raoufi, Nima Gerami Seresht, and
Aminah Robinson Fayek, "Overview of Fuzzy Simulation Techniques
in Construction Engineering and Management"
- 2:50- 3:15 pm Hanouf M. Alhumaidi, "Fuzzy Weighted Average Approach
to Ranking Projects in Contractor Initial Bidding"
- 3:15- 3:40 pm Long D. Nguyen, Dai Q. Tran, An T. Nguyen, and
Long Le-Hoai, "Computational Model for Measuring Project
Complexity in Construction"
- 3:40- 4:05 pm, Nasir Bedewi Siraj, Moataz Omar, and
Aminah Robinson Fayek, "A Combined Fuzzy Aggregation and
Consensus Process for Multi-Criteria Group Decision Making
Problems"
- 2:25- 4:05 pm Inter-Relation Between Interval and Fuzzy Techniques
Co-chairs: Martine Ceberio and Vladik Kreinovich (Room B)
- 2:25- 2:50 pm Olga Kosheleva, Vladik Kreinovich, Martha Osegueda
Escobar, and Kimberly Kato, "Towards the Most Robust Way of
Assigning Numerical Degrees to Ordered Labels, With Possible"
- 2:50- 3:15 pm Fabio Blanco and Jose Maria Merigo-Lindahl,
"Bonferroni distances with OWA operators"
- 3:15- 3:40 pm Andrzej Pownuk and Vladik Kreinovich, "Which Point
From an Interval Should We Choose?"
- 3:40- 4:05 pm Pedro Barragan Olague, Olga Kosheleva, and
Vladik Kreinovich, "How Resilient Modulus of a Pavement Depends on
Moisture Level: Towards a Theoretical Justification of a
Practically Important Empirical Formula"
- 4:05- 4:20 pm coffee break
- 4:20- 5:00 pm panel, Chair: Hung T. Nguyen
- 5:05- 6:45 pm parallel sessions
- 5:05- 6:45 pm Engineering Applications
Co-chairs: Benjamin Bedregal and Herbert Costa (Room C)
- 5:05- 5:30 pm Herbert Costa and Alessandro La Neve, "A study on the
application of regression trees and Adaptive Neuro-Fuzzy
Inference System in glass manufacturing process for packaging"
- 5:30- 5:55 pm Herbert Costa and Alessandro La Neve, "Modeling of an
Air Conditioning System through techniques of soft-computing"
- 5:55- 6:20 pm Marbin Pazos-Revilla, Terry Guo, and Motoya Machida,
"Extended Kalman Filter Combined with Fuzzy Rules for
Localization Using Wireless Transceivers"
- 6:20- 6:45 pm Antonio Diego Silva Farias, Valdicleis S. Costa,
Regivan H. N. Santiago, and Benjamín Bedregal, "The Image
Reduction Process Baseon Generalized Mixture Functions"

5:05- 6:20 pm Computational Intelligence in Biomedical Applications
Co-chairs: Phuong Nguyen Hoang and Olga Kosheleva (Room B)

5:05- 5:30 pm Tran Manh Tuan, Nguyen Hai Minh, Nguyen Van Tao,
Tran Thi Ngan, and To Huu Nguyen, "Medical Diagnosis from Dental
X-Ray Images: A Novel Approach Using Clustering Combined with
Fuzzy Rule-based Systems"

5:30- 5:55 pm Phan Anh Phong, Tran Dinh Khang, and Dinh Khac Dong,
"A Fuzzy Rule-based Classification System using Hedge Algebraic
Type-2 Fuzzy Sets"

5:55- 6:20 pm Nguyen Hoang Phuong, "FuzzRESS: A Fuzzy Rule-based
Expert System Shell combining Positive and Negative Knowledge
for Consultation of Vietnamese Traditional Medicine"

6:20- 6:45 pm Applications Beyond Engineering
Co-chairs: Phuong Nguyen Hoang and Olga Kosheleva (Room B)

6:20- 6:45 pm Arturo Garcia-Garcia, Marek Z. Reformat, and
Andres Mendez-Vazquez, "Similarity-based Method for Reduction of
Fuzzy Rules"

Wednesday, November 2, 2016

8:30- 9:00 am registration

9:00- 9:45 am plenary talk, Chair: William Melek
Martine De Cock, "Fuzzy Answer Set Programming: from Theory to
Practice"

9:45-10:05 am coffee break

10:05-12:10 pm parallel sessions

10:05-12:10 pm Applications Beyond Engineering (Part 1)
Co-chairs: Fernando Gomide and Mila Kwiatkowska (Room A)

10:05-10:30 am Dalila Koulougli, Allel Hadjali and Idir Rassoul,
"Handling Query Answering in Crowdsourcing Systems: A Belief
Function-Based Approach"

10:30-10:55 am Mila Kwiatkowska and Frank Pouw, "The Role of
Conceptualization and Operationalization in the Use of Secondary
Data"

10:55-11:20 am Marc Osswald, Marcel Wehrle, Edy Portmann, and
Alex Denzler, "Transforming Fuzzy Graphs into Linguistic
Variables"

11:20-11:45 am Ranyeri Lago Rocha and Fernando Gomide, "Performance
Evaluation of Evolving Classifier Algorithms in High Dimensional
Spaces"

11:45-12:10 pm Ondrej Vaverka, "Relation-Valued Attributes in
Rank-Aware Databases and Related Concepts"

10:05-12:10 pm Fuzzy Pattern Recognition with High Uncertainty (P)
co-chairs Mohammad H. Fazel Zarandi, Burhan Turksen, and
Behshad Lahijanian (Room B)

10:05-10:30 am Claudia I. Gonzalez, Juan R. Castro, Olivia Mendoza,
Patricia Melin, and Oscar Castillo, "General type-2 fuzzy edge
detectors applied to face recognition systems"

10:30-10:55 am B. Lahijanian, M. H. Fazel Zarandi, and
F. Vasheghani Farahani, "Double Coverage Ambulance Location
Modeling using Fuzzy Traveling Time"

10:55-11:20 am B. Lahijanian, M. H. Fazel Zarandi, and
F. Vasheghani Farahani, "Proposing a Model for Operating Room
Scheduling Based on Fuzzy Surgical Duration"

- 11:20-11:45 am Gabriela E. Martinez, Olivia Mendoza, Juan R. Castro, A. Rodriguez-Diaz, Patricia Melin, and Oscar Castillo, "Comparison between Choquet and Sugeno Integrals as aggregation operators for pattern recognition"
- 11:45-12:10 pm Shima Soltanzadeh, Mohammad Hosein Fazel Zarandi, and Mojtaba Barzegar Astanjin, "A Hybrid Fuzzy Clustering Approach for Fertile and Unfertile Analysis"
- 12:10- 1:35 pm lunch
- 1:35- 2:20 pm plenary talk, Chair: Vladik Kreinovich
Piero Bonissone, "Analytics for Industrial Internet Applications"
- 2:20- 3:00 pm general meeting of NAFIPS
- 3:00 pm buses leave for a banquet
- * first, we visit the Dia de los Muertes exhibits at the El Paso Museum of Art
 - * then, we go to Stateline for the banquet

Thursday, November 3, 2016

- 8:30- 9:00 am registration
- 9:00- 9:45 am plenary talk
Christian Servin, "Fuzzy Techniques Help on All Stages of Knowledge and Data Processing: Applied Case Studies"
- 9:45-10:05 am coffee break
- 10:05-12:10 pm parallel sessions
- 10:05-12:10 pm Mathematics and Foundations of Fuzzy
Co-chairs: Barnabas Bede and Thomas Whalen (Room A)
- 10:05-10:30 am Salem B. Bacha and Barnabas Bede, "On Takagi-Sugeno Approximations of Mamdani Fuzzy Systems"
- 10:30-10:55 am Mahdokht Afravi and Vladik Kreinovich, "What If We Use Different 'And'-Operations in the Same Expert System"
- 10:55-11:20 am Srinivasan Raghavendran, "Properties of Intuitionistic Fuzzy Sets of Third Type"
- 11:20-11:45 am Antonio Diego Silva Farias, Valdicleis S. Costa, Regivan H. N. Santiago, and Benjamín Bedregal, "A Residuated Function in a Class of Mealy type L-Valued Finite Automaton"
- 11:45-12:10 pm Thomas Whalen, "Caring About Uncertainty"
- 10:05-12:10 pm High Level Fuzzy Social Networks and Social Media
Co-chairs: Susan Bastani, Mohammad H. Fazel Zarandi, Burhan Turksen, and Mansoureh Naderipour (Room B)
- 10:05-10:30 am Hosein Hamisheh Bahar, Mohammad H. Fazel Zarandi, and Akbar Esfahanipour, "Generating Ternary Stock Trading Signals Using Fuzzy Genetic Network Programming"
- 10:30-10:55 am Mahbobeh Es-haghi and Susan Bastani, "Evaluating Coordination in Emergency Response Team by using Fuzzy logic through Social Network Analysis"
- 10:55-11:20 am Mansoureh Naderipour, Susan Bastani, Mohammad Fazel Zarandi, and Burhan Turksen, "A Fuzzy Classification Using a Type-2 Fuzzy Model in Social Networks"
- 11:20-11:45 am Hoda Safaeipour, M. H. Fazel Zarandi, and Susan Bastani, "Crisp to Fuzzy Ontology Conversion in the Context of Social Networks: A New Approach"
- 11:45-12:10 pm Ali Akbar Sadatasl, Mohammad Hossein Fazel Zarandi, and Abolfazl Sadeghi, "A combined facility location and network design model with multi-type of capacitated links and backup facility and non-deterministic demand by fuzzy logic"

- 12:10- 1:35 pm lunch
- 1:35- 2:20 pm plenary talk, Chair: Patricia Melin
Ildar Batyrshin, "Fuzzy Logic Based Analysis of Similarity and Association Measures"
- 2:25- 4:05 pm parallel sessions
- 2:25- 4:05 pm Engineering Applications
Co-chairs: Migeul Argaez and Oscar Castillo (Room A)
- 2:25- 2:50 pm Miguel Argaez and Martin Ceberio, "A model reduction for highly non-linear problems using wavelets and Gauss-Newton method"
- 2:50- 3:15 pm Roberto Camacho Barranco and Patricia J. Teller, "Resource Consumption Prediction Using Neuro-Fuzzy Modeling"
- 3:15- 3:40 pm Horacio Florez and Miguel Argaez, "Applications and Comparison of Model-Order Reduction Methods based on Wavelets and POD"
- 3:40- 4:05 pm Patricia Ochoa, Oscar Castillo and Jose Soria, "Type-2 fuzzy logic in a Fuzzy Differential Evolution method with dynamic parameter adaptation"
- 2:25- 4:05 pm Computing with Words
Co-chairs: Victor Raskin and Julia M. Taylor-Rayz (Room B)
- 2:25- 2:50 pm James A. Crowder, "AI Abductive Learning Models"
- 2:50- 3:15 pm Christian F. Hempelmann, Max Petrenko, and Gavin Matthews, "Automatic Discovery of Degrees of Fuzzy Set Membership in Ontologies"
- 3:15- 3:40 pm Julia M. Taylor and Victor Raskin, "Conceptual Defaults in Fuzzy Ontology"
- 3:40- 4:05 pm Yingxu Wang, "From Computing with Words (CW) to Reasoning with Fuzzy Concepts (RFC)"
- 4:05- 4:25 pm coffee break
- 4:25- 5:40 pm Applications Beyond Engineering (Part 2)
Co-chairs: Valerie Cross and Mark Wierman (Room A)
- 4:25- 4:50 pm Emer Bernal, Oscar Castillo, and Jose Soria, "Fuzzy Logic for dynamic adaptation in the Imperialist Competitive Algorithm"
- 4:50- 5:15 pm Valerie Cross, "Constructing a Measure of Information Content for an Ontological Concept"
- 5:15- 5:40 pm Mark Wierman, "Solving Games"
- 4:25- 5:40 pm Miscellaneous
Co-chairs: Weldon Lodwick and Chrysostomos D. Stylios (Room B)
- 4:25- 4:50 pm Weldon Lodwick, "A Selected Survey of Useful Approaches to Fuzzy and Possibilistic Methods From Data Representation to Solution Interpretation: What does 'Produce a fuzzy 300 units' mean to an assembly line foreman?"
- 4:50- 5:15 pm Denise M. Case and Chrysostomos D. Stylios
"Fuzzy Cognitive Map to Model Project Management Problems"
- 5:40- 5:55 pm closing of the conference, welcome to NAFIPS'2017
- Friday, November 4, 2016
- 8:00- 5:00 pm trip to Carlsbad Caverns