FUZZ-IEEE 2016 Program

Session MA-7: SS FUZZ-IEEE-04: Fuzzy Interpolation
Monday, July 25, 8:00AM-10:00AM, Room: 220, Chair: Qiang Shen and Laszlo Koczy

8:00AM Application of Dynamic Fuzzy Rule Interpolation for Intrusion Detection: D-FRI-Snort [#16182]
Nitin Naik, Ren Diao and Qiang Shen
Ministry of Defence, United Kingdom; Wandera, Ltd., United Kingdom; Aberystwyth University, United Kingdom

8:20AM Interpolative Picture Fuzzy Rules: A Novel Forecast Method for Weather Nowcasting [#16085]
Pham Huy Thong, Le Hoang Son and Hamido Fujita
VNU University of Science Vietnam National University, Viet Nam; Intelligent Software Laboratory Iwate Prefectural University, Japan

8:40AM Multi-Expert Decision-Making with Incomplete and Noisy Fuzzy Rules and the Monotone Test [#16208]
Yi Wen Kerk, Lie Meng Pang, Kai Meng Tay and Chee Peng Lim
UNIMAS, Malaysia; UMIMAS, Malaysia; Deakin University, Australia

9:00AM Experience-based Rule Base Generation and Adaptation for Fuzzy Interpolation [#16342]
Jie Li, Hubert Shum, Xin Fu, Graham Sexton and Longzhi Yang
Northumbria University, United Kingdom; Xiamen University, China

9:20AM Towards Sparse Rule Base Generation for Fuzzy Rule Interpolation [#16521]
Yao Tan, Jie Li, Martin Wonders, Fei Chao, Hubert P. H. Shum and Longzhi Yang
Northumbria University, United Kingdom; Xiamen University, China

Session MA-8: SS FUZZ-IEEE-1: Uncertainty Theory and Its Application
Monday, July 25, 8:00AM-10:00AM, Room: 221, Chair: Jiansheng Guo

8:00AM The Uncertain Time Dependent Vehicle Routing Problem with Soft Time Windows [#16136]
Sheng Mao, Xiaolin Zhao, Zutong Wang, Mingfa Zheng and Wenjun Xie
School of Aeronautics and Astronautics Engineering, Air Force Engineering University, China; School of material management and safety science, Air Force Engineering University; Materiel College, China; School of science, Air Force Engineering University, China

8:20AM Application of Neutrosophy to Quad-stage Method [#16009*]
Yuhua Fu
Researcher, China

8:40AM Expected Value Model of Multiobjective Programming Problem with Uncertain Variables [#16017*]
Qifang He, Tiezhu Wang and Mingfa Zheng
Air Force Engineering University, China

9:00AM A New Solution Methodology for UAV ISR Mission Planning Problem with Multiple Objectives Under Uncertain Environment [#16034*]
Wang Tiezhu, Wang Qifang and Zheng Mingfa
Air Force Engineering University, China

9:20AM Some Chaotic Properties of Non-autonomous Discrete Fuzzy Dynamical Systems [#16130]
Cuina Ma, Peiyong Zhu and Tianxiu Lu
University of Electronic Science and Technology of China, China; Sichuan University of Science and Engineering, China

9:40AM Modelling Temporal Relations between Fuzzy Time Intervals: A Disjunctive View [#16347]
Aymen Gammoudi, Allel Hadjali and Bouteina Ben Yaghlane
LARODEC/ISGT, Tunisia; LIAS/ENSMA, France; LARODEC/IHECT, Tunisia

Session MA-9: Fuzzy and multi-valued logic
Monday, July 25, 8:00AM-10:00AM, Room: 222, Chair: Javier Montero

8:00AM Paired Fuzzy Sets and other opposition-based models [#16224]
Javier Montero, Daniel Gomez, TinGuaro Rodriguez and Camilo Franco
Complutense University, Madrid, Spain; University of Copenhagen, Denmark

8:20AM A Non-commutative Generalization of Quasi-MV Algebras [#16165]
Liu Jianming and Chen Wenjuan
University of Jinan, China

8:40AM Correlation coefficient analysis based on fuzzy negations and representable automorphisms [#16357]
Alex Berlei, Rosana Zanotelli, Wilson Cardoso, Renata Reiser, Luciana Foss and Benjamin Bedregal
Federal University of Pelotas, Brazil; Federal University of Pelotas, Brazil; Federal University of Rio Grande do Norte, Brazil

9:00AM Conresor Based on Kleenean Relations Using Convex Combinator. [#16374*]
Juan Chacon, Jose-Jairo Soriano and Omar Salazar
Universidad Distrital Francisco Jose de Caldas, Colombia

9:20AM Fast Evaluations in Product Logic [#16193]
Raed Basbous, Tibor Tajti and Benedek Nagy
Eastern Mediterranean University, Palestine; Eszterhazy Karoly University of Applied Sciences, Hungary; University of Debrecen, Eastern Mediterranean University, Hungary

9:40AM A New Method for Threat Assessment Based on Fuzzy Dempster- Shaffer Theory [#16576*]
Ehsan Azimirad and Javad Haddadnia
The Institute of Higher Education of Eqbal Lahouri, Iran; Hakim Sabzevari University, Iran

Session MA-10: Fuzzy systems modelling and identification I
Monday, July 25, 8:00AM-10:00AM, Room: 223, Chair: Julian Belz (TO BE CONFIRMED)

8:00AM Local Model Network with Regularized MISO Finite Impulse Response Models [#16296]
Tobias Muenker and Oliver Nelles
University of Siegen, Germany

8:20AM A Similarity-based Inference Engine for Non-Singleton Fuzzy Logic Systems [#16143]
Christian Wagner, Amir Pourabdollah, Josie McCulloch, Robert John and Jonathan M. Garibaldi
University of Nottingham, United Kingdom

8:40AM Online Identification Based on Instrumental Variable Evolving Neuro-Fuzzy Model for Stochastic Dynamic Systems [#16281]
Ginalber Serra and Orlando Rocha Filho  
IFMA, Brazil

9:00AM  Nonlinear Dynamic System Identification Based on Fuzzy Kalman Filter [#16320]  
Ginalber Serra and Danubia Pires  
IFMA, Brazil

9:20AM  Interpretability Indexes for Fuzzy Classification in Cognitive Systems [#16359]  
Marco Pota, Massimo Esposito and Giuseppe De Pietro  
Institute for High Performance Computing and Networking (ICAR) - National Research Council of Italy (CNR), Italy

9:40AM  A Neuro-Fuzzy approach to identify a Hierarchical Fuzzy System for modelling Aviation Pilot Attention [#16560]  
Alessandro Di Nuovo, Rosario Cannavo, Santo Di Nuovo, Giorgia Trecca and Fabio Ravecca  
Sheffield Hallam University, United Kingdom; Cognitive Technologies and Services SRL, Italy; University of Catania, Italy; Italian Navy, Italy

**Plenary Talk MPlen: Plenary: Frederick E. Petry**  
*Monday, July 25, 1:00PM-2:00PM, Room: Ballroom B, Speaker: Adnan Yazici*

**Session MM-7: SS FUZZ-IEEE-06A: Software for Soft Computing**  
*Monday, July 25, 2:30PM-4:30PM, Room: 220, Chair: Jesús Alcalá-Fdez*

2:30PM  New Open Source Modules in KEEL to Analyze and Export Fuzzy Association Rules [#16387]  
Alberto Segura, Ramon Perez-Perez and Jesus Alcalá-Fdez  
University of Granada, Spain; Delegation of Granada, Spain

2:50PM  Debugging while Interpreting Fuzzy XPath Queries [#16096]  
Jesus M. Almendros-Jimenez, Gines Moreno and Alejandro Luna-Tedesqui  
University of Almeria, Spain; University of Castilla-La Mancha, Spain

3:10PM  A Comparative Study of Soft Computing Software for Enhancing the Capabilities of Business Document Management Systems [#16280]  
Romero-Cordoba Ruben, Romero Francisco P., Olivas Jose A., Serrano-Guerrero Jesus and Peralta Arturo  
University of Castilla La Mancha, Spain; Docpath Document Solutions Corp., Spain

3:30PM  A Decision Support System using Multi-source Scientific Data, an Ontological Approach and Soft Computing - Application to Eco-efficient Biorefinery [#16325]  
Charlotte Louiseau-Cazalet, Abdellatif Barakat, Jean-Pierre Belaud, Patrice Buche, Guillaume Busset, Brigitte Charmomordic, Stephane Dervaux, Sebastien Destercke, Juliette Dibie, Caroline Sablyrolles and Claire Vialle  
INRA IATE, France; INP-ENSIACET, LGC, France; INRA IATE, LIRMM, France; INP-ENSIACET, CAI, France; INRA MISTEA, France; INRA/AgroParisTech MIA, France; CNRS Heudiasyc, France

3:50PM  RKEEL: Using KEEL in R Code [#16338]  
Jose Moyano and Luciano Sanchez  
University of Cordoba, Spain; University of Oviedo, Spain

4:10PM  Creating and Sharing Fuzzy Color Spaces by an Online Repository for Color Modeling [#16365]
Jose Manuel Soto-Hidalgo, Pedro Manuel Martinez-Jimenez, Jesus Chamorro-Martinez and Daniel Sanchez
Department of Computer Architecture, Electronics and Electronic Technology, University of Cordoba, Spain; Department of Computer Science and Artificial Intelligence, University of Granada, Spain

Session MM-8: SS FUZZ-IEEE-03: Recent Trends in Many-Valued Logic and Fuzziness
Monday, July 25, 2:30PM-4:30PM, Room: 221, Chair: Stefano Aguzzoli

2:30PM A Linear Space Decision Procedure for Goedel Propositional Logic [#16415]
Stefano Aguzzoli
Universita' degli Studi di Milano, Italy

2:50PM Recursive Formulas to Compute Coproducts of Finite Goedel Algebras and Related Structures [#16465]
Stefano Aguzzoli and Pietro Codara
Universita' degli Studi di Milano, Italy

3:10PM Derivations on algebras of a non-commutative generalization of the Lukasiewicz logic [#16268*]
Jiri Rachunek and Dana Salounova
Palacky University, Czech Republic; VSB--Technical University, Czech Republic

3:30PM Unifying Fuzzy Concept Lattice Construction Methods [#16315]
Stefania Boffa, Carmen De Maio, Antonio Di Nola, Giuseppe Fenza, Anna Rita Ferraioli and Vincenzo Loia
Department of Theoretical and Applied Sciences (DISTA), University of Insubria, 21100 Varese, Italy, Italy; Department of Information Engineering, Electrical Eng. and Applied Mathematics (DIEM), University of Salerno, 84084 Fisciano (SA), Italy, Italy; Department of Mathematics (DipMat), University of Salerno, 84084 Fisciano (SA), Italy, Italy; Department of Management and Innovation Systems, University of Salerno, 84084 Fisciano (SA), Italy, Italy

3:50PM Multi-Valued Preferential Halpern Shoham logic for relations of Allen and preferences [#16512]
Krystian Adam Jobczyk and Antoni Ligeza
AGH University of Science and Technology, Poland

Session MM-9: Fuzzy Operators
Monday, July 25, 2:30PM-4:30PM, Room: 222, Chair: Daniel Ruiz-Aguilera

2:30PM On Rational Fuzzy Implication Functions [#16509]
Sebastia Massanet, Juan Vicente Riera and Daniel Ruiz-Aguilera
University of the Balearic Islands, Spain

2:50PM A Probabilistic Approach to the Modeling of the Relationship Between Fuzzy Sets [#16169]
Michal Burda
University of Ostrava, Czech Republic

3:10PM Some Properties of Generalized Mixture Functions [#16211]
Antonio Farias, Regivan Santiago and Benjamin Bedregal
Federal University of Rio Grande do Norte / Federal Rural University of Semi-Arid, Brazil; Federal University of Rio Grande do Norte, Brazil

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3:30PM Pre-aggregation Functions: Definition, Properties and Construction Methods [#16271]
Humberto Bustince, Jose Antonio Sanz, Giancarlo Lucca, Gracaliz Dimuro, Benjamin Bedregal, Radko Mesiar, Anna Kolesarova and Gustavo Ochoa
Universidad Publica de Navarra, Spain; Universidade Federal do Rio Grande, Brazil; Universidades Federal do Rio Grande do Norte, Brazil; Slovak University of Technology, Slovakia; Slovak University of technology, Slovakia

3:50PM On n-Dimensional Strict Fuzzy Negations [#16436]
Ivan Mezzomo, Benjamin Bedregal, Renata Reiser, Humberto Bustince and Daniel Paternain
Rural Federal University of Semi-Arid - UFERSA, Brazil; Federal University of Rio Grande do Norte - UFRN, Brazil; Federal University of Pelotas - UFPel, Brazil; Public University of Navarra, Spain

Session MM-10: Fuzzy Systems Applications in Medicine
Monday, July 25, 2:30PM-4:30PM, Room: 223, Chair: Joao M. C. Sousa

2:30PM Fuzzy Modeling to Predict Short and Long-Term Mortality Among Patients with Acute Kidney Injury [#16493]
Vanessa Cunha, Catia Salgado, Susana M Vieira and Joao M. C. Sousa
IDMEC, LAETA, Instituto Superior Tecnico, Universidade de Lisboa, Portugal

2:50PM An Intelligent Medical Replenishment System for Managing the Medical Resources in the Healthcare Industry [#16018]
Valerie Tang, Wui Yau Stephen Cheng, King Lun Choy, Kai Yuet Paul Siu, To Sum George Ho and Hoi Yan Lam
Department of Industrial and Systems Engineering, The Hong Kong Polytechnic University, Hong Kong

3:10PM Improving the Accessibility of the EHR System with Fuzzy Hierarchy of Contexts [#16311]
Belen Prados-Suarez, Carlos Molina and Carmen Pena-Yanez
University of Granada, Spain; University of Jaen, Spain; University Hospital San Cecilio, Spain

3:30PM Prospective Memory Aid: A Reminding Model based on Fuzzy Cognitive Maps [#16346]
Jinghua Hou, Zhiwei Zeng, Chunyan Miao and Yang Liu
Interdisciplinary Graduate School Nanyang Technological University, Singapore; Joint NTU-UBC Research Centre of Excellence in Active Living for the Elderly, School of Computer Science and Engineering Nanyang Technological University, Singapore; School of Computer Science and Engineering Nanyang Technological University, Singapore

3:50PM Fuzzy Ontology-based Medical Information Retrieval [#16372]
Ghada Besbes and Hajer Baazaoui-Zghal
Riadi Laboratory, ENSI, Campus Universitaire de la Manouba, Tunisia, Tunisia

4:10PM A Temporal Analysis System for Early Detection of Health Changes [#26046]
Omar Ibrahim, Jingyi Shao, James Keller and Mihail Popescu
Electrical and Computer Engineering Department, University of Missouri, United States; Health Management and Informatics Department, University of Missouri, United States

Monday, July 25, 4:30PM-6:30PM, Room: 220, Chair: Jesús Alcalde-Fdez / Luka Eciolaza

4:30PM jMeme: a Java Library for Designing Competent Memetic Algorithms [#16515]
Giovanni Acampora and Autilia Vitiello
Nottingham Trent University, United Kingdom; University of Salerno, Italy

4:50PM  Electrode Degradation Analysis in Aluminium-based Resistance Spot Welding Process
[#16578]
Ander Muniategui, Luka Eciolaza, Mikel Ayuso, Maria Jose Garmendia and Pedro Alvarez
IK4-LORTEK, Spain

5:10PM  Model-Based Feature Selection Based on Radial Basis Functions and Information Measures
[#16304]
Georgios Tzagarakis and George Panoutsos
University of Sheffield, United Kingdom

5:30PM  A Fuzzy Logic Based System for Mixed Reality Assistance of Remote Workforce [#16298]
Anasol Pena-Rios, Hani Hagras, Gilbert Owusu and Michael Gardner
University of Essex, United Kingdom; British Telecom, United Kingdom

5:50PM  Battery diagnosis for electrical vehicles through semi-physical fuzzy models [#16358]
Luciano Sanchez, Jose Otero, Ines Couso and Cecilio Blanco
Universidad de Oviedo, Spain

Monday, July 25, 4:30PM-6:30PM, Room: 221, Chair: Plamen Angelov / Yu-Chen Lin - Tsung-Chih Lin

4:30PM  Unsupervised Classification of Data Streams based on Typicality and Eccentricity Data Analytics [#26058]
Bruno Sielly Jales Costa, Clauber Gomes Bezerra, Luiz Affonso Guedes and Plamen Parvanov Angelov
IFRN, Brazil; UFRN, Brazil; Lancaster University, England

4:50PM  Fuzzy Granular Neural Network for Incremental Modeling of Nonlinear Chaotic Systems
[#16349]
Daniel Leite, Marcio Santana, Ana Borges and Fernando Gomide
Federal University of Lavras (UFLA), Brazil; University of Campinas (UNICAMP), Brazil

5:10PM  Evolving Fuzzy Models for Myoelectric-based Control of a Prosthetic Hand [#16254]
Radu-Emil Precup, Teodor-Adrian Teban, Thiago Eustaquio Alves de Oliveira and Emil M. Petriu
Department of Automation and Applied Informatics Politehnica, University of Timisoara, Romania; University of Ottawa, Canada

5:30PM  Synchronous Tracking Control of Gantry Stage Using Adaptive Fuzzy Moving Sliding Mode Approach [#16181*]
Lin Yu-Chen, Lin Tsung-Chih, Chen Yi-Chao and Liu Tai-Yi
Department of Automatic Control Engineering, Feng Chia University, Taiwan; Department of Electronic Engineering, Feng Chia University, Taiwan

5:50PM  Adaptive Fuzzy Sliding Mode Active Vibration Control for Rail Vehicle Pantograph [#16076]
Tsung-Chih Lin, Jian-Lin Yeh, Chia-Hao Kuo, Yu-Chen Lin and E. Balas Valentina
Feng Chia University, Taiwan; Aurel Vlaicu University, Romania

6:10PM  Direct Adaptive Fuzzy Control for a Class of Nonlinear Systems With Unknown Control Gain Sign [#16371]
Salim Labiod and Thierry Marie Guerra
Session MP-9: Fuzzy Measures and Applications  
Monday, July 25, 4:30PM-6:30PM, Room: 222, Chair: Guy De Tre

4:30PM  Partial Absorption Operators with Fuzzy Integrals [#16177]  
Robin De Mol, Antoon Bronselaer and Guy De Tre  
Ghent University, Belgium

4:50PM  Expressive Power of Linear-Temporal Logic Based on Generalized Possibility Measures [#16046]  
Shengli Zhang and Yongming Li  
Shaanxi Normal University; Xingyi Normal University for Nationalities, China; Shaanxi Normal University, China

5:10PM  Fuzzy Multimeasures in Birkhoff Weak Set-Valued Integrability [#16261*]  
Anca Croitoru, Alina Iosif, Nikos Mastorakis and Alina Gavrilut  
"Al. I. Cuza" University of Iasi, Faculty of Mathematics, Romania; Petroleum-Gas University of Ploiesti, Department of Computer Science, Information Technology, Mathematics and Physics, Romania; Department of Industrial Engineering, University of Salerno, Italy

5:30PM  Experimental Study of Different Aggregation Functions for Modeling Craniofacial Correspondence in Craniofacial Superimposition [#26047]  
Carmen Campomanes-Alvarez, Oscar Ibanez and Oscar Cordon  
University of Granada, Spain

5:50PM  Finding Temporal Associative Patterns of Web Search with Stock Price Movements for Trading Strategy Design [#16157]  
Qiang Wei, Xian Zhao, Changyu Wang and Guoqing Chen  
Tsinghua University, China

Session MP-10: Fuzzy Systems Applications in Energy and Other Domains  
Monday, July 25, 4:30PM-6:30PM, Room: 223, Chair: Charles Q. Su

4:30PM  A New Fuzzy Logic Method for Transformer Incipient Fault Diagnosis [#16597]  
Charles Q. Su  
Newcastle University, UK, United Kingdom

4:50PM  Prediction interval based on type-2 fuzzy systems for wind power generation and loads in microgrid control design [#16156]  
Luis G Marin, Felipe Valencia and Doris Saez  
Department of electrical engineering, Faculty of Mathematical and Physical Sciences, University of Chile, Chile; Solar Energy Research Center, SERC-Chile, Energy Center, Department of electrical engineering, Faculty of Mathematical and Physical Sciences, University of Chile, Chile

5:10PM  Microgrid Planning Based on Fuzzy Interval Models of Renewable Resources [#16377]  
Raul Morales, Doris Saez, Luis G Marin and Alfredo Nunez  
Department of Electrical Engineering University of Chile, Chile; Railway Engineering Section Delft University of Technology, Netherlands

5:30PM  Fuzzy-Clustering Embedded Regression for Predicting Student Academic Performance [#16418]
Zhenpeng Li, Changjing Shang and Qiang Shen  
Aberystwyth University, Great Britain

James Rodway, Pavel Kromer, Soheila Karimi and Petr Musilek  
University of Alberta, Canada; VSB-Technical University, Czech Republic; University of Calgary, Canada

6:10PM  An Intelligent System for Cost Data Handling in Construction Projects [#16363*]  
Maria Martinez-Rojas, Nicolas Marin, Carlos Molina and M.Amparo Vila  
Department of Building Construction, University of Granada, Spain; Department of Computer Science and Artificial Intelligence, University of Granada, Spain; Department of Computer Sciences, University of Jaen, Spain

Session TA-7: SS FUZZ-IEEE-17: Linguistic Summarization and Description of Data  
Tuesday, July 26, 8:00AM-10:00AM, Room: 220, Chair: Anna Wilbik

8:00AM  On the generation of useful linguistic summaries of sequences [#16264]  
Anna Wilbik and Remco Dijkman  
TU/e, Netherlands

8:20AM  Using Specificity to Measure Referential Success in Referring Expressions with Fuzzy Properties [#16307]  
Nicolas Marin, Gustavo Rivas-Gervilla and Daniel Sanchez  
University of Granada, Spain

8:40AM  Combining Fuzzy Experts' Decisions Fusion with Linguistic Summarization of Mammograms for Computer-Aided Breast Diagnosis [#16091]  
Eldman de O. Nunes, Angel Sanchez, A. Belen Moreno and Aura Conci  
Universidade Salvador, UNIFACS, Brazil; Universidad Rey Juan Carlos, Spain; Universidade Federal Fluminense, Brazil

9:00AM  How to Talk to Strangers: Generating Medical Reports for First-Time `fuzzieee2016_Users`. [#16150]  
Dimitra Gkatzia, Verena Rieser and Oliver Lemon  
Edinburgh Napier University, United Kingdom; Heriot-Watt University, United Kingdom

9:20AM  Natural Language Generation and Fuzzy Sets: An Exploratory Study on Geographical Referring Expression Generation [#16243]  
Alejandro Ramos Soto, Nava Tintarev, Rodrigo de Oliveira, Ehud Reiter and Kees van Deemter  
Centro Singular de Investigacion en Tecnoloxias da Informacion (CiTIUS), Universidade de Santiago de Compostela, Spain; Department of Computing and Informatics, University of Bournemouth, England; Department of Computer Science, University of Aberdeen, Scotland

9:40AM  Linguistic Summarization using a Weighted N-gram Language Model based on the Similarity of Time-series Data [#16540]  
Kasumi Aoki and Ichiro Kobayashi  
Ochanomizu University, Japan

Session TA-8: SS FUZZ-IEEE-19: Interval-Valued Fuzzy Sets: Theory and Applications / SS FUZZ-IEEE-26: From Type-1 to Type-n Fuzzy Systems Modeling
Tuesday, July 26, 8:00AM-10:00AM, Room: 221, Chair: Humberto Bustince / Mohammad H. Fazel Zarandi

8:00AM The quest for differentiation of interval-valued images [#16360]
Universidad Publica de Navarra, Spain; Ghent University, Belgium

8:20AM Fuzzy, I-Fuzzy, and H-Fuzzy partitions to describe clusters [#16314]
Vicenc Torra, Layal Alihamadipour and Anders Dahlbom
University of Skovde, Sweden; Shahid Bahonar University of Kerman, Iran

8:40AM Interval-Valued Fuzzy Cognitive Maps for Supporting Business Decisions [#16079]
Petr Hajek and Ondrej Prochazka
University of Pardubice, Czech Republic

9:00AM A Generalized Type-2 Fuzzy Logic System for the dynamic adaptation the parameters in a Bee Colony Optimization algorithm applied in an autonomous mobile robot control [#16213]
Leticia Amador-Angulo, Oscar Castillo and Juan Castro
Tijuana Institute of Technology, Mexico; UABC University, Mexico

9:20AM Quasi Type-2 Fuzzy Markov Chains: an approach [#16439]
Juan Carlos Figueroa-Garcia, Luis Carlos Giraldo-Arcos and Sandy Katina Salamanca-Rivera
Universidad Distrital Francisco Jose de Caldas, Colombia

9:40AM Visual Analysis and Representations of Type-2 Fuzzy Membership Functions [#16452]
Desh Raj, Kenil Tanna, Bhuvnesh Garg and Frank Chung-Hoon Rhee
Indian Institute of Technology Guwahati, India; Hanyang University, Korea (South)

Session TA-9: Type-2 Fuzzy Systems and Applications
Tuesday, July 26, 8:00AM-10:00AM, Room: 222, Chair: Jerry Mendel

8:00AM An Extended ANFIS Architecture and its Learning Properties for Type-1 and Interval Type-2 Models [#16138]
Chao Chen, Robert John, Jamie Twycross and Jonathan M. Garibaldi
The University of Nottingham, United Kingdom

8:20AM Metaheuristic Tuning of Type-II Fuzzy Inference Systems for Data Mining [#16297]
Varun Kumar Ojha, Ajith Abraham and Vaclav Snasel
VSB Technical University of Ostrava, Czech Republic; Machine Intelligence Research Lab (MIR Lab), United States

8:40AM Game of Drones: UAV Pursuit-Evasion Game with Type-2 Fuzzy Logic Controllers tuned by Reinforcement Learning [#16332]
Efe Camci and Erdal Kayacan
Nanyang Technological University, Singapore

9:00AM Analysis Using Analytical Structure on the Fitting Ability of Interval Type-2 Fuzzy Model with Non-symmetrical Fuzzy Sets [#16462]
Chun Ming Tommy Yip and Woei Wan Tan
National University of Singapore, Singapore

9:20AM An Analytical Approach for Solving Type-1 and Type-2 Fully Fuzzy Linear Systems of Equations [#16508]
Sheriff Sadiqbatcha and Saeed Jafarzadeh
California State University Bakersfield, United States
9:40AM  A Novel Gesture Recognition System Based on Fuzzy Logic for Healthcare Applications
[#16546]
Sriparna Saha, Shreyasi Datta, Amit Konar, Bonny Banerjee and Atulya Nagar
Jadavpur University, India; The University of Memphis, United States; Liverpool Hope University, United Kingdom

**Session TA-10: Fuzzy Control**
*Tuesday, July 26, 8:00AM-10:00AM, Room: 223, Chair: Chiang-Cheng Chiang (TO BE CONFIRMED)*

8:00AM  Robust Observer-Based Fuzzy Incremental Sliding-Mode Control of Underactuated Systems
[#16057]
Chiang-Cheng Chiang and Yu-Sheng Yang
Tatung University, Taiwan

8:20AM  Model Reference Fuzzy Sliding Mode Control of Strict-Feedback Uncertain Systems with
Unknown Dead-Zone [#16059]
Chiang-Cheng Chiang and Chuan-Tien Tsai
Tatung University, Taiwan

8:40AM  A Fuzzy Logic Based Super-twisting Sliding Mode Control Scheme for Electronic Throttle
Control [#16141]
Mohammad Fazle Azeem and Abdul Kareem
Aligarh Muslim University, India; Mangalore Institute of Technology and Engineering, Mangalore, India

9:00AM  Decentralized Fault Tolerant Control of Uncertain Nonlinear Large-Scale Systems with Dead-
Zone Input [#16095]
Chiang-Cheng Chiang and Chia-Hang Lu
Tatung University, Taiwan

9:20AM  Experimental results of slip control with a fuzzy-logic-assisted unscented Kalman filter for state estimation [#16146]
Pavel Osinenko, Mike Geissler, Thomas Herlitzius and Stefan Streif
Technische Universitat Chemnitz, Germany; Technische Universitat Dresden, Germany

9:40AM  Game Theoretic Fuzzy Multi-Entity Bayesian Networks for Collision Avoidance in VANETs
[#16449]
Keyvan Golestan, Ridha Soua, Fakhri Karray and Mohamed S. Kamel
University of Waterloo, Canada

**Plenary Talk TPlen: Plenary: Jim Bezdek**
*Tuesday, July 26, 1:00PM-2:00PM, Room: Ballroom B, Speaker: Jim Keller*

**Plenary Poster Session Poster: Posters Session**
*Tuesday, July 26, 2:00PM-6:00PM, Room: Ballroom D*

P101  A Big-Bang Big-Crunch Fuzzy Logic Based System for Sports Video Scene Classification
[#16006]
Wei Song and Hani Hagras
University of Essex, United Kingdom

P102 A Simplified Implementation of Interval Type-2 Fuzzy System and its Application in Students' Academic Evaluation [#16026*]
Ibrahim A. Hameed
Norwegian University of Science and Technology (NTNU) in Alesund, Norway

P103 Membership Functions Representing a Number vs. Representing a Set: Proof of Unique Reconstruction [#16027]
Hung Nguyen, Vladik Kreinovich and Olga Kosheleva
New Mexico State University, United States; University of Texas at El Paso, United States

P104 Rough Set-Based Concept Mining from Social Networks [#16074]
Tuan-Fang Fan and Churn-Jung Liau
National Penghu University of Science and Technology, Taiwan; Academia Sinica, Taiwan

P105 A Fuzzy Association Rule Mining Framework for Variables Selection Concerning the Storage Time of Packaged Food [#16075]
Yan Yan Hui, King Lun Choy, To Sum Ho and Hoi Yan Lam
The Hong Kong Polytechnic University, Hong Kong

P106 fuzzy control of intelligent Indoor Exercise Environment in Air-Polluted AreaI [#16080]
Shaodan Zhi, Yongbin Wei, Jun Wang and Wei Zhao
Technical Center, China State Construction Engineering Corporation Limited, China

P107 Classification of Melodic Structures Using Fuzzified n-Gram Matching Scores [#16081]
Chandanpreet Kaur and Ravi Kumar
Thapar University, India

P108 T-S Fuzzy Control Based on Riccati Differential Equation [#16097]
Wen Yu, Jorge Cervantes and Sergio Salazar
CINVESTAV-IPN, Mexico

P109 Estimation of optimal cluster number for fuzzy clustering with combined fuzzy entropy index [#16104]
Hong He, Yonghong Tan and Ken'ichi Fujimoto
College of Information, Mechanical and Electrical Engineering, Shanghai Normal University, China; University Consortium for e-Learning, Shikoku Center, Kagawa University, Japan

P110 Ranking Alternatives Under Fuzzy Multiple Criteria Decision Making via an Inverse Function Based Utility Method [#16108*]
Ta-Chung Chu and Huyen Trang Nguyen
Southern Taiwan University of Science and Technology, Taiwan

P111 Bonferroni Mean Based Similarity Based Topsis [#16117]
Pasi Luukka and Mikael Collan
Lappeenranta University of Technology, Finland

P112 A Fuzzy-Wavelet Neural Network Model for the Detection of Meat Spoilage using an Electronic Nose [#16148]
Vassilis Kodogiannis and Abeer Alshejari
University of Westminster, United Kingdom

P113 Searching a Shortest Hyper Path on Intuitionistic FUZZY HYPER NETWORK [#16247*]
Mohammed Jabaulla Mohamed Ishack
Jamal Mohamed College, Bharathidasan University Trichy Tamilnadu, India
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<td>A Fuzzy Co-clustering Interpretation of Probabilistic Latent Semantic Analysis [#16287]</td>
<td>Katsuhiro Honda, Takafumi Goshima, Seiki Ubukata and Akira Notsu Osaka Prefecture University, Japan</td>
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<td>A Stabilizing Model Fuzzy Predictive Control Scheme for Nonlinear Deterministic Systems [#16337]</td>
<td>Samir Teniou and Khaled Belarbi National Polytechnic school of Constantine, Algeria</td>
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<td>Fuzzy-CA Model for an In-silico Cancer Cell Line: A Journey from Simple Cellular Pattern to an Emergent Complex Behavior [#16355]</td>
<td>Nasibeh Rady Raz and Mohammad-R. Akbarzadeh-T Department of Computer Engineering, Center of Excellence on Soft Computing and Intelligent Information processing, Ferdowsi University of Mashhad, Iran; Department of Electrical and Computer Engineering, Center of Excellence on Soft Computing and Intelligent Information processing, Ferdowsi University of Mashhad, Iran</td>
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<td>Fuzzy Clustering Based Method For the Spatiotemporal Analysis of Criminal Patterns [#16368]</td>
<td>Diego Mayorga, Miguel Melgarejo and Nelson Obregon Universidad Distrital FJC, Colombia; Universidad distrital FJC, Colombia; Pontifical Xaverian University, Colombia</td>
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<td>P118</td>
<td>A Fuzzy Binomial Naive Bayes Classifier for Epidemiological Data [#16376]</td>
<td>Ronei Moraes and Liliane Machado Federal University of Paraiba, Brazil</td>
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<td>A Fully tuned Sequential Interval Type-2 Fuzzy Inference System for Motor-imagery Task Classification [#16405]</td>
<td>Ankit Kumar Das, Suresh Sundaram and Sundararajan Narasimhan Nanyang Technological University, Singapore</td>
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<td>P120</td>
<td>Evolutionary Dual Rule-based Fuzzy Path Planner for Omnidirectional Mobile Robot [#16413]</td>
<td>Chansol Hong, Chan Woo Park and Jong-Hwan Kim School of Electrical Engineering, KAIST, Korea (South)</td>
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<td>P121</td>
<td>On fuzzy alpha-lattices [#16434]</td>
<td>Ivan Mezzomo and Benjamin Bedregal Rural Federal University of Semi-Arid - UFERSA, Brazil; Federal University of Rio Grande do Norte - UFRN, Brazil</td>
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<td>P122</td>
<td>Towards a new convolution-based approach to the specification of STPU-solutions [#16511]</td>
<td>Krystian Jobczyk and Antoni Ligeza AGH University of Science and Technology, Poland</td>
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<td>P123</td>
<td>Flexible Document Organization by Mixing Fuzzy and Possibilistic Clustering algorithms [#16517]</td>
<td>Nilton V. Carvalho Jr., Solange O. Rezende, Heloisa A. Camargo and Tatiane M. Nogueira Federal University of Bahia, Brazil; University of Sao Paulo, Brazil; Federal University of Sao Carlos, Brazil</td>
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<td>P124</td>
<td>Probabilistic Coverage of Linguistic IF-THEN Rules [#16520]</td>
<td>Pavel Rusnok University of Ostrava, Czech Republic</td>
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<td>P125</td>
<td>A Hardware Architecture for Real-Time Edge Detection Based on Interval Type-2 Fuzzy Logic [#16535]</td>
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Emanuel Ontiveros-Robles, Jose Luis Gonzalez-Vazquez, Juan Ramon Castro and Oscar Castillo
University of Baja California, Mexico; Tijuana Institute of Technology, Mexico

P126 Chassis Control based in Fuzzy Logic [#16549]
Carlos Alberto Vivas-Lopez, Ruben Morales Menendez, Ricardo Ramirez Mendoza, Olivier Sename and Luc Dugard
Tecnologico de Monterrey, Mexico; Grenoble Institute of Technology, France

P127 ANFIS to Estimate Damping Coefficient From EMG to Optimize The Interaction Force [#16566*]
Tanvir Anwar and Adel AI Jumaily
University of Technology, Sydney, Australia

P128 On Interval-Valued Possibilistic Clustering with a Generalized Objective Function [#16592]
Jozsef Mezei and Peter Sarlin
Abo Akademi University and RiskLab Finland at Arcada University of Applied Sciences, Finland;
Hanken School of Economics and RiskLab Finland at Arcada University of Applied Sciences, Finland

Tuesday, July 26, 2:30PM-4:30PM, Room: 220, Chair: Mikel Galar

2:30PM Optimization of Chi-FRBCS-BigDataCS Fuzzy Rule-Based Classification System [#16187]
Mikel Elkano, Mikel Galar, Jose Sanz and Humberto Bustince
Department of Automatics and Computation, Public University of Navarre, Spain

2:50PM Tackling Label Noise with Multi-Class Decomposition using Fuzzy One-Class Support Vector Machines [#16131]
Bartosz Krawczyk, Jose Antonio Saez and Michal Wozniak
Wroclaw University of Technology, Poland

3:10PM A Network-based Approach for Diversity Visualization of Fuzzy Classifier Ensembles [#26048]
Krzysztof Trawinski and Oscar Cordon
European Centre for Soft Computing, Spain; University of Granada, Spain

3:30PM Fuzzy Rough Sets for Self-Labelling: an Exploratory Analysis [#16087]
Sarah Vluymans, Neil Mac Parthalain, Chris Cornelis and Yvan Saeys
Ghent University, Belgium; Aberystwyth University, Wales; University of Granada, Spain

3:50PM Fuzzy Clustering for Optimally Weighted Cluster Kriging [#16291]
Bas van Stein, Hao Wang, Wojtek Kowalczyk, Michael Emmerich and Thomas Baeck
Leiden University, Netherlands

4:10PM Fuzzy-Citation-KNN: a fuzzy nearest neighbor approach for multi-instance classification [#16420]
Pedro Villar, Rosana Montes, Ana Maria Sanchez and Francisco Herrera
University of Granada, Spain

Session TM-8: SS FUZZ-IEEE-33A: Information Fusion and Fuzzy Linguistic Decision Making
Tuesday, July 26, 2:30PM-4:30PM, Room: 221, Chair: Francisco Herrera - Luis Martinez

2:30PM An optimization-based approach to estimate the range of consistency in hesitant fuzzy linguistic preference relations [#16090]
Cong-Cong Li, Yucheng Dong, Francisco Herrera and Luis Martinez
Business School, Sichuan University, China; University of Granada, Spain; University of Jaen, Spain

2:50PM Fusing Multi-Granular Unbalanced Hesitant Fuzzy Linguistic Information in Group Decision Making [#16161]
Wenyu Yu, Qiuyan Zhong and Zhen Zhang
Dalian University of Technology, China; Institute of Systems Engineering, Dalian University of Technology, China

3:10PM Weight Determination for MAGDM with Linguistic Information based on IT2 Fuzzy Sets [#16175]
Wu Zhibin and Zhong Lin
Sichuan University, China

3:30PM A Fuzzy System for Estimating Premium Cost of Option Exchange using Mamdani Inference Derivates Market of Mexico [#16270]
Manuel Munoz and Eva luz Miranda
University of sonora, Mexico; University of occident, Mexico

3:50PM Mixed Intuitionistic Fuzzy Aggregation Operators Decreasing Results of Unusual IFNs [#16384]
Zhang Hengshan, Zheng Qinghua, Liu Ting and Qu Yu
Xian Jiaotong University, China

4:10PM A Resolution Method for Linguistic Truth-Valued Intuitionistic First-Order Logic [#16524*]
Zheng Hongliang, Meng Jia, Li Xiaonan and Zou Li
Liaoning Normal university, China

Session TM-9: Granular Computing

Tuesday, July 26, 2:30PM-4:30PM, Room: 222, Chair: George Panoutsos

2:30PM Iterative Information Granulation for Novelty Detection in Complex Datasets [#16345]
Adrian Rubio-Solis and George Panoutsos
The University of Sheffield, United Kingdom

2:50PM Prediction Granules for Uncertainty Modelling [#16099]
Ehsan Lotfi, Abbas Khosravi and Saeid Nahavandi
Azad University, Iran; Intelligence Systems Research, Deakin University, Australia; Deakin University, Australia

3:10PM Granular Description of Data: Building Information Granules with the aid of the Principle of Justifiable Granularity [#16109]
Xiubin Zhu, Witold Pedrycz and Zhiwu Li
School of Electro-Mechanical Engineering, Xidian University, China; Department of Electrical and Computer Engineering, University of Alberta, Canada; Institute of Systems Engineering, Macau University of Science and Technology, China

3:30PM Layered Information Granulation Based on Non-Transitive, Perceptual Indistinguishability [#16543]
Hedda R. Schmidtke
University of Oregon, United States

3:50PM Converting Spatiotemporal Data Among Heterogeneous Granularity Systems [#16055]
Muhao Chen, Shi Gao and X. Sean Wang
University of California Los Angeles, United States; Fudan University, China
4:10PM Generation of Linguistic Membership Functions From Word Vectors [#16023]
Thomas Runkler
Siemens AG, Germany

Session TM-10: Fuzzy Control Applications
Tuesday, July 26, 2:30PM-4:30PM, Room: 223, Chair: Michaela Killian

2:30PM Cooperative Fuzzy model predictive control for a multivariate process [#16214]
Michaela Killian and Martin Kozek
Vienna University of Technology, Austria

2:50PM The Objective Measurement Method of Minimum Resolvable Temperature Difference for Infrared Imaging System Based on ANFIS [#16106]
Xuan Xiao, Feng Pan, Weixing Li, Qi Gao and Dengliang Xiong
Beijing Institute of Technology, China; Yunnan Basic Surveying and Mapping Technology Center, China

3:10PM System Identification and Damping Coefficient Estimation from EMG based on ANFIS to Optimize Human Exoskeleton Interaction [#16189*]
Anwar Tanvir and Al Jumaily Adel
University of Technology, Sydney, Australia

3:30PM Causality Diagram-based Scheduling Approach for Blast Furnace Gas System [#16230*]
Feng Jin, Jun Zhao, Chunyang Sheng, Wei Wang, Xiaodong Liu and Ying Liu
Dalian University of Technology, China

3:50PM A New Neural-Dynamic Control Method of Position and Angular Stabilization for Autonomous Quadrotor UAVs [#16330]
Zhijun Zhang, Jianli Yu, Yuanqing Li and Xiaoyan Zhang
South China University of Technology, China; Shenzhen University, China

4:10PM Fuzzy Logic Controllers for Navigation and Control of AR.Drone using Microsoft Kinect [#16599]
Prahlad Vadakkepat, Tze Chiang Chong, Willson Amalraj Arokiasami and Weinan Xu
National University of Singapore, Singapore

Session TP-7: SS FUZZ-IEEE-13: Fuzzy Set Theory in Computer Vision
Tuesday, July 26, 4:30PM-6:30PM, Room: 220, Chair: Derek T. Anderson

4:30PM Fuzzy Models of Topological Relationships Based on the PHI-Descriptor [#16194]
Pascal Matsakis and Mohammad Naeem
University of Guelph, Canada

4:50PM Fuzzy Partitions for Texture Modelling Adapted to the Subjectivity of Human Perception [#16289]
Pedro Manuel Martinez-Jimene, Jesus Chamorro-Martinez and Jose Manuel Soto-Hidalgo
University of Granada, Spain; University of Cordoba, Spain

5:10PM A Deep-Neuro-Fuzzy Approach for Estimating the Interaction Forces in Robotic Surgery [#16299]
Angelica Aviles, Samar Alsaleh, Eduard Montseny, Pilar Sobrevilla and Alicia Casals
Research Center of Biomedical Engineering, Universitat Politecnica de Catalunya - BarcelonaTech, Spain; Department of Computer Science, George Washington University,
United States; Universitat Politecnica de Cataluya - BarcelonaTech, Spain; Department of Applied Mathematics II, Universitat Politecnica de Cataluya - BarcelonaTech, Spain

5:30PM Linguistic Descriptors and Fuzzy Sets in Face Recognition Realized by Humans [#16305]
Adam Kiersztyn, Pawel Karczmarek, Michal Dolecki and Witold Pedrycz
Institute of Mathematics and Computer Science, The John Paul II Catholic University of Lublin, Poland; Department of Electrical and Computer Engineering, University of Alberta, Canada

5:50PM Fuzzy-Rough based Decision System for Gait adopting Instance Selection [#16453]
Abhishek Jhawar, Chee Seng Chan, Dorothy Monekosso and Paolo Remagnino
University of Malaya, Malaysia; Leeds Beckett University, United Kingdom; Kingston University, United Kingdom

6:10PM A Novel Fuzzy Feature Encoding Approach for Image Classification [#16502]
Umit Lutfu Altintakan and Adnan Yazici
Air Force Academy, Turkey; Middle East Technical University, Turkey

Session TP-8: SS FUZZ-IEEE-33B: Information Fusion and Fuzzy Linguistic Decision Making / SS FUZZ-IEEE-31: New Approaches to Fuzzy Web Intelligence
Tuesday, July 26, 4:30PM-6:30PM, Room: 221, Chair: Francisco Herrera - Luis Martinez / Marek Reformat

4:30PM Intercriteria Parameter Modification to Reach Consensus in the Evaluation of Commercial Locations [#16533]
Pavel Alvarez and Juan Carlos Leyva Lopez
Universidad de Occidente, Mexico

4:50PM A Linguistic Partner Evaluation Model in Tourism Supply Chain Networks [#16552]
Narongsak Pongsathornwiwat, Van-Nam Huynh, Thanaruk Theeramunkong and Chawalit Jeenananta
Japan Advanced Institute of Science and Technology, Japan; Sirindhorn International Institute of Technology, Thailand

5:10PM Linked Opened Data: Conjunctive Information and Participatory Learning Process [#16555]
Marek Reformat and Ronald Yager
University of Alberta, Canada; Iona College, United States

5:30PM Genetic Fuzzy Markup Language-based Item Response Theory Agent for Online Self-Learning Platform Construction [#16210]
Chang-Shing Lee, Mei-Hui Wang, Koun-Hong Lin, Sheng-Chi Yang and Ting-Tzu Lin
National University of Tainan, Taiwan

5:50PM FML-based Feature Similarity Assessment Agent for Japanese/Taiwanese Language Learning [#16232]
Chang-Shing Lee, Mei-Hui Wang, Shoji Nohara, Kuan-Yi Wu and Ryosuke Saga
National University of Tainan, Taiwan; Osaka Prefecture University, Japan

6:10PM A Virtual Machine for Event Sequence Identification using Fuzzy Tolerance [#16301]
Trevor Martin and Ben Azvine
University of Bristol, United Kingdom; BT TSO Security Futures, United Kingdom

6:30PM Validation and Implementation of Fuzzy Models using FML-based Specifications [#16557]
Mehran Panahi Akhavan, Majid RobatJazi and Marek Reformat
University of Alberta, Canada
Session TP-9: Theory of Fuzzy Systems and Fuzzy Control
Tuesday, July 26, 4:30PM-6:30PM, Room: 222, Chair: Donghwan Lee

4:30PM  Local State-Feedback Stabilization of Nonlinear Fuzzy Systems with Measurement Errors in the State [#16188]
Donghwan Lee and Jianghai Hu
Purdue University, United States

4:50PM  Conditions of stabilization of positive continuous Takagi-Sugeno fuzzy systems with delay [#16020]
Abdellah Benzaouia and Ahmed El Hajjaji
University Cadi Ayyad, Morocco; University of Picardie Jules Vernes, France

5:10PM  Stabilization of interconnected T-S fuzzy systems using LMIs [#16088]
Abdellah Benzaouia, Laila EL Younsi and Ahmed El Hajjaji
University Cadi Ayyad, Morocco; University of Picardie, France

5:30PM  Controller Design for T-S Fuzzy Singularly Perturbed Switched Systems [#16132]
Xiaoping Ma, Qianjin Wang, Jian Cheng, Guo Yinan, Chunyu Yang and Linna Zhou
School of Information and Electrical Engineering, China University of Mining and Technology, Xuzhou, 221116, P. R. China, China

5:50PM  Improvement of reliable H_inf control for discrete-time fuzzy systems with time-varying delays [#16242]
Shenquan Wang, Yulian Jiang, Yuanchun Li and Derong Liu
College of Electrical and Electronic Engineering, Changchun University of Technology, China; School of Automation and Electrical Engineering, University of Science and Technology Beijing, China

Session TP-10: Fuzzy Systems for Robotics
Tuesday, July 26, 4:30PM-6:30PM, Room: 223, Chair: Qun Ren

4:30PM  Discrete-time Parallel Robot Motion Control Using Adaptive Neuro-Fuzzy Inference System Based on Improved Subtractive Clustering [#16464]
Qun Ren and Pascal Bigras
Department of automatic manufacturing Engineering, Ecole de technologie superieure, University of Quebec, Canada

4:50PM  Reinforcement Learning in the Guarding a Territory Game [#16125]
Chidozie Analikwu and Howard Schwartz
Carleton University, Canada

5:10PM  Kalman Fuzzy Actor-Critic Learning Automaton Algorithm for the Pursuit-Evasion Differential Game [#16212]
Ahmad Al-Talabi and Howard Schwartz
Carleton University, Canada

5:30PM  A Comparative Study on the Control of Quadcopter UAVs by using Singleton and Non-Singleton Fuzzy Logic Controllers [#16295]
Changhong Fu, Andriy Sarabakha, Erdal Kayacan, Christian Wagner, Robert John and Jonathan M. Garibaldi
Nanyang Technological University, Singapore; University of Nottingham, United Kingdom
5:50PM  Fuzzy Logic in VANET Context Aware Congested Road and Automatic Crash Notification
 [#16383]
 Lobna Nassar and Fakhri Karray
 University of Waterloo, Canada

6:10PM  Obstacle avoidance for mobile robots: a Hybrid Intelligent System based on Fuzzy Logic and
 Artificial Neural Network [#16571]
 Raulcezar Alves and Carlos Lopes
 Federal University of Uberlandia, Brazil

**Session WA-7: SS FUZZ-IEEE-18: Handling Uncertainties in Big Data by Fuzzy Systems**

*Wednesday, July 27, 8:00AM-10:00AM, Room: 220, Chair: Jie Lu*

8:00AM  A fast load pattern extraction approach based on dimension reduction and sampling [#16321]
 Tiefeng Zhang, Mingdi Gu, Guangquan Zhang and Jie Lu
 North China Electric Power University, China; University of Technology, Sydney, Australia

8:20AM  A Multi-objective Optimization Model for Virtual Machine Mapping in Cloud Data Centres
 [#16381]
 Fahimeh Ramezani, Mohsen Naderpour and Jie Lu
 University of Technology Sydney (UTS), Australia

8:40AM  Enhancing Cross Domain Recommendation with Domain Dependent Tags [#16393]
 Peng Hao, Guangquan Zhang and Jie Lu
 QCIS, Faculty of Engineering and Information Technology, University of Technology Sydney, Australia

9:00AM  Fuzzy User-interest Drift Detection based Recommender Systems [#16395]
 Qian Zhang, Dianshuang Wu, Guangquan Zhang and Jie Lu
 University of Technology Sydney, Australia

9:20AM  Allocating Optimized Resources in the Cloud by a Viable SLA Model [#16113]
 Walayat Hussain, Farookh Hussain and Omar Hussain
 University of Technology Sydney Sydney, Australia; University of New South Wales Canberra (UNSW Canberra), Australia

9:40AM  Exploring Technology Integration in Education using Fuzzy Representation and Feature
 Selection [#16255]
 Jie Yang, Jun Ma and Sarah Howard
 University of Wollongong, Australia

**Session WA-8: SS FUZZ-IEEE-12: The Theory of Type-2 Sets and Systems (T2-T) / SS FUZZ-
IEEE-20A: Intelligent Medical Science**

*Wednesday, July 27, 8:00AM-10:00AM, Room: 221, Chair: Robert John / Gerald Schaefer*

8:00AM  Measuring the Similarity between zSlices General Type-2 Fuzzy Sets with Non-Normal
 Secondary Membership Functions [#16137]
 Josie McCulloch and Christian Wagner
 University of Nottingham, United Kingdom

8:20AM  Towards General Forms Of Interval Type-2 Fuzzy Logic Systems [#16215]
 Gonzalo Ruiz, Hector Pomares, Ignacio Rojas and Hani Hagras
 Department of Computer Architecture and Computer Universidad de Granada Granada, Spain,
Spain; The Computational Intelligence Centre, School of Computer Science and Electronic Engineering University of Essex United Kingdom, United Kingdom

8:40AM Maclaurin Series Expansion Complexity-Reduced Center of Sets Type-Reduction + Defuzzification for Interval Type-2 Fuzzy Systems [#16229]
Mojtaba Ahmadieh Khanesar and Jerry M. Mendel
Semnan University, Iran; University of Southern California, United States

9:00AM Closed Form Solutions for the Type Reduction of General Type-2 Fuzzy Sets with Piecewise Linear Membership Functions [#16139]
Xinwang Liu and Wei Du
Southeast University, China

9:20AM Instability Conditions for Type-1 and Type-2 TSK Fuzzy Systems [#16398]
Saeed Jafarzadeh and M. Sami Fadali
California State University Bakersfield, United States; University of Nevada, Reno, United States

9:40AM Effective Classification of HEp-2 Cells using Fuzzy Texture Descriptors [#16494]
Gerald Schaefer and Niraj P. Doshi
Loughborough University, United Kingdom; dMacVis Research Lab, India

Session WA-9: Approximate Reasoning
Wednesday, July 27, 8:00AM-10:00AM, Room: 222, Chair: Martin Stepnicka

8:00AM A Proposal for an Intuitionistic Fuzzy Inference System [#16256]
Amaury Hernandez-Aguila, Mario Garcia-Valdez and Oscar Castillo
Tijuana Institute of Technology, Mexico

8:20AM Fuzzy Reasoning Based Windows Firewall for Preventing Denial of Service Attack [#16411]
Nitin Naik and Paul Jenkins
Ministry of Defence, United Kingdom

8:40AM On the Sensitivity of Type-2 Fuzzy Signatures and the Generalizations of the Extension Principle [#16489*]
Istvan Harmati and Laszlo Koczy
Szechenyi Istvan University, Hungary

9:00AM Fuzzy Approximate Reasoning: Logic, Intuition or Comparison? [#16554]
Valerie Cross
Miami University, United States

9:20AM Transformation-Based Constraint-Guided Generalised Modus Ponens [#16600]
Michael Blot, Marie-Jeanne Lesot and Marcin Detyniecki
LIP6 - UPMC, France

9:40AM On the Satisfaction of Moser-Navara Axioms for Fuzzy Inference Systems [#16425]
Martin Stepnicka
University of Ostrava, IRAFM, Czech Republic

Session WA-10: Fuzzy Pattern Recognition
Wednesday, July 27, 8:00AM-10:00AM, Room: 223, Chair: Christian Wagner

8:00AM Modelling Uncertainty in Production Processes using Non-singleton Fuzzification and Fuzzy Cognitive Maps - a Virgin Olive Oil Case Study. [#16336]
Pablo Cano Marchal, Christian Wagner, Javier Gamez Garcia and Juan Gomez Ortega
University of Jaen, Spain; Lab for Uncertainty in Data and Decision Making (LUCID), School of Computer Science. University of Nottingham, United Kingdom

8:20AM Fuzzy Clustering based Traffic Pattern Identification [#16103]
Tianjun Li, Long Chen and C. L. Philip Chen
University of Macau, Macau

8:40AM A New Exponential Naive Bayes Classifier with Fuzzy Parameters [#16312]
Anny Rodrigues, Thiago Batista, Ronei Moraes and Liliane Machado
LabTEVE - Federal University of Paraiba, Brazil

9:00AM Fuzzy Relative Entropy Based Classification Scheme for Discrimination of Odors/Gases Using a Poorly Selective Sensor Array [#16362]
Shilpa Sharma and Ravi Kumar
Thapar University, India

9:20AM Knowledge Extraction from a Time-Series Using Segmentation, Fuzzy Matching and Predictor Graphs [#16461]
Jishnu Mukhoti, Pratyusha Rakshit, Dipendu Bhattacharya, Amit Konar and Atulya K Nagar
Jadavpur University, India; Liverpool Hope University, United Kingdom

9:40AM Optimized Fuzzy Image Reconstruction Algorithm for ECT Systems [#16475]
Wael Deabes and Hesham Amin
Computer Science Dept., University College, Umm Alqura University, Makkah, KSA. and Computer and System Dept., Faculty of Engineering, Mansoura University, EGYPT, Saudi Arabia; Computer Science Dept., University College, Umm Alqura University, Makkah, KSA. and Computer Systems Dept., Aswan Faculty of Engineering, Aswan University, Aswan, EGYPT, Saudi Arabia

Plenary Talk WPlen: Plenary: Nikhil Pal
Wednesday, July 27, 1:00PM-2:00PM, Room: Ballroom B, Speaker: Oscar Cordon

Session WM-7: SS FUZZ-IEEE-16A: Evolutionary Fuzzy Systems
Wednesday, July 27, 2:30PM-4:30PM, Room: 220, Chair: Yusuke Nojima

2:30PM Multiobjective Fuzzy Genetics-Based Machine Learning with Reject Classification [#16596]
Yusuke Nojima and Hisao Ishibuchi
Osaka Prefecture University, Japan

2:50PM On the Use of an Incremental Approach to Learn Fuzzy Classification Rules for Big Data Problems [#16176]
Juan Carlos Gamez, David Garcia, Antonio Gonzalez and Raul Perez
University of Cordoba, Spain; University of Granada, Spain

3:10PM A Genetic Fuzzy System for Large-scale Regression [#16190]
Ismael Rodriguez-Fdez, Manuel Mucientes and Alberto Bugarin
Universidade de Santiago de Compostela, Spain

3:30PM Extensions of the DECO3R algorithm for generating compact and cooperating Fuzzy Rule-based Classification Systems [#16217]
Nikolaos Tsakiridis, John Theocaris, Raul Perez, Antonio Gonzalez and George Zalidis
Aristotle University of Thessaloniki, Greece; University of Granada, Spain
3:50PM  Simultaneous Knowledge Discovery and Development of Smart Surrogates for Online Optimization of Computationally Expensive Models [#16335*]
Priyanka Devi Pantula, Srinivas Soumitri Miriyala and Kishalay Mitra
IIT Hyderabad, India

4:10PM  A First Approach in Evolutionary Fuzzy Systems based on the Lateral Tuning of the Linguistic Labels for Big Data Classification [#16456]
Alberto Fernandez, Sara del Rio and Francisco Herrera
University of Jaen, Spain; University of Granada, Spain

Session WM-8: SS FUZZ-IEEE-15A: Methods and Applications of Fuzzy Cognitive Maps
Wednesday, July 27, 2:30PM-4:30PM, Room: 221, Chair: Elpiniki I. Papageorgiou

2:30PM  Partitive Granular Cognitive Maps to Graded Multilabel Classification [#16082]
Gonzalo Napoles, Rafael Falcon, Elpiniki Papageorgiou, Rafael Bello and Koen Vanhoof
Hasselt Universiteit, Cuba; University of Ottawa, Canada; Technological Educational Institute of Central Greece, Greece; Central University of Las Villas, Cuba; Hasselt Universiteit, Belgium

2:50PM  Fuzzy Cognitive Map for Visual Servoing of Flying Robot [#16352]
Abdollah Amirkhani, Masoud Shirzadeh, Elpiniki Papageorgiou and Mohammad R. Mosavi
Dept. of Electrical Engineering, Iran University of Science and Technology, Iran; Dept. of Electrical Engineering, IUST, Iran; Technological Educational Institute of Central Greece, Greece

3:10PM  Building a Cardiovascular Disease Predictive Model using Structural Equation Model and Fuzzy Cognitive Map [#16200]
Manpreet Singh, Levi Martins, Patrick Joanis and Vijay Mago
Lakehead University, Canada

3:30PM  Comparison of stakeholder-generated FCMs across generation methods and metrics [#16221]
Diana Reckien
University of Twente, Netherlands

3:50PM  Identifying most feasible adaptation options to heatwaves and heavy rain events in New York City: Fuzzy Cognitive Mapping as a versatile tool to investigate how to prepare for climate change [#16222]
Diana Reckien
University of Twente, Netherlands

4:10PM  A New Learning Approach for Fuzzy Cognitive Maps based on System Performance Indicators [#16302]
Lukasz Kubus, Katarzyna Poczeta and Alexander Yastrebov
Kielce University of Technology, Poland

Session WM-9: Fuzzy Mathematics
Wednesday, July 27, 2:30PM-4:30PM, Room: 222, Chair: Peter Sussner

2:30PM  Controlling the Width of the Sum of Interactive Fuzzy Numbers with Applications to Fuzzy Initial Value Problems [#16529]
Peter Sussner, Estevao Esmi and Laecio Carvalho de Barros
University of Campinas, Brazil
2:50PM Expectile and quantile smoothing using F-transform: theory and computational procedures
[#16162*]
Luciano Stefanini, Laerte Sorini and Maria Letizia Guerra
University of Urbino, Italy; University of Bologna, Italy

3:10PM A further study on contraction-expansion rationality conditions of fuzzy choice functions
[#16220]
Zhiming Hu and Zhenhua Jiao
Shanghai University of Finance and Economics, Zhejiang College, Jinhua, Zhejiang, 321013, China; School of Science, Hangzhou Dianzi University, Hangzhou, Zhejiang, 310018, China

3:30PM The Prediction of Cardiovascular Disorders by Fuzzy Difference Equations [#16309]
T. Allahviranloo, M. Keshavarz and Sh. Islam
Department of Mathematics, Science and Research Branch, Islamic Azad University, Tehran, Iran, Iran; Department of Mathematics Science and Research Branch Islamic Azad University, Tehran, Iran, Iran; Department of Mathematics and Statistics University of Prince Edward Island, 550 University Ave, Charlottetown, Canada, Canada

3:50PM A novel technique for solving fuzzy differential equations of fractional order using Laplace and integral transforms [#16445]
Soheil Salahshour, Ali Ahmadian and Chee Seng Chan
Young Researchers and Elite Club, Mobarakeh Branch, Islamic Azad University, Mobarakeh, Iran, Iran; Centre of Image and Signal Processing Faculty of Computer Science and Information Technology University of Malaya, 50603 Kuala Lumpur, Malaysia, Malaysia

4:10PM Comparison of Formulations of Applied Tasks with Intervals, Fuzzy Sets and Probability Approaches [#16477]
Boris Kovalerchuk and Vladik Kreinovich
Central Washington University, United States; University of Texas at El Paso, United States

Session WM-10: Fuzzy Image Processing
Wednesday, July 27, 2:30PM-4:30PM, Room: 223, Chair: Belen Prados-Suarez

2:30PM Fuzzy Techniques Provide a Theoretical Explanation for the Heuristic $\ell_p$-Regularization of Signals and Images [#16029]
Fernando Cervantes, Brian Usevitch, Leobardo Valera, Vladik Kreinovich and Olga Kosheleva
University of Texas at El Paso, United States

2:50PM Removing noise in a digital image using a new entropy method based on intuitionistic fuzzy sets [#16042]
Rahman Farnoosh, Mohamadtaghi Rahimi and Pranesh Kumar
Iran University of Science and Technology, Iran; University of Northern British Columbia, Canada

3:10PM Multi-Value Image Segmentation Based on FCM Algorithm and Graph Cut Theory [#16163*]
Mengting Xu, Min Guo, Lin Shang and Xiuyi Jia
Nanjing University, China; Nanjing University of Science and Technology, China

3:30PM Robust Image Segmentation using Global and Local Fuzzy Energy based Active Contour [#16290*]
Ajoy Mondal, K. Ramachandra Murthy, Ashish Ghosh and Susmita Ghosh
Machine Intelligence Unit, Indian Statistical Institute, Kolkata, India; Department of CSE, Jadavpur University, Kolkata, India
3:50PM Enhancement of Night Movies Using Fuzzy Representation of Images [#16506]
Petr Hurtik, Marek Vajgl and Nicolas Madrid
University of Ostrava, Czech Republic; University of Malaga, Spain

4:10PM Edge Image Aggregation Method using Ordered Weighted Averaging Functions [#16496*]
Manuel Gonzalez-Hidalgo, Sebastia Massanet, Arnau Mir and Daniel Ruiz-Aguilera
University of the Balearic Islands, Spain

Session WP-7: FUZZ-IEEE-16B: Evolutionary Fuzzy Systems / SS FUZZ-IEEE-08: Advances to Type-2 Fuzzy Logic Control
Wednesday, July 27, 4:30PM-6:30PM, Room: 220, Chair: Yusuke Nojima / Tufan Kumbasar

4:30PM Imbalanced Datasets in the Generation of Fuzzy Classification Systems - An Investigation using a Multiobjective Evolutionary Algorithm based on Decomposition [#16514]
Edward Hinojosa, Heloisa Camargo and Yvan Tupac
University of San Agustin, Peru; Federal University of Sao Carlos, Brazil; San Pablo Catholic University, Peru

4:50PM A Multi-Objective Evolutionary Fuzzy System for Big Data [#16487]
Andrea Ferranti, Francesco Marcelloni and Armando Segatori
University of Pisa, Italy

5:10PM Robust Evolving Cloud-based Control for the Distributed Solar Collector Field [#16491]
Goran Andonovski, Antonio Bayas, Doris Saez, Saso Blazic and Igor Skrjanc
Faculty of Electrical Engineering, University of Ljubljana, Slovenia; Department of Electrical Engineering, University of Chile, Chile

5:30PM Type-2 Fuzzified Flappy Bird Control System [#16030]
Atakan Sahin, Efehan Atici and Tufan Kumbasar
Istanbul Technical University, Turkey

5:50PM Design and Experimental Validation of Single Input Type-2 Fuzzy PID Controllers as Applied to 3 DOF Helicopter Testbed [#16053]
Mohit Mehndiratta, Erdal Kayacan and Tufan Kumbasar
Nanyang Technological University, Singapore; Istanbul Technical University, Turkey

6:10PM Gradient Descent and Extended Kalman Filter based Self-Tuning Interval Type-2 Fuzzy PID Controllers [#16067]
Ahmet Sakalli, Aykut Beke and Tufan Kumbasar
Istanbul Technical University, Turkey

Session WP-8: SS FUZZ-IEEE-15B: Methods and Applications of Fuzzy Cognitive Maps
Wednesday, July 27, 4:30PM-6:30PM, Room: 221, Chair: Elpiniki I. Papageorgiou

4:30PM Hybrid Model for Water Demand Prediction based on Fuzzy Cognitive Maps and Artificial Neural Networks [#16409]
Elpiniki Papageorgiou, Katarzyna Poczeta and Chrysi Laspidou
Technological Educational Institute (T.E.I.) of Central Greece, Greece; Kielce University of Technology, Poland; University of Thessaly, Greece

4:50PM Personal Digital Assistant 2.0 - A Software Prototype for Cognitive Cities [#16404]
Patrick Kaltenrieder, Timur Altun, Sara D'Onofrio, Edy Portmann and Thomas Myrach
University of Bern, Switzerland
5:10PM  A Fuzzy Cognitive Map like Recommender System of Learning Resources [#16441]
Jose Aguilar, Priscila Valdiviezo-Diaz and Guido Riofrio
Universidad de Los Andes/Universidad Tecnica Particular de Loja, Venezuela; Universidad Tecnica Particular de Loja, Ecuador

5:30PM  Re-conceptualizing Fuzzy Cognitive Maps with Time Relations [#16478*]
Abhishek Nair and Diana Reckien
Department of Urban and Regional Planning and Geo-Information Management, Faculty of Geo-Information Science and Earth Observation (ITC), University of Twente, Netherlands

5:50PM  Multilayer Cognitive Maps to model problems [#16503]
Jose Aguilar, Jose Hidalgo, Osuna Fernando and Perez Nelson
Universidad de Los Andes, Venezuela

Session WP-9: Fuzzy Optimization
Wednesday, July 27, 4:30PM-6:30PM, Room: 222, Chair: David Pelta

4:30PM  A Improved Algorithm for Fuzzy Multistage Portfolio Optimization Model [#16129]
Guang Yang and Xinwang Lliu
Southeast University, China

4:50PM  A Robust Approach to a Class of Uncertain Optimization Problems with Imprecise Probabilities [#16140]
Adam Kasperski and Pawel Zielinski
Wroclaw University of Technology, Poland

5:10PM  Posynomial multi-criteria optimization problems subject to fuzzy relational systems regarding the max-average composition [#16184*]
Saeide Hajighasemi and Zahra Valizadeh-Q
Young Researchers and Elite Club, Islamic Azad University, Iran

5:30PM  Solving the Team Orienteering Problem with Fuzzy Scores and Constraints [#16196]
Julio Brito Santana, Airam Exposito Marquez and Jose Andres Moreno Perez
IUDR, Spain

5:50PM  A Labeling Algorithm for Solving Intuitionistic Fuzzy Optimal Assignment Problems [#16233]
Nagoorgani A., Kavikumar Jacob, Mohamed V. N. and Nor Shamsidah A. H.
Jamal Mohamed College (Autonomous), India; Universiti Tun Hussein Onn Malaysia, Malaysia

6:10PM  Optimized Daily Diet Composition for a Nutritionally Balanced Diet: An Application of Fuzzy Multiple Objective Linear Programming [#16537]
Mary Tom, Santoso Wibovo and Susan Williams
Central Queensland University, Australia

Session WP-10: Fuzzy Clustering
Wednesday, July 27, 4:30PM-6:30PM, Room: 223, Chair: Susana Vieira

4:30PM  Analysis of Residential Natural Gas Consumers using Fuzzy C-means Clustering [#16344]
Marta Fernandes, Joaquim Viegas, Susana Vieira and Joao Sousa
IDMEC, Instituto Superior Tecnico, Universidade de Lisboa, Portugal

4:50PM  Hyperspherical fuzzy clustering for online document categorization [#16022]
Jian-Ping Mei and Yangtao Wang
Zhejiang University of Technology, China; Institute for Infocomm Research, Singapore

5:10PM Self-updating Clustering Algorithm for Interval-data with Application to Extrasolar Planets [#16043]
Wen-Liang Hung, Jenn-Hwai Yang and Kuan-Fu Shen Shen
National Hsinchu University of Education, Taiwan; Academia Sinica, Taiwan; Chien Hsin University of Science and Technology, Taiwan

5:30PM Sampling-Based Consensus Fuzzy Clustering on Big Data [#16183]
Mohamed Ali Zoghlami, Minyar Sassi Hidri and Rahma Ben Ayed
PhD Student, Tunisia; Doctor, Tunisia; Professor, Tunisia

5:50PM Fuzzy Processing in Surveillance Wireless Sensor Networks [#16488]
Seyyit Alper Sert, Adnan Yazici and Tansel Dokeroglu
Middle East Technical University, Turkey

6:10PM A Flexible Possibilistic C-Template Shell Clustering Method with Adjustable Degree of Deformation [#16556]
Tsaipei Wang
Dept. Computer Science, NCTU, Taiwan


Thursday, July 28, 8:00AM-10:00AM, Room: 220, Chair: Faa-Jeng Lin / Jaroslav Ramik

8:00AM Design of Fuzzy Probabilistic Wavelet Neural Network Controller and Its Application in Power Control of Grid-Connected PV System During Grid Faults [#16071]
Faa-Jeng Lin and Kuang-Chin Lu
Dept. of Electrical Engineering, National Central University, Taiwan

8:20AM A Hybrid Fuzzy-PI Cascade Controller for Transient Stability Improvement in DFIG Wind Generators [#16406]
Minh Quan Duong, Francesco Grimaccia, Sonia Leva, Marco Mussetta and Kim Hung Le
Danang University of Science and Technology, Viet Nam; Politecnico di Milano, Italy

8:40AM A Comparison between Fuzzy and Probabilistic Estimation of Dynamic Thermal Rating of Transmission Lines [#16563]
Soheila Karimi, Andrew Knight and Petr Musilek
University of Calgary, Canada; University of Alberta, Canada

9:00AM Strong Consistency in Pairwise Comparisons Matrix With Fuzzy Elements on Alo-Group [#16100]
Jaroslav Ramik
Silesian University Opava, School of Business Administration in Karvina, Czech Republic

9:20AM Weighted Voting Bodies under I-Fuzzy Settings [#16490]
Elena Mielcova
Silesian University in Opava, School of Business Administration in Karvina, Czech Republic

9:40AM Preference Comparison for Plagiarism Detection Systems [#16417]
Sarka Krizkova, Hana Tomaskova and Martin Gavalec
University of Hradec Kralove, Czech Republic


Thursday, July 28, 8:00AM-10:00AM, Room: 221, Chair: Yucheng Dong - Raquel Ure
8:00AM  A new type of preference relations: Fuzzy preference relations with self-confidence [16127]
Wenqi Liu, Yucheng Dong, Francisco Chiclana, Enrique Herrera-Viedma and Francisco Javier Cabrerizo
Sichuan University, China; De Montfort University, United Kingdom; University of Granada, Spain; UNED, Spain

8:20AM  A Context-aware Fuzzy Linguistic Consensus Model Supporting Innovation Processes [16275]
Carmen De Maio, Giuseppe Fenza, Vincenzo Loia, Francesco Orciuoli and Enrique Herrera-Viedma
Department of Information Engineering, Electrical Eng. and Applied Mathematics (DIEM), University of Salerno, 84084 Fisciano (SA), Italy; Department of Management and Innovation Systems, University of Salerno, 84084 Fisciano (SA), Italy; Department of Computer Science and Artificial Intelligence, University of Granada, Granada, Spain, Spain

8:40AM  Choice degrees in decision-making: A comparison between intuitionistic and fuzzy preference relations approaches [16416]
Francisco Chiclana, Raquel Urena and Enrique Herrera-Viedma
De Montfort University, United Kingdom; University of Granada, Spain

9:00AM  Minimum Adjustment-Based Consistency and Consensus Models for Group Decision Making with Interval Pairwise Comparison Matrices [16160]
Zhen Zhang and Chonghui Guo
Institute of Systems Engineering, Dalian University of Technology, China

9:20AM  A consensus accuracy model for group decision making with [0,1] reciprocal preference relations [16186]
Ligang Zhou, Feng Wang, Peng Wu and Huayou Chen
Anhui University, China

9:40AM  An Approach to Linguistic Group Decision Making Based on Unbalanced Linguistic Generalized Power Aggregation Operator [16203]
Jiaming Zhu, Bing Han, Huayou Chen and Ligang Zhou
Anhui University, China

Session HA-9: Fuzzy Man-machine Interfaces and Emotional Computing
Thursday, July 28, 8:00AM-10:00AM, Room: 222, Chair: Christophe Marsala

8:00AM  Personalized Search in Smart Indoor Environments: Combining a Formal Location Model, User Preferences and Semantic Similarity [16481]
Wenyi Xu and Christophe Marsala
LIP6 / UPMC, France

8:20AM  A Fuzzy Inference Anti-Shake Technique for Mobile Display [16237]
Jyh-Da Wei, Pei-Yu Jiang and Hsu-Fu Hsiao
Chang Gung University, Taiwan

8:40AM  Touch Interface For Guided Authoring Of Expert Systems Rules [16451]
Jean-Philippe Poli and Jean-Paul Laurent
CEA LIST, France

9:00AM  Linking Human and Machine - Towards Consumer-Driven Automated Manufacturing [16476]
Svetlin Isaev, Mohannad Jreissat, Christian Wagner and Charalampos Makatsoris
Cranfield University, United Kingdom; Brunel University, United Kingdom; University of Nottingham, United Kingdom

9:20AM A Fuzzy Computational Model for Emotion Regulation Based on Affect Control Theory [#16482]
Ahmad Soleimani and Ziad Kobti
University of Windsor, Canada

9:40AM Approach Based on Fuzzy Ontology for Situation Identification in Situation-aware Ubiquitous Learning Environment [#16559]
Raoudha Souabni, Ines Bayoudh Saadi, Nesrine Ben Salah, Kinshuk Kinshuk and Ben Ghezala Henda
RIADI Research Laboratory, National School of Computer Sciences, Manouba University, Tunisia, Tunisia; National Higher Engineering School of Tunis, Tunisia; School of Computing and Information Systems, Athabasca University, Canada, Canada

Session HA-10: Fuzzy Systems Modelling and Identification II
Thursday, July 28, 8:00AM-10:00AM, Room: 223, Chair: Uzay Kaymak

8:00AM Optimizing Probabilistic Fuzzy Systems for Classification using metaheuristics [#16454]
Hugo Proenca, Susana Vieira, Uzay Kaymak, Rui Almeida and Joao Sousa
LAETA, IDMEC, Instituto Tecnico Lisboa, Universidade de Lisboa, Portugal; Industrial Engineering and Innovation Sciences, Technische Universiteit Eindhoven, Netherlands

8:20AM Recurrent Fuzzy System Design Using Mutation-Aided Elite Continuous Ant Colony Optimization [#16119]
Chi-Chung Chen and Li Ping Shen
Department of Electrical Engineering, National Chiayi University, Taiwan

8:40AM Adaptive Fuzzy Controller Design Based on Robust Stability Linguistic Criterion and Multiobjective Particle Swarm Optimization [#16316]
Edson B.M. Costa and Ginalber L.O. Serra
IFMA, Brazil

9:00AM A Methodology for the Description of Dynamical Systems in Hyperbox Space [#16388]
Changping Sun
Tianjin University of Technology, China

9:20AM An expansion of local granular models in the design of incremental model [#16402]
Myung-Won Lee, Keun-Chang Kwak and Witold Pedrycz
Chosun University, Korea (South); University of Alberta, Canada

9:40AM Interval Type-2 Modified Fuzzy C-Regression Model Clustering Algorithm in TS Fuzzy Model Identification [#16594]
Tanmoy Dam and Alok Kanti Deb
Electrical Engineering Department, Indian Institute of Technology Kharagpur, India

Plenary Talk HPlen: Plenary: Jie Lu
Thursday, July 28, 1:00PM-2:00PM, Room: Ballroom B, Speaker: Bernadette Bouchon-Menier

Session HM-7: SS FUZZ-IEEE-11A: Fuzzy and Intelligent Control Systems
Thursday, July 28, 2:30PM-4:30PM, Room: 220, Chair: Ching-Chih Tsai
2:30PM Distributed Sliding-Mode Formation Control Using Recurrent Interval Type 2 Fuzzy Neural Networks for Uncertain Multi-Ballbots [#16115]
Ching-Chih Tsai and Feng-Chun Tai
National Chung Hsing University, Taiwan

2:50PM Navigation for Two Fuzzy Controlled Cooperative Object-Carrying Robots in Concave Maps with The Consideration of Dead-Cycle Problem [#16038]
Min-Ge Lai, Wan-Ting Zeng and Chia-Feng Juang
National Chung-Hsing University, Taiwan

3:10PM Observer Design for Uncertain T-S Fuzzy System with Multiple Output Matrices and Unmeasurable Premise Variables [#16050]
Van-Phong Vu, Wen-June Wang and Pei-Jun Lee
National Central University, Taiwan; National Chi Nan University, Taiwan

3:30PM Improved Radial Basis Function Network for the Heteroscedasticity Noises [#16064]
Liu Yue-Shiang, Su Shun-Feng, Chen Ming-Chang and Jeng Jin-Tsong
National Taiwan University of Science and Technology, Taiwan; National Formosa University, Taiwan

3:50PM Adaboost-like Method for Inverse Reinforcement Learning [#16121]
Kao-Shing Hwang, Hsuan-yi Chiang and Wei-Cheng Jiang
National Sun Yat-sen University, Taiwan

4:10PM Time delay compensation for positive nonlinear networked control systems with bounded controls [#16392]
Ling Huang, Cheng-Chew Lim and Ji Liu
Harbin University of Science and Technology, China; the University of Adelaide, Australia

Thursday, July 28, 2:30PM-4:30PM, Room: 221, Chair: Yucheng Dong - Raquel Ure

2:30PM On Equivalence of Two Approaches to Group Decision Making with Interval Multiplicative Preference Relation based on COWG Operator [#16204]
Huayou Chen, Bing Han, Xi Liu and Xianjun Guan
Anhui University, China; Tongji University, China

2:50PM Robust OWA-Based Aggregation for Data with Outliers [#16239]
Gleb Beliakov, Simon James, Tim Wilkin and Tomas Calvo
Deakin University, Australia; Universidad de Alcalá, Spain

3:10PM A Fuzzy Consensus Approach for Group Decision Making with variable Importance of Experts [#16354]
Giuseppe D'Aniello, Matteo Gaeta, Stefania Tomasiello and Luigi Rarita'
DIEM, University of Salerno, Italy; CO.RI.SA., University of Salerno, Italy

3:30PM A Consistency Improving Procedure for Fuzzy Preference Relations Based on Eigenvector Method [#16063]
Yejun Xu and Huimin Wang
Business School, Hohai University, China

3:50PM On Voting Consensus Modeling with Weight Constraints for Places [#16180]
Zaiwu Gong, Ning Zhang, Wei Zhao and Cuiping Wei
Nanjing University of Information Science and Technology, China; University of Yangzhou,
China

4:10PM Using Distances between Unbalanced Linguistic Assessments for Group Decision-making [#16032]
Mei Cai, Xiaobing Yu and Zaiwu Gong
Nanjing University of Information Science and Technology, China

Session HM-9: Fuzzy and Rough Data Analysis
Thursday, July 28, 2:30PM-4:30PM, Room: 222, Chair: Neil Mac Parthalain

2:30PM Dataset condensation using OWA fuzzy-rough set-based nearest neighbor classifier [#16370]
Mehran Amiri, Richard Jensen, Mahdi Eftekhari and Neil Mac Parthalain
Islamic Azad University of Kerman, Iran; Aberystwyth University, Wales; Shahid Bahonar University of Kerman, Iran

2:50PM Invasive Weed Optimisation Inspired Fuzzy-rough Feature Selection [#16164]
Qian Guo, Yanpeng Qu and Ansheng Deng
Dalian Maritime University, China

3:10PM Semi-supervised Based Rough Set to Handle Missing Decision Data [#16236]
Thinh Cao, Koichi Yamada, Muneyuki Unehara, Izumi Suzuki and Do Van Nguyen
Nagaoka University of Technology, Japan; Institute of Information Technology, Viet Nam

3:30PM Computing Attractors of Multi-Valued Gene Regulatory Networks using Fuzzy Answer Set Programming [#16300]
Mushthofa Mushthofa, Steven Schockaert and Martine De Cock
Ghent University, Belgium; Cardiff University, United Kingdom; University of Washington, United States

Session HM-10: Fuzzy Systems for Data Summarization, Reduction, and Visualization
Thursday, July 28, 2:30PM-4:30PM, Room: 223, Chair: Mihail Popescu

2:30PM Random Projections Fuzzy K-Nearest Neighbor (RPFKNN) for Big Data Classification [#26052]
Mihail Popescu and James Keller
University of Missouri, United States

2:50PM Fuzzyfication of Principle Component Analysis for Data Dimentionality Reduction [#16142]
Natacha Guerguiueva, Iren Valova and George Georgiev
City University of New York, United States; University of Massachusetts Dartmouth, United States; University of Wisconsin Oshkosh, United States

3:10PM A fuzzy precedence graph definition for algebra-based dimension reduction [#16266]
Ngoc Bich Dao, Sebastien Eskenazi, Karell Bertet and Arnaud Revel
Laboratory L3i, University of La Rochelle, France

3:30PM Imputation of Missing Data Using Fuzzy Neighborhood Density-Based Clustering [#16286]
Roozbeh Razavi-Far and Mehrdad Saif
University of Windsor, Canada

3:50PM Uncertain Training Data Set Conceptual Reduction: A Machine Learning Perspective [#16486]
Eman Rezk, Syrinne Babi, Fahad Islam and Ali Jaoua
Qatar University, Qatar
4:10PM A Soft Computing Approach to Agile Business Intelligence [#16123]
Gregory Smits, Olivier Pivert and Ronald R. Yager
IRISA - University of Rennes 1, France; IONA College, United States

Session HP-7: SS FUZZ-IEEE-11B: Fuzzy and Intelligent Control Systems / SS FUZZ-IEEE-10:
Type-2 Fuzzy Sets and Systems Applications (T2-A)
Thursday, July 28, 4:30PM-6:30PM, Room: 220, Chair: Ching-Chih Tsai / Christian Wagner

4:30PM Approximate Controllability of Semi-linear Fuzzy Dynamical System [#16431*]
Purnima Pandit
The Maharaja Sayajirao University of Baroda, India

4:50PM Coordination of Large-Scale Systems Using Fuzzy Optimal Control Strategies and Neural Networks [#16589]
Nasser Sadati and Hamid Berenji
Sharif University of Technology, Iran; NASA Ames Research Center, Moffett Field, Cal., United States

5:10PM Contrasting Singleton Type-1 and Interval Type-2 Non-singleton Type-1 Fuzzy Logic Systems [#16422]
Jabran Aladi, Christian Wagner, Amir Pourabdollah and Jonathan Garibaldi
University of Nottingham, United Kingdom

5:30PM A Many-Objective Genetic Type-2 Fuzzy Logic System for the Optimal Allocation of Mobile Field Engineers [#16151]
Andrew Starkey, Hani Hagras, Sid Shakya and Gilbert Owusu
University of Essex, United Kingdom; British Telecom, United Kingdom

5:50PM A Big-Bang Big-Crunch Type-2 Fuzzy Logic Based System for Soccer Video Scene Classification [#16293]
Wei Song and Hani Hagras
University of Essex, United Kingdom

6:10PM Optimization with Genetic Algorithm and Particle Swarm Optimization of Type-2 Fuzzy Integrator for Ensemble Neural Network in Time Series [#16380]
Fernando Gaxiola, Patricia Melin, Fervier Valdez and Juan Castro
Tijuana Institute of Technology, Mexico; UABC University, Mexico

Thursday, July 28, 4:30PM-6:30PM, Room: 221, Chair: Yucheng Dong - Raquel Ureña / Scott Dick

4:30PM On a fairness type approach to consensus reaching support under fuzziness via linguistic summaries [#16575]
Janusz Kacprzyk and Slawomir Zadrozny
Systems Research Institute, Polish Academy of Sciences, Warsaw, Poland; Systems Research Institute, Polish Academy of Sciences, Warsaw, Poland

4:50PM ANCFIS-ELM: A Machine Learning Algorithm based on Complex Fuzzy Sets [#16235]
Omolbanin Yazdanbakhsh and Scott Dick
Session HP-9: Fuzzy TOPSIS Method
Thursday, July 28, 4:30PM-6:30PM, Room: 222, Chair: Luiz Cesar Ribeiro Carpinetti

4:30PM Evaluating Supply Chain Performance based on SCOR model and Fuzzy-TOPSIS [#16149]
Francisco Rodrigues Lima Junior and Luiz Cesar Ribeiro Carpinetti
Department of Production Engineering, University Center of Educational Foundation Guaxupe (UNIFEG), Brazil; Department of Production Engineering, School of Engineering of Sao Carlos, University of Sao Paulo (USP), Brazil

4:50PM Fuzzy Systems with Multiple Rule Bases for Selection of Alternatives using TOPSIS [#16101]
Abdul Malek Yaakob, Alexander Gegov, Mohamed Bader-El-Den and Siti Fatimah Abdul Rahman
Universiti Utara Malaysia, Malaysia; University of Portsmouth, United Kingdom; Universiti Teknologi MARA, Malaysia

5:10PM Refining The Skyline With Fuzzy Similarity Measures And Topsis Method for The Optimization Of Web Services Composition [#16178]
Fatma Rhimi, Saloua Ben Yahia and Samir Ben Ahmed
University Of Carthage,LISI, INSAT;ESPRIT, Tunisia; University Of Carthage,LISI, INSAT, Tunisia

5:30PM An Exploration of Issues and Limitations in Current Methods of TOPSIS and Fuzzy TOPSIS [#16303*]
Elissa Nadia Madi, Jonathan M. Garibaldi and Christian Wagner
Lab for Uncertainty in Data and Decision Making (LUCID) and IMA Research Group, School of Computer Science, University of Nottingham, United Kingdom

5:50PM A Correlation based Intuitionistic Fuzzy TOPSIS Method on Supplier Selection Problem [#16579]
Rinki Solanki, Gabriel Gulati, Ashutosh Tiwari and Q.M. Danish Lohani
South Asian University, New Delhi, India

Session HP-10: Hybrid Fuzzy Systems
Thursday, July 28, 4:30PM-6:30PM, Room: 223, Chair: Oscar Castillo

4:30PM From type-2 fuzzy rate-based neural networks to social networks' behaviors [#16223]
Afshin Khadangi and Mohammad Hossein Fazel Zarandi
Amirkabir University of Technology, Iran

4:50PM An Enhanced Adaptive Neural Fuzzy Tool Condition Monitoring for Turning Process [#16466]
Qun Ren, Sofiane Achiche, Krzysztof Jemielniak and Pascal Bigras
Department of automatic manufacturing Engineering, Ecole de technologie superieure, University of Quebec, Canada; Department of Mechanical Engineering, Ecole Polytechnique Montreal, University of Montreal, Canada; Faculty of Production Engineering, Warsaw University of Technology, Poland

5:10PM DMQEA-FCM: an Approach for Preference-based Decision Support [#16542]
Seung-Hwan Baek, Ryu Si-Jeong and Jong-Hwan Kim
Robotics Program, Korea, Republic of; Department of Electrical Engineering, Korea, Republic of

5:30PM MCMI-ANFIS: A Robust Multi Class Multiple Instance Adaptive Neuro-Fuzzy Inference System [#16145]
Amine Ben Khalifa and Hichem Frigui
University of Louisville, United States

Session FA-7: FUZZ-IEEE-29A: Recent Advances in Fuzzy Control System Design and Analysis
Friday, July 29, 8:00AM-10:00AM, Room: 220, Chair: Zsofia Lendek - Jun Yoneyama

8:00AM Local quadratic and nonquadratic stabilization of discrete-time TS fuzzy systems [#16292]
Zsofia Lendek and Jimmy Lauber
Technical University of Cluj-Napoca, Romania; University of Valenciennes and Hainaut-Cambresis, France

8:20AM Output Feedback Stabilization of Discrete-Time Fuzzy Systems [#16561]
Fumihiro Sano, Kenta Hoshino and Jun Yoneyama
Aoyama Gakuin University, Japan

8:40AM A Novel Non-Fragile Output Feedback Controller Design for Uncertain Takagi-Sugeno Fuzzy Systems [#16562]
Jun Yoneyama and Kenta Hoshino
Aoyama Gakuin University, Japan

9:00AM Novel Membership-function-dependent Stability Condition for T-S Fuzzy Systems [#16092]
Xiaozhan Yang, Hak-Keung Lam and Ligang Wu
Department of Informatics, King’s College London, United Kingdom; Research Institute of Intelligent Control and Systems, Harbin Institute of Technology, China

9:20AM Replica of an Advanced Takagi-Sugeno discrete observer without matrix inversion [#16277]
Thomas Laurain, Jimmy Lauber and Reinaldo Palhares
UVHC / LAMIH UMR CNRS 8201, France; UFMG / Department of Electronics Engineering, Brazil

9:40AM Smoothing switched control for uncertain T-S fuzzy systems with unknown membership functions, actuator saturation and disturbance [#16323]
Uiliam Nelson L. T. Alves, Marcelo C. M. Teixeira, Diogo R. Oliveira, Rodrigo Cardim and Edvaldo Assuncao
Control Research Laboratory, UNESP - Univ Estadual Paulista, Brazil; Department of Electrical Engineering, UNESP - Univ Estadual Paulista, Brazil

Session FA-8: SS FUZZ-IEEE-20B: Intelligent Medical Science
Friday, July 29, 8:00AM-10:00AM, Room: 221, Chair: Syoji Kobashi

8:00AM  Automatic Blumensaat's Line Detection Method using 3-D MRI for the Computer-aided Surgical Planning of Anterior Cruciate Ligament Reconstruction [#16530]
Morita Kento, Kobashi Syoji, Kashiwa Kaori, Nakayama Hiroshi, Kambara Shunichiro, Morimoto Masakazu, Yoshiya Shinichi and Aikawa Satoru
University of Hyogo, Japan; Hyogo College of Medicine, Japan

8:20AM  A Study on Feature Extraction and Disease Stage Classification for Glioma Pathology Images [#16424]
Kiichi Fukuma, V. B. Surya Prasath, Hiroharu Kawanaka, Bruce J. Aronow and Haruhiko Takase
Graduate School of Engineering, Mie University, Japan; Department of Computer Science, University of Missouri-Columbia, United States; Division of Biomedical Informatics, Cincinnati Children's Hospital Medical Center, United States

8:40AM  Exploring Differences in Interpretation of Words Essential in Medical Expert-Patient Communication [#16216]
Javier Navarro, Christian Wagner, Uwe Aickelin, Lynsey Green and Robert Ashford
University of Nottingham, United Kingdom; University of Nottingham (Ningbo), China; Nottingham University Hospitals, United Kingdom

9:00AM  Nursing-care Text Evaluation using Word Vector Representations Realized by word2vec [#16284]
Manabu Nii, Yuya Tuchida, Takuya Iwamoto, Atsuko Uchinuno and Reiko Sakashita
University of Hyogo, Japan

9:20AM  Bayesian CP Factorization of Incomplete Tensor for EEG Signal Application [#16501]
Gaochao Cui, Lihua Gui, Qibin Zhao, Andrzej Cichocki and Jianting Cao
Saitama Institute of Technology, Japan; Brain Science Institute, RIKEN, Japan

9:40AM  Highly Enhanced Context Respectful Counseling Agent [#16587]
Tetsuo Shinozaki, Yukiko Yamamoto, Setsuo Tsuruta, Ernesto Damiani and Rainer Knauf
Tokyo Denki University, Japan; The University of Milan, Italy; Ilmenau University of Technology, Germany

Session FA-9: Advanced Fuzzy Decision Making

Friday, July 29, 8:00AM-10:00AM, Room: 222, Chair: Tomasa Calvo (TO BE CONFIRMED)

8:00AM  An Improved Multi-Objective Evolutionary Optimization of Data-Mining-Based Fuzzy Decision Support Systems [#16173]
Marian B. Gorzalczy and Filip Rudzinski
Kielce University of Technology, Department of Electrical and Computer Engineering, Poland

8:20AM  A partner-selection method based on interval multiplicative preference relations with approximate consistency [#16269]
Fang Liu, Li-Hua Pan and Ya-Nan Peng
Xi'an Jiaotong University, Guangxi University, China; Guangxi University, China

8:40AM  Bayesian Decision Making Using Z-numbers [#16322]
Nina Marhamati, Elham S. Khorasani and Shahram Rahimi
Southern Illinois University, United States; University of Illinois Springfield, United States

9:00AM  fGrid: Uncertainty Variables Modeling for Computational Grids using Fuzzy Logic [#16430]
Bruno Moura, Soares Yan, Sampaio Leticia, Renata Reiser, Adenauer Yamin and Mauricio Pilla
UFPEL, Brazil

9:20AM Online Temporal Reasoning For Event And Data Streams Processing [#16435]
Jean-Philippe Poli, Laurence Boudet and David Mercier
CEA LIST, France

9:40AM Analogy in Recommendation. Numerical vs. Ordinal: a Discussion [#16568]
Nicolas Hug, Henri Prade, Gilles Richard and Mathieu Serrurier
Universite Paul Sabatier, IRIT, France

Session FA-10: Fuzzy Data Mining and Forecasting
Friday, July 29, 8:00AM-10:00AM, Room: 223, Chair: Ferdinando Di Martino (TO BE CONFIRMED)

8:00AM Fast Algorithms for Mining Multiple Fuzzy Frequent Itemsets [#16033]
Jerry Chun-Wei Lin, Ting Li, Philippe Fournier-Viger, Tzung-Pei Hong and Ja-Hwung Su
Harbin Institute of Technology Shenzhen Graduate School, China; National University of Kaohsiung, Taiwan; Cheng Shiu University, Taiwan

8:20AM Dynamic Analysis of Customer Needs using opinion Mining and Fuzzy Time Series Approaches [#16118]
Huimin Jiang and C.K. Kwong
The Hong Kong Polytechnic University, Hong Kong

8:40AM Seasonal Time Series Based on Fuzzy Transforms for Weather Forecasting [#16133]
Ferdinando Di Martino and Salvatore Sessa
Universita' degli Studi di Napoli Federico II, Dipartimento di Architettura, Italy

9:00AM AutoMFIS: Fuzzy Inference System for Multivariate Time Series Forecasting [#16225]
Coutinho Julio, Tanscheit Ricardo, Vellasco Marley and Koshiyama Adriano
Pontifical Catholic University of Rio de Janeiro, Brazil

9:20AM A Geometric Approach for Mining Sequential Patterns in Interval-Based Data Streams [#16234]
Marwan Hassani, Yifeng Lu, Jens Wischnewsky and Thomas Seidl
RWTH Aachen University, Germany

9:40AM Analysis of Probabilistic Fuzzy Systems' Parameters in Conditional Density Estimation [#16495]
Rui Jorge Almeida, Nalan Basturk, Uzay Kaymak and Joao M.C. Sousa
School of Industrial Engineering, Eindhoven University of Technology, Netherlands; Department of Quantitative Economics, Maastricht University, Netherlands; Instituto Superior Tecnico, Universidade de Lisboa, Portugal

Plenary Talk FPlen: Plenary: Witold Pedrycz
Friday, July 29, 1:00PM-2:00PM, Room: Ballroom B, Speaker: Naoyuki Kubota

Session FM-7: FUZZ-IEEE-29B: Recent Advances in Fuzzy Control System Design and Analysis
Friday, July 29, 2:30PM-4:30PM, Room: 220, Chair: Zsofia Lendek - Jun Yoneyama

2:30PM Robust Controller Design for Uncertain T-S Fuzzy Systems with Time-Varying Delays [#16419]
Faycal Bourahala, Kevin Guelton, Farid Khaber and Noureddine Manamanni
QUERE Laboratory, Ferhat Abbas University, Setif, Algeria; CReSTIC EA3804, Université de Reims Champagne-Ardenne, France; CReSTIC EA3804, Université de Reims Champagne-Ardenne, France

2:50PM A method to avoid the unmeasurable premise variables in observer design for discrete time TS systems [#16447]
Dalil Ichchalal, Benoit Marx, Didier Maquin and Jose Ragot
IBISC-Lab Evry Val d'Essonne University, 40, rue de Pelvoux, 91000, Evry Courcouronnes, France; Lorraine university, Centre de Recherche en Automatique de Nancy, CNRS, CRAN, UMR 7039, 2 avenue de la Foret de Haye, 54516 Vandoeuvre-les-Nancy, France

3:10PM How a Person with Spinal Cord Injury Controls a Sitting Situation - Unknown Input Observer and Delayed Feedback Control with Time-Varying Input Delay [#16459*]
Mathias Blandeau, Victor Estrada-Manzo, Thierry-Marie Guerra, Philippe Pudlo and Francois Gabrielli
Laboratory of Industrial and Human Automation control, Mechanical engineering and Computer Science UMR CNRS 8201 University of Valenciennes and Hainaut-Cambresis, France; Department of Electrical and Electronics Engineering Sonora Institute of Technology, Mexico

3:30PM Dual Clutch Torque Estimation Based on an Angular Discrete Domain Takagi-Sugeno Switched Observer [#16504]
Remi Losero, Jimmy Lauber and Thierry Marie Guerra
LAMIH UMR/CNRS 8201, France

3:50PM On Nonlinear Observers in Takagi-Sugeno Form based on Fixed and Variable Structure [#16550]
Horst Schulte
University of Applied Sciences Berlin (HTW), Department of Engineering I, Control Engineering Group, Germany

4:10PM Fuzzy Logic Based Filtering for Image De-noising [#16570]
Mozammel Chowdhury, Junbin Gao and Rafiqul Islam
Charles Sturt University, Australia; University of Sydney, Australia

Session FM-8: SS FUZZ-IEEE-32: Fuzzy Pattern Recognition for Big Data Modeling and Data Mining
Friday, July 29, 2:30PM-4:30PM, Room: 221, Chair: Mohammad H. Fazel Zarandi

2:30PM Lung Tumor Area Recognition in CT Images Based on Gustafson-Kessel Clustering [#16083]
Parnian Afshar, Abbas Ahmadi and Mohammad Hossein Fazel Zarandi
Amirkabir University of Technology, Iran

2:50PM A New Multiple Classifier System for Diagnosis of Erythemato-Squamous Diseases Based on Rough Set Feature Selection [#16252]
Behshad Lahijanian, Farzad Vasheghani Farahani and Mohammad Hosein Fazel Zarandi
Amirkabir University of Technology, Iran

3:10PM Identifying Chaff Echoes in Weather Radar Data Using Tree-Initialized Fuzzy Rule-Based Classifier [#16285]
Jungwon Yu, Hansoo Lee, Yeongsang Jeong and Sungshin Kim
Department of Electrical and Computer Engineering, Pusan National University, Korea (South)
3:30 PM  General type-2 fuzzy edge detector applied on a face recognition system using neural networks [#16378]
Claudia Gonzalez, Juan Castro, Olivia Mendoza and Patricia Melin
UABC University, Mexico; Tijuana Institute of Technology, Mexico

3:50 PM  Comparison between Choquet and Sugeno Integrals as Aggregation Operators for Modular Neural Networks [#16382]
Gabriela Martínez, Olivia Mendoza, Patricia Melin and Fernando Gaxiola
UABC University, Mexico; Tijuana Institute of Technology, Mexico

Session FM-9: Extended Fuzzy Decision Making Models
Friday, July 29, 2:30PM-4:30PM, Room: 222, Chair: Janos Grantner

2:30 PM  Fuzzy Automaton Model with Adaptive Inference Mechanism for Intelligent Decision Support Systems [#16191]
Janos Grantner, Sean Fuller and Jozsef Dombi
Western Michigan University, United States; University of Szeged, Hungary

2:50 PM  Generalized Weighted Fuzzy Petri Net in Intuitionistic Fuzzy Environment [#16005]
Zbigniew Suraj and Sibasis Bandyopadhyay
University of Rzeszow, Poland; Visva Bharati, India

3:10 PM  Extreme Intuitionistic Fuzzy Weighted Aggregation Operators and Their Applications in Optimism and Pessimism Decision-making Processes [#16024*]
Zhou Wei, Xu Zeshui, Meng Sun, Yu Dejian and He Xiaorong
Yunnan University of Finance and Economics, China; Sichuan University, China; Zhejiang University of Finance and Economics, China; Southeast University, China

3:30 PM  A Fuzzy Expert System for Designing Customized Workout Programs [#16114]
Ue-Hwan Kim and Jonh-Hwan Kim
KAIST, Korea (South)

3:50 PM  Attribute weight computation in a decision making problem under intuitionistic fuzzy environment [#16134*]
Satyajit Das and Debashree Guha
Research Scholar, India; Assistant professor, India

4:10 PM  A Multi-criteria Decision Making Method based on Interval Type-2 Fuzzy Sets for Supplier Selection [#16171*]
Lazim Abdullah, Adawiyah Otheman and Nurnadiah Zamri
Universiti Malaysia Terengganu, Malaysia; Universiti Sultan Zainal Abidin, Malaysia

Session FM-10: Fuzzy Systems in Emerging Areas
Friday, July 29, 2:30PM-4:30PM, Room: 223, Chair: Markus Schneider (TO BE CONFIRMED)

2:30 PM  ECG Rate Control Scheme in Pervasive Health Care Monitoring System [#16012]
Sara Ghanavati, Jemal Abawajy and Davood Izadi
School of Information Technology, Deakin University, Geelong, Australia., Australia

2:50 PM  A Conceptual Model of Fuzzy Topological Relationships for Fuzzy Regions [#16045]
Anderson Chaves Carniel and Markus Schneider
University of Sao Paulo, Brazil; University of Florida, United States

3:10 PM  Information Conservational YinYang Bipolar Quantum-Fuzzy Cognitive Maps - Mapping
Business Data to Business Intelligence [#16062]
Wen-Ran Zhang
Georgia Southern University, United States

3:30PM Collective Awareness in Smart City with Fuzzy Cognitive Maps and Fuzzy sets [#16457]
Giuseppe D’Aniello, Angelo Gaeta, Matteo Gaeta, Vincenzo Loia and Marek Z. Reformat
University of Salerno, Italy; University of Alberta, Canada

3:50PM Distributed Learning of Random Weights Fuzzy Neural Networks [#16516]
Roberto Fierimonte, Marco Barbato, Antonello Rosato and Massimo Panella
Department of Information Engineering, Electronics and Telecommunications (DIET),
University of Rome "La Sapienza", Italy

4:10PM Atanassov Intuitionistic Fuzzy Domain Adaptation to Contain Negative Transfer Learning [#16588]
Sandeep Kumar, Amit K Shukla, Pranab K Muhuri and Q. M. Danish Lohani
South Asian University, India

Session FP-7: SS FUZZ-IEEE-35: Moving Towards Neutrosophic Logic
Friday, July 29, 4:30PM-6:30PM, Room: 220, Chair: Florentin Smarandache

4:30PM Delta-equalities of Neutrosophic Sets [#16010]
Mumtaz Ali, Florentin Smarandache and Jian-qiang Wang
Department of Mathematics, Quaid-i-azam University Islamabad 45320, Pakistan; Mathematics
and Science Department, University of New Mexico Gallup, New Mexico 87301, United
States; School of Business, Central South University 410083 Changsha, China

4:50PM R-intersections and R-unions of Neutrosophic Cubic Sets [#16013]
Young Bae Jun, Florentin Smarandache and Chang Su Kim
Gyeongsang National University, Korea (South); University of New Mexico, United States;
Gyeongsang National University., Korea (South)

5:10PM Single Valued Neutrosophic Graphs: Degree, Order and Size [#16049]
Said Broumi, Mohamed Talea, Florentin Smarandache and Assia Bakali
Laboratory of Information processing, Faculty of Science Ben M'Sik, University Hassan
II, Casablanca, Morocco; Department of Mathematics, University of New Mexico, United
States; Ecole Royale Navale, Casablanca, Morocco

5:30PM Maintenance Operating System Uncertainties Approached through Neutrosophic Theory
[#16155]
Mirela Teodorescu, Daniela Gifu and Florentin Smarandache
Neutrosophic Science International Association, United States; Faculty of Computer Science,
"Alexandru Ioan Cuza" of Iasi, Romania; University of New Mexico, United States

5:50PM Interval Valued Bipolar Fuzzy Weighted Neutrosophic Sets and Their Application [#16052]
Irfan Deli, Yusuf Subas, Florentin Smarandache and Mumtaz Ali
Kilis 7, Aralik University 79000 Kilis, Turkey; Turkey; University of New Mexico, 705 Gurley
Ave., Gallup, New Mexico 87301, USA., United States; Quaid-i-Azam University Islamabad,
Pakistan, Pakistan

6:10PM Neutrosophic simplified TOPSIS [#16389]
Azeddine Elhassouny and Florentin Smarandache
ENSIAS, MOHAMMED V UNIVERSITY IN RABAT, Morocco; University of New Mexico,
United States
6:30PM  n-Valued Refined Neutrosophic Soft Set Theory [#16070]
Shawkat Alkhazaleh
Shaqra University, Saudi Arabia

Session FP-8: Fuzzy databases, natural language processing, and web intelligence
Friday, July 29, 4:30PM-6:30PM, Room: 221, Chair: Gregory Smits (TO BE CONFIRMED)

4:30PM Indexing Possibilistic Temporal Data in a Database of Medieval Charters [#16267]
Guy De Tre, Christophe Billiet, Antoon Bronselaer and Carlos Barranco
Ghent University, Belgium; Pablo de Olavide University, Spain

4:50PM An Extension of SPARQL with Fuzzy Navigational Capabilities for Querying Fuzzy RDF Data [#16066]
Olivier Pivert, Olfa Slama and Virginie Thion
Rennes 1 University / IRISA, France

5:10PM Proposal of Statistical Method of Semantic Indexing for Multilingual Documents. [#16499]
Souheyl Mallat, Emna Hkiri, Mohsen Maraoui and Mounir Zrigui
LATICE Laboratory Research Department of Computer Science, Faculty of science, Tunisia; Computational Mathematics Laboratory, University of Monastir, Tunisia

5:30PM Towards a User Privacy Preservation System for IoT Environments: a Habit-Based Approach [#16474]
Nouredine Tamani and Yacine Ghamri-Doudane
L3i Lab University of La Rochelle, France; IUT/L3i Lab University of La Rochelle, France

Session FP-9: Fuzzy Brain-computer Interfaces and Fuzzy Hardware
Friday, July 29, 4:30PM-6:30PM, Room: 222, Chair: Chin-Teng Lin (TO BE CONFIRMED)

4:30PM Driving Fatigue Prediction with Pre-Event Electroencephalography (EEG) via a Recurrent Fuzzy Neural Network [#16228]
Yu-Ting Liu, Shang-Lin Wu, Kuang-Pen Chou, Yang-Yin Lin, Jie Lu, Guangquan Zhang, Wen-Chieh Lin and Chin-Teng Lin
National Chiao-Tung University, Taiwan; National Chung-Shan Institute of Science and Technology (NCSIST), Taiwan; University of Technology Sydney Sydney, Australia

4:50PM A Motor Imagery Based Brain-Computer Interface System via Swarm-Optimized Fuzzy Integral and Its Application [#16328]
Shang-Lin Wu, Yu-Ting Liu, Kuang-Pen Chou, Yang-Yin Lin, Jie Lu, Guangquan Zhang, Chun-Hsiang Chuang, Wen-Chieh Lin and Chin-Teng Lin
Institute of Electrical Control Engineering, National Chiao Tung University, Taiwan; Institute of Computer Science and Engineering, National Chiao Tung University, Taiwan; Electronic Systems Research Division, National Chung-Shan Institute of Science and Technology, Taiwan; Faculty of Engineering and Information Technology, University of Technology Sydney, Australia; Department of Computer Science, National Chiao Tung University, Taiwan

5:10PM Meta-cognitive Interval Type-2 Fuzzy Controller for Quadcopter Flight Control- An EEG based Approach [#16533*]
Das Ankit, Suresh Sundaram, Sundararajan Narasimhan and Teck Leong Tan
Nanyang Technological University, Singapore

5:30PM A Type-2 Fuzzy Approach Towards Cognitive Load Detection Using fNIRS Signals [#16565]
Mainak Dan, Anuradha Saha, Amit Konar, Anca L. Ralescu and Atulya K. Nagar
Jadavpur University, India; University of Cincinnati, United States; Liverpool Hope University, United Kingdom

5:50PM  Design of an Analog Current Mode CMOS Based Programmable Interval Type-2 Fuzzy Inference System [#16098]
Azeem Mohammad Fazle and Abdulla Kunnath Parambil
Aligarh Muslim University, India; Manipal University, Dubai Campus, United Arab Emirates

6:10PM  Hybrid Dynamic Fuzzy Cognitive Maps and Hierarchical Fuzzy Logic controllers for Autonomous Mobile Navigation [#16147]
Marcio Mendonca, Lucia Valeria R. de Arruda, Ivan Rossato Chrun and Esdras S. da Silva
UTFPR-CP, Brazil; UTFPR-CT, Brazil; UTFPR-LD, Brazil