

July 21, 2020 (DAY 1)

08:45-9:00	Opening Ceremony		
09:00-09:45	INVITED SPEAKERS	Speech of Prof. Janusz Kacprzyk " <i>Towards explainable artificial intelligence (XAI): can fuzzy linguistic data summaries help?</i> " <i>Session Chair: Sezi Cevik Onar</i>	
09:50-10:35		Speech of Prof. Krassimir Atanassov " <i>Circular Intuitionistic Fuzzy Sets</i> " <i>Session Chair: A. Cagri Tolga</i>	
10:40-11:25		Speech of Prof. Ahmet Fahri Özok on " <i>Mathematical Philosophy and Fuzzy Logic</i> " <i>Session Chair: Basar Oztaysi</i>	
11:30-12:15		Speech of Prof. Vicenc Torra on " <i>Fuzzy meets privacy: a short overview</i> " <i>Session Chair: Irem Ucal Sari</i>	
12:30-13:00	<i>A visit to Izmir: video display</i> LUNCH		
Parallel Session 1			
13:30-15:00	<i>Session Chair</i>	Basar Oztaysi-Onur Doğan (oztaysib@itu.edu.tr, onur.dogan@bakircay.edu.tr)	
	<i>Session Name</i>	SS2.1 CLUSTERING	
		Paper Title	Authors
		Estimating Breathing Levels of Asthma Patients with Artificial Intelligence Methods	Asım Sinan Yüksel and Fatma Gülşah Tan
		Basket Patterns in Turkey: A Clustering of FMCG Baskets Using Consumer Panel Data	Tolga Kaya, Ahmet Talha Yiğit and Utku Doğruak
		Segmentation Analysis of Companies' Natural Gas Consumption by Soft Clustering	Onur Dogan
	A Survey on Spherical Fuzzy Sets and Clustering the Literature	Eren Ozceylan, Barış Özkan, Mehmet Kabak and Metin Dağdeviren	
Parallel Session 2			
13:30-15:00	<i>Session Chair</i>	Irem Otay-Eda Bolturk (irem.otay@bilgi.edu.tr, bolturk@itu.edu.tr)	
	<i>Session Name</i>	SS3.1 PICTURE FUZZY SETS AND SPHERICAL FUZZY SETS	
		Paper Title	Authors
		Evaluating Sustainable Vehicle Technologies for Freight Transportation using Spherical Fuzzy AHP & TOPSIS	Miguel Jaller and Irem Otay
		Simple Additive Weighting and Weighted Product Methods Using Picture Fuzzy Sets	Fatma Kutlu Gündoğdu and Eda Bolturk
		A Framework for Selection of the Best Food Waste Management Alternative by A Spherical Fuzzy AHP Based Approach	Aysu Melis Buyuk and Gul Tekin Temur
	Picture Fuzzy Linear Assignment Method and Its Application to Selection of Pest House Location	Fatma Kutlu Gündoğdu	
Parallel Session 3			
13:30-15:00	<i>Session Chair</i>	Sezi Cevik Onar-Veyssel Coban (sezi@outlook.com, veyselcoban42@hotmail.com)	
	<i>Session Name</i>	SS4.1 ESTIMATION & PREDICTION	
		Paper Title	Authors
		Estimating Shopping Center Visitor Numbers Based on Various Environmental Indicators	Cagatay Ozdemir, Sezi Cevik Onar and Selami Bagriyanik
		Predicting Customers' Next-to-Be Purchased Products	Buse Mert, Defne İdil Eskiocak and Işıl Öztürk
		Neural Fuzzy Inference Hybrid System with Support Vector Machine for Identification of False Singling in Stock Market Price	Bhupinder Singh and Santosh Kumar Henge
	Predicting Likelihood to Purchase of Users for E-commerce	Cağlar Icer, Deniz Parmaksiz and Altan Cakir	
Parallel Session 4			
13:30-15:00	<i>Session Chair</i>	Cengiz Kahraman-Ali Karasan (kahramanc@itu.edu.tr, karasan.ali@gmail.com)	
	<i>Session Name</i>	SS18.1 OPTIMIZATION	
		Paper Title	Authors
		Intelligent Planning of Spatial Analysis Process Based on Contexts	Stanislav Belyakov, Alexander Bozhenyuk, Janusz Kacprzyk and Igor Rozen
	Hybrid Krill Herd Algorithm with Particle Swarm Optimization for Image Enhancement	Elnaz Pashaei, Elham Pashaei and Nizamettin Aydin	

	A Bioinspired Algorithm for Improving the Effectiveness of Knowledge Processing	Ilona Kursitys, Yury Kravchenko, Elmar Kuliev and Alexandr Natskevich
	Finding the Optimal Features Reduct, A Hybrid Model of Rough Set and Polar Bear Optimization	Amer Mirkhan and Numan Çelebi
	Using GA for Locating Post-Disaster Field Hospitals: The Case of Istanbul	Yesim Komurcu and Seda Yanik
COFFEE BREAK		
Parallel Session 1		
	Session Chair	Irem Otay-Eda Bolturk (irem.otay@bilgi.edu.tr, bolturk@itu.edu.tr)
	Session Name	SS9.1 MULTICRITERIA DECISION MAKING-APPLICATIONS
	Paper Title	Authors
15:15-16:45	Special Agriculture Production Selection Using Interval Type-2 Fuzzy AHP	Sarper Alem
	Resilience Measurement System: A Fuzzy Approach	Merve Kadan, Gökhan Özkan, Mehmet Hilmi Özdemir
	Road Selection for Autonomous Trucks in Turkey with Fuzzy AHP	Zeynep Hasgul and Can Aytore
	Multi-criteria Oil Station Location Evaluation Using Spherical AHP&WASPAS: A Real-Life Case Study	Irem Otay and Serhat Atik
Parallel Session 2		
	Session Chair	Basar Oztaysi-Onur Doğan (oztaysib@itu.edu.tr, onur.dogan@bakircay.edu.tr)
	Session Name	SS11.1 INTELLIGENT STATISTICAL ANALYSES
	Paper Title	Authors
15:15-16:45	Congestion trajectories using Fuzzy Gaussian travel time based on mesoscopic and cellular automata traffic model	Azedine Boulmakoul, Lamia Karim, Mohamed Nahri and Ahmed Lbath
	Enabling Big Data Analytics at Manufacturing Fields of Farplas Automotive	Özgün Akin, Halil Faruk Deniz, Doğukan Nefis, Alp Kızıltan, Altan Çakır
	Intuitionistic Fuzzy Analysis of Variance of Movie Ticket Sales	Velichka Traneva and Stoyan Tranev
	Surface Roughness Prediction using ANFIS and Validation with Advanced Regression Algorithms	Vinod Kumar M A
Parallel Session 3		
	Session Chair	Irem Ucal Sari-Serhat Aydin (ucal@itu.edu.tr, saydin3@hho.edu.tr)
	Session Name	SS12.1 NETWORKS
	Paper Title	Authors
15:15-16:45	Improving Customer Experience for an Internet Service Provider: A Neural Networks Approach	Özge H. Namlı, Seda Yanık, N. Serap Şengör, Faranak Nouri, Yusuf Mertkan
	Segmentation of Larynx Histopathology Images via Convolutional Neural Networks	Ahmet Haşim Yurttakal and Hasan Erbay
	A Deep Learning Model for Skin Lesion Analysis using Gaussian Adversarial Networks	Fatih Ergin and Burak Parlak
	Understanding the behavior of Zadeh's extension principle for one-to-one functions by R programming language	Abbas Parchami and Parisa Khalilpoor
Parallel Session 4		
	Session Chair	Cengiz Kahraman-Ali Karasan (kahramanc@itu.edu.tr, karasan.ali@gmail.com)
	Session Name	SS13.1 INTELLIGENT LEARNING
	Paper Title	Authors
15:15-16:45	Using formal concept analysis tools in road environment-type detection	Azedine Boulmakoul, Zoltan Fazekas, Lamia Karim, Ghyzlane Cherradi and
	An Intelligent Overtaking Assistant System for Autonomous Vehicles	Ersin Armağan and Tufan Kumbasar
	Machine Learning Approach for Automatic Categorization of Service Support Requests on University Information Management System	Aytuğ Onan, Erdem Atik and Adnan Yalçın
	Usage of Machine Learning Algorithms for Flow Based Anomaly Detection System in Software Defined Networks	Muhammet Fatih Akbaş, Cengiz Güngör and Enis Karaarslan
July 22, 2020 (DAY 2)		
Parallel Session 1		
	Session Chair	Cengiz Kahraman-Ali Karasan (kahramanc@itu.edu.tr, karasan.ali@gmail.com)
	Session Name	SS9.2 MULTICRITERIA DECISION MAKING-APPLICATIONS
	Paper Title	Authors
09:00-10:30	Managing Cultural Built Heritage in Smart Cities Using Fuzzy and Interval Multi-Criteria Decision Making	Mimica Milošević, Dušan Milošević and Ana Stanojević
	Modeling Humanoid Robots Mimics Using Intuitionistic Fuzzy Sets	Cengiz Kahraman, Sezi Cevik Onar, Basar Oztaysi, Irem Otay
	A Proposed Decision Making Methodology to Select IT Suppliers for Software Development Outsourcing in Banking Sector	Murat Levent Demircan and Algi Acarbay
	Smart System Evaluation in Vertical Farming via Fuzzy WEDBA Method	Murat Basar and A. Cagri Tolga
Parallel Session 2		
	Session Chair	Sukran Seker-Elif Haktanır (sseker@yildiz.edu.tr, elif.haktanir@altinbas.edu.tr)

09:00-10:30	Session Name	SS11.2 INTELLIGENT STATISTICAL ANALYSES	
		Paper Title	Authors
		Cloud Based Big Data DNS Analytics Applications at TurkNet	Altan Cakir, Yousef Alkhanafseh, Esra Karabiyik, Erhan Kurubas, Burcu Bu
		A Combined Bioinspired Algorithm for Big Data Processing	Elmar Kuliev, Dmitry Zaporozhets, Yury Kravchenko and Ilona Kursitys
		Exploration of the Waves of Feminism Using Sentiment Based Text Mining Techniques	H. Umutkan Ay, Nazlı Günesen and Tolga Kaya
	Modeling Urban Traffic by Means of Traffic Density Data: Istanbul Case	Tutku Tuncalı Yaman, Hülya Başeğmez Sezer and Emrah Sezer	
Parallel Session 3			
09:00-10:30	Session Chair	Irem Otay-Eda Bolturk (irem.otay@bilgi.edu.tr, bolturk@itu.edu.tr)	
	Session Name	SS12.2 NETWORKS	
		Paper Title	Authors
		Marketing Strategy Selection Using Fuzzy Analytic Network Process	Serhan Hamal, Bahar Sennaroglu and Mahmure Övül Arıoğlu
		Learning Channel-wise Ordered Aggregations in Deep Neural Networks	Iris Dominguez-Catena, Daniel Paternain and Mikel Galar
	Design of Nano-scale synaptic neural network using RRAM	Ali Mohamed and Osama Rayis	
	Forecasting the day-ahead prices in electricity spot market of Turkey by using artificial neural networks	Berna Tektaş, Aygülen Kayahan Karakul and Rozi Mizrahi.	
Parallel Session 4			
09:00-10:30	Session Chair	Basar Oztaysi-Onur Doğan (oztaysib@itu.edu.tr, onur.dogan@bakircay.edu.tr)	
	Session Name	SS13.2 INTELLIGENT LEARNING	
		Paper Title	Authors
		Classification of Breast DCE-MRI Images via Boosting and Deep Learning Based Stacking Ensemble Approach	Ahmet Haşim Yurttakal, Hasan Erbay, Türkan İkizceli, Seyhan Karaçavuş ar
		Predicting Movie Ratings with Machine Learning Algorithms	Sendi Çağlıyor and Başar Öztaysi
	Comparative Study of Different Machine Learning Models for Remote Sensing Bathymetric Inversion	Shen Wei , Ji Qian , Rao Yali and Meng Ran	
	Container Terminal Workload Modeling Using Machine Learning Techniques	Üstün Atak, Tolga Kaya and Yasin Arslanoğlu	
Parallel Session 5			
09:00-10:30	Session Chair	Selcuk Cebi-Esra Ilbahar (scebi@yildiz.edu.tr, esrailbahar@gmail.com)	
	Session Name	SS18.2 OPTIMIZATION	
		Paper Title	Authors
		Optimization of Spatial-Time Planning Resource Allocation under Uncertainty	Olesiya Kosenko, Alexander Bozhenyuk, Stanislav Belyakov and Margarita
		Solving Fuzzy Multi-Objective Linear Programming Problems Using Multi Player Zero Sum Game	Gizem Temelcan, Inci Albayrak, Hale Gonce Kocken and Mustafa Sivri
	A Revised Weighted Fuzzy C-means and Center of Gravity Algorithm for Probabilistic Demand and Customer Positions	Engin Bayturk, Sakir Esnaf and Tarik Kucukdeniz	
	Mobile Application Based Automatic Caption Generation for Visually Impaired	Özkan Çaylı, Burak Makav, Volkan Kılıç and Aytuğ Onan	
COFFEE BREAK			
Parallel Session 1			
10:45-12:15	Session Chair	Basar Oztaysi-Onur Doğan (oztaysib@itu.edu.tr, onur.dogan@bakircay.edu.tr)	
	Session Name	SS2.2 CLUSTERING	
		Paper Title	Authors
		Segmentation of Retail Consumers with Soft Clustering Approach	Onur Dogan, Abdulkadir Hiziroglu and Omer Fauk Seymen
		Journey Segmentation of Turkish Tobacco Users Using Sequence Clustering Techniques	Ahmet Talha Yiğit, Tolga Kaya and Utku Doğruak
	Comparison of Fuzzy C-Means and K-Means Clustering Performance: An Application on Household Budget Survey Data	Songul Cinaroglu	
	A Hybrid Approach for Clustering and Selecting of Cloud Services based on User Preferences Evaluation	Ouassila Hioual , Ouided Hioual and Sofiane Mounine Hemam	
Parallel Session 2			
10:45-12:15	Session Chair	Sukran Seker-Elif Haktanır (sseker@yildiz.edu.tr, elif.haktanir@altinbas.edu.tr)	
	Session Name	SS14.1 FUZZY ANALYTICS	
		Paper Title	Authors
		Fuzzy analytics of spaces' dynamic use in smart buildings	Azedine Boulmakoul, Abdellah Daissaoui, Ahmed Lbath and Lamia Karim
		Fuzzy System for Building Energy Flows Management	Penka V. Georgieva
	A New Perspective to Design Phase of Water Supply Systems from Aspect of Water Demand Using Fuzzy Automation	Halid Akdemir, Aysegul Alaybeyoglu and Ali Danandeh Mehr	
	Fuzzy Classifier based Colorimetric Quantification Using a Smartphone	Öykü Berfin Mercan and Volkan Kılıç	

Parallel Session 3		
10:45-12:15	Session Chair	Selcuk Cebi-Esra Ilbahar (scebi@yildiz.edu.tr, esrailbahar@gmail.com)
	Session Name	SS4.2 ESTIMATION & PREDICTION
		Paper Title
		Authors
	The problem of selection with the fuzzy axiomatic design of MEMS based sensors in industry 4.0 predictive maintenance p	Arif Sercan Erez, Mehmet Cakmakci and Rasin Imrenci
	Fuzzy Based Noise Removal, Age Group and Gender Prediction with CNN	Ali Tunç, Şakir Taşdemir and Murat Köklü
	Click Prediction in Digital Advertisements: A Fuzzy Approach to Model Selection	Ahmet Tezcan Tekin, Tolga Kaya and Ferhan Cebi
	Estimation of potential locations of trade objects on the basis of fuzzy set theory	Alekperov Ramiz Balashirin oglu and Salahli Vuqar Mamadali oglu
Parallel Session 4		
10:45-12:15	Session Chair	Sezi Cevik Onar-Veyssel Coban (sezi@outlook.com, veysselcoban42@hotmail.com)
	Session Name	SS8.1 PYTHAGOREAN FUZZY SETS & Q-RUNG ORTHOPAIR FUZZY SETS
		Paper Title
		Authors
	Emergency Decision Making Problem of Power Cut in Turkey using Pythagorean Fuzzy Thermodynamic Approach with Pr	Veyssel Çoban and Sezi Cevik Onar
	Extension of Classical Analytic Hierarchy Process using q-Rung Orthopair Fuzzy Sets and its Application to Disaster Logist	Seyed Amin Seyfi Shishavan, Yaser Donyatalab and Elmira Farrokhizadeh
	Interval valued q-rung orthopair fuzzy prioritized dual Muirhead mean operator and their application in group decision m	Salih Berkan Aydemir and Sevcan Yılmaz Gündüz
	Evaluation of maintenance strategies using Pythagorean Fuzzy TOPSIS Method	Tolga Gedikli, Beyzanur Çayır Ervural and Durmuş Tayyar Şen
Parallel Session 5		
10:45-12:15	Session Chair	A. Cagri Tolga-Fatma Kutlu Gündoğdu (ctolga@gsu.edu.tr, fatmakutlugundogdu@gmail.com)
	Session Name	SS18.3 OPTIMIZATION
		Paper Title
		Authors
	A Comparative Performance Analysis of Consensus Models based on a Minimum Cost Consensus Metric	Álvaro Labella, Rosa M. Rodríguez and Luis Martínez
	Chaos Control of BLDC Motor via Fuzzy Based PID Controller	Alkim Gökçen, Mehmet Uğur Soydemir and Savas Şahin
	Design and Manufacture a Vehicle Auxiliary System Model Controlled by Using Smartphone	Nguyen Phu Thuong Luu
	On Merrifield-Simmons Index of Trees	Bünyamin Şahin
12:30-13:00	A visit to Izmir: video display	
LUNCH		
Parallel Session 1		
13:30-15:00	Session Chair	Selcuk Cebi-Esra Ilbahar (scebi@yildiz.edu.tr, esrailbahar@gmail.com)
	Session Name	SS9.3 MULTICRITERIA DECISION MAKING-APPLICATIONS
		Paper Title
		Authors
	Investigating Enablers to improve transparency in Sustainable food supply chain using F-BWM	Anish Kumar, Sachin Kumar Mangla, Pradeep Kumar and Yasanur Kayikci
	Logistics Performance Index (LPI) analysis with using AHP and FuzzyAHP	Emir Şahin, İrem Pala and Berrin Denizhan
	Sustainable Transportation Service Provider Evaluation Using Fuzzy MCDM Procedure	Mehtap Dursun and Ergun Ari
	Evaluation of Criteria that Affect the Sustainability of Smart Supply Chain in a Textile Firm by Fuzzy SWARA Method	Arzu Organ, Kevser Arman and Ali Katrancı
Parallel Session 2		
13:30-15:00	Session Chair	Basar Oztaysi-Onur Doğan (oztaysib@itu.edu.tr, onur.dogan@bakircay.edu.tr)
	Session Name	SS11.3 INTELLIGENT STATISTICAL ANALYSES
		Paper Title
		Authors
	Data Mining Algorithms for Classification Model of Engineering Grade	Ching-Lung Fan
	SVM-Based Hybrid Robust PIO Fault Diagnosis for Bearing	Farzin Piltan and Jong-Myon Kim
	Realising Newspaper Sales by Using Statistic Methods	Onur Dogan and Omer Faruk Gurcan
	Blended Environment of Naive Bayes and Support Vector Machine (SVM) for designing Simulation based E-Learning Resp	Anuradha Verma Babbar, Santosh Kumar Henge
Parallel Session 3		
13:30-15:00	Session Chair	A. Cagri Tolga-Fatma Kutlu Gündoğdu (ctolga@gsu.edu.tr, fatmakutlugundogdu@gmail.com)
	Session Name	SS12.3 NETWORKS
		Paper Title
	Fuzzy Centrality Analysis for Smart City Trajectories	Lamia Karim, Azedine Boulmakoul, Ghyzlane Cherradi andAhmed Lbath

	Glioma Brain Tumor Grade Classification from MRI Using Convolutional Neural Networks Designed by Modified FA		Timea Bezdán, Miodrag Živković, Eva Tuba, Ivana Strumberger, Nebojsa Ba
	Dynamic System Control Using Z-number Based Fuzzy Neural Network		Rahib H. Abiyev
	Comprehensive Research of The Commodity Market: Theoretical, Methodological and Modern Approaches Using Neural N		Mikayilova Rena Nuru Kizi
Parallel Session 4			
13:30-15:00	Session Chair	Sezi Cevik Onar-Veyssel Coban (sezi@outlook.com, veyselcoban42@hotmail.com)	
	Session Name	SS13.3 INTELLIGENT LEARNING	
		Paper Title	Authors
		Efficient and Real-Time Face Recognition Based on Single Shot Multibox Detector	Youngshin Ahn, Sumi Kim, Fei Chen and Jaeho Choi
		Machine Learning-Based Robust Feedback Observer for Fault Diagnosis in Bearing	Farzin Piltan and Jong-Myon Kim
		Malfunction Detection on Production Line Using Machine Learning: Case Study in Wood Industry	Kağan Özgün, Sami Aklan, Ahmet Tezcan Tekin and Ferhan Cebi
	A Compromise-Based New Approach to Learning Fuzzy Cognitive Maps		Mirac Murat and Umur Asan
Parallel Session 5			
13:30-15:00	Session Chair	Sukran Seker-Elif Haktanır (sseker@yildiz.edu.tr, elif.haktanir@altinbas.edu.tr)	
	Session Name	SS18.5 OPTIMIZATION	
		Paper Title	Authors
		Sustainability oriented scheduling procedure for public projects	Dorota Kuchta and Ewa Marchwicka
		Order acceptance scheduling on a single machine with energy aspects	Mariam Bouzid, Oussama Masmoudi and Alice Yalaoui
		Multi-Shift Single-Vehicle Routing Problem under Fuzzy Uncertainty	Francesco Nucci
	Application of Fuzzy Logic Model For Correct Lighting in Computer Aided Interior Design Areas		Rahib Imamguluyev
COFFEE BREAK			
Parallel Session 1			
15:15-16:45	Session Chair	Irem Otay-Eda Bolturk (irem.otay@bilgi.edu.tr, bolturk@itu.edu.tr)	
	Session Name	SS8.2 PYTHAGOREAN FUZZY SETS & Q-RUNG ORTHOPAIR FUZZY SETS	
		Paper Title	Authors
		Multi-criteria Cloud Computing Service Provider Selection Employing Pythagorean Fuzzy AHP&VIKOR	İrem Otay and Tugba Yildiz
		Evaluating the influencing factors on adoption of self-driving vehicles by using Interval-valued Pythagorean fuzzy AHP	Gozde Bakioglu and Ali Osman Atahan
		Hamacher Aggregation Operators Based on Interval-Valued q-Rung Orthopair Fuzzy Sets and Their Applications to Decision Making	Yaser Donyatalab, Elmira Farrokhzadeh, Seyed Amin Seyfi Shishavan and Elmira Farrokhzadeh, Seyed Amin Seyfi Shishavan, Yaser Donyatalab and Elmira Farrokhzadeh
	The Dice (Sorensen) Similarity Measures for Optimal Selection with q-Rung Orthopair Fuzzy Information		Elmira Farrokhzadeh, Seyed Amin Seyfi Shishavan, Yaser Donyatalab and Elmira Farrokhzadeh
Parallel Session 2			
15:15-16:45	Session Chair	Cengiz Kahraman-Ali Karasan (kahramanc@itu.edu.tr, karasan.ali@gmail.com)	
	Session Name	SS10.1 MULTICRITERIA DECISION MAKING-THEORY	
		Paper Title	Authors
		An Integrated Fuzzy DEMATEL & Fuzzy Cognitive Mapping Methodology for Prioritizing Smart Campus Investments	Ali Karasaan and Cengiz Kahraman
		Different Approaches to Fuzzy Extension of an MCDA Method and Their Comparison	Boris Yatsalo and Alexander Korobov
		An Alternative Approach for Performance Evaluation: Plithogenic Sets and DEA	Gülın Zeynep Öztaş, Esra Aytaç Adalı, Ayşegül Tuş, Tayfun Öztaş and Abdurrahman Özalp
	Preference-oriented Fuzzy TOPSIS method		Alicja Mieszkowicz-Rolka and Leszek Rolka
Parallel Session 3			
15:15-16:45	Session Chair	Basar Oztaysi-Onur Doğan (oztaysib@itu.edu.tr, onur.dogan@bakircay.edu.tr)	
	Session Name	SS3.2 PICTURE FUZZY SETS AND SPHERICAL FUZZY SETS	
		Paper Title	Authors
		Using Spherical Fuzzy AHP Based Approach For Prioritization of Criteria Affecting Sustainable Supplier Selection	Yagmur Unal and Gul Temur
		A Fuzzy Pricing Model For Mobile Advertisements By Using Spherical Fuzzy AHP Scoring	Basar Oztaysi, Sezi Cevik Onar, Cengiz Kahraman
		Evaluating Strategic Entry Decisions Using Spherical Fuzzy Sets	Sezi Cevik Onar, Cengiz Kahraman and Basar Oztaysi
	Spherical Fuzzy Cost/Benefit Analysis of Wind Energy Investments		Sezi Cevik Onar, Basar Oztaysi and Cengiz Kahraman
Parallel Session 4			
	Session Chair	Sukran Seker-Elif Haktanır (sseker@yildiz.edu.tr, elif.haktanir@altinbas.edu.tr)	
	Session Name	SS18.4 OPTIMIZATION	

15:15-16:45	Paper Title		Authors
	Spatial Coherence Radius of Plane Wave Propagating in Anisotropic Maritime Atmospheric Turbulence		Bing Guan, Fei Chen, Jaeho Choi
	Pedestrian Detection Based on Improved Mask R-CNN Algorithm		Wenjun Yu, Sumi Kim, Fei Chen, Jaeho Choi
	Double edge-vertex domination		Bunyamin Şahin and Abdulgani Şahin
A Study on Vehicle Air Condition System Model Controlled by Using Smartphone		Nguyen Phu Thuong Luu	
Parallel Session 5			
15:15-16:45	Session Chair	Irem Ucal Sari-Serhat Aydin (ucal@itu.edu.tr, saydin3@hho.edu.tr)	
	Session Name	SS14.4 FUZZY ANALYTICS	
	Paper Title		Authors
	An Intelligent Decision Support System: Application of Fuzzy Tools and System Dynamics Modelling		Merve Kadan, Gökhan Özkan and Mehmet Hilmi Özdemir
	Fuzzy Cognitive Map Based PI Controller Design		Aykut Denizci, Sinan Karadeniz and Cenk Ulu
Center-of-Gravity Real Options Method Based on Interval-Valued Fuzzy Numbers		Jani Kinnunen, Irina Georgescu and Mikael Collan	
Intuitionistic Fuzzy Z-numbers		Irem Ucal Sari and Cengiz Kahraman	
July 23, 2020 (DAY 3)			
Parallel Session 1			
09:00-10:30	Session Chair	A. Cagri Tolga-Fatma Kutlu Gündoğdu (ctolga@gsu.edu.tr, fatmakutlugundogdu@gmail.com)	
	Session Name	SS9.4 MULTICRITERIA DECISION MAKING-APPLICATIONS	
	Paper Title		Authors
	Process Robot Automation Selection with MADM in Airline Cargo Sector		Gul Durak and A. Cagri Tolga
	Analysis of Traffic Accidents to Identify Factors Affecting Injury Severity with Fuzzy and Crisp Techniques		Tutku Yaman, Emrah Bilgiç and M. Fevzi Esen
InterCriteria Analysis Applied to Emerging Europe and Central Asia University Rankings		Veselina Bureva	
Determining significant factors affecting vaccine demand and factor relationships using Fuzzy DEMATEL Method		İkbal Ece Dizbay and Ömer Öztürkçü	
Parallel Session 2			
09:00-10:30	Session Chair	Irem Ucal Sari-Serhat Aydin (ucal@itu.edu.tr, saydin3@hho.edu.tr)	
	Session Name	SS11.4 INTELLIGENT STATISTICAL ANALYSES	
	Paper Title		Authors
	A Fuzzy Strategy Analysis Simulator for Exploring The Potential of Industry 4.0 in End of Life Aircraft Recycling		Samira Keivanpour
	Knowledge Data Discovery (Frequent Pattern Growth): The Association Rules for Evergreen Activities on Computer Monitor		Fauzan Asrin, Saide Saide, Silvia Ratna and Alex Wenda
Extensions of Fuzzy Sets in Big Data Applications: A literature Review		Nursah Alkan and Cengiz Kahraman	
InterCriteria Analysis of public health data in Bulgaria		Evdokia Sotirova, Valentin Vasilev, Sotir Sotirov and Hristo Bozov	
Parallel Session 3			
09:00-10:30	Session Chair	Sezi Cevik Onar-Veyssel Coban (sezi@outlook.com, veyselcoban42@hotmail.com)	
	Session Name	SS12.4 NETWORKS	
	Paper Title		Authors
	The Maximum Lexicographic Contraflow Finding in a Fuzzy Dynamic Network		Evgeniya Gerasimenko and Vladimir Kureichik
	An Enhanced Particle Swarm Optimization with Levy Flight for RBF Neural Network in Typical Karst Area, South China		Zhangjun Cao, Dong Wang, Lachun Wang
A Method for Forecasting the Demand for Pharmaceutical Products in A Distributed Pharmacy Network Based on An Intelligent		Alekperov Ramiz Balashirin oglu and Isgandarova Ilhama Tarlan kizi	
Neural Network-Based Control Framework for SISO Uncertain System: Passive Fault Tolerant Approach		Sejal Raval, Himanshukumar R. Patel and Vipul A. Shah	
Parallel Session 4			
09:00-10:30	Session Chair	Irem Otay-Eda Bolturk (irem.otay@bilgi.edu.tr, bolturk@itu.edu.tr)	
	Session Name	SS13.4 INTELLIGENT LEARNING	
	Paper Title		Authors
	Trajectory Tracking of a Quadcopter Using Adaptive Neuro-Fuzzy Controller with Sliding Mode Learning Algorithm		Hasan Kemik, Mehmet Berkin Dal and Yeşim Öñiz
	Influencer Identification System Design Using Machine Learning Techniques		Elvira Israfilova, Armağan Arslan, Nihan Yıldırım and Tolga Kaya
Sentiment Analysis on Students' Evaluation of Higher Educational Institutions		Mansur Alp Toçoğlu and Aytuğ Onan	
Speech Analysis with Deep Learning to Determine Speech Therapy for Learning Difficulties		Nogol Memari, Saranaz Abdollahi, Sonia Khodabakhsh, Saeideh Rezaei, Mel	
Parallel Session 5			

09:00-10:30	Session Chair	Selcuk Cebi-Esra Ilbahar (scebi@yildiz.edu.tr, esrailbahar@gmail.com)	
	Session Name	SS15.1 RISK ASSESSMENT	
		Paper Title	Authors
		Risk assessment of R&D activities using intuitionistic fuzzy AHP and FIS	Esra Ilbahar, Selcuk Cebi and Cengiz Kahraman
		Risk Matrix Technique based Fuzzy MCDM Risk Assessment Method and Application in Glass Industry	Sukran Seker
	A new Risk Assessment Approach for Occupational Health and Safety Applications	Selcuk Cebi	
	A New Approach to Analyze Perceived Design Quality of Mobile Phone Using Fuzzy Hierarchical Conjoint Analysis	Yusra Erdem, Selcuk Cebi and Esra Ilbahar	
COFFEE BREAK			
Parallel Session 1			
10:45-12:15	Session Chair	Irem Ucal Sari-Serhat Aydin (ucal@itu.edu.tr, saydin3@hho.edu.tr)	
	Session Name	SS6.1 NEUTROSOPHIC SETS	
		Paper Title	Authors
		Evaluation of the Fourth Party Logistics Provider under Neutrosophic Environment	Serhat Aydın, Mehmet Yörükoğlu and Mehmet Kabak
		A* Algorithm Under Single-Valued Neutrosophic Fuzzy Environment	Esra Çakir and Ziya Ulukan
	Bipolar Neutrosophic Fuzzy Dijkstra Algorithm and Its Application	Esra Çakir and Ziya Ulukan	
	Physician Selection with a Neutrosophic Multi-Criteria Decision Making Method	Ahmet Sarucan, M. Emin Baysal and Orhan Engin	
Parallel Session 2			
10:45-12:15	Session Chair	A. Cagri Tolga-Fatma Kutlu Gündoğdu (ctolga@gsu.edu.tr, fatmakutlugundogdu@gmail.com)	
	Session Name	SS7.1 INTUITIONISTIC FUZZY SETS	
		Paper Title	Authors
		The Method of Finding the Base Set of Intuitionistic Fuzzy Graph	Alexander Bozhenyuk, Stanislav Belyakov, Janusz Kacprzyk and Margarita
		An Intuitionist Fuzzy Method for discovering Organizational Structures that Support Digital Transformation	Zineb Besri and Azedine Boulmakoul
	Distance and Similarity Measures of Generalized Intuitionistic Fuzzy Soft Set and its Applications in Decision Support System	Muhammad Jabir Khan and Poom Kumam	
	Interval-Valued Intuitionistic Fuzzy Sets With Gaussian Membership Function: A Novel Extension	Janani Bharatraj	
	An Integrated IVIF-DEMATEL and IVIF-TOPSIS Methodology for Hotel Information System Selection	Gizem Erkal, Hüseyin Selçuk Kılıç, Zeynep Tuğçe Kalender, Ahmet Selçuk Y	
Parallel Session 3			
10:45-12:15	Session Chair	Sezi Cevik Onar-Veyssel Coban (sezi@outlook.com, veyselcoban42@hotmail.com)	
	Session Name	SS5.1 HESITANT FUZZY SETS	
		Paper Title	Authors
		Webpage Design Based on Generation Differences Using Hesitant Fuzzy Sets	M.Çağrı Budak and Sezi Çevik Onar
		Application of linear programming model in multiple criteria decision making under the framework of interval-valued hes	Tabasam Rashid and M. Sarwar Sindhu
	Solar Energy Power Plant Investment Selection with Unbalanced Hesitant Fuzzy Linguistic MULTIMOORA method based S	Veyssel Çoban and Sezi Cevik Onar	
	A Hesitant Fuzzy Linguistic Group Decision Making Model for Energy Storage Unit Selection	Ahmet Aktas and Mehmet Kabak	
Parallel Session 4			
10:45-12:15	Session Chair	Sukran Seker-Elif Haktanır (sseker@yildiz.edu.tr, elif.haktanir@altinbas.edu.tr)	
	Session Name	SS10.2 MULTICRITERIA DECISION MAKING-THEORY	
		Paper Title	Authors
		Multi-Objective Task Scheduling in Cloud Computing Environment by Hybridized Bat Algorithm	Timea Bezdán, Miodrag Zivkovic, Eva Tuba, Ivana Strumberger, Nebojsa Ba
		Qualitative factors in the Fuzzy Earned Value method	Dorota Kuchta
	The Novel Integrated model of Plithogenic Sets and MAIRCA Method for MCDM Problems	Abdullah Özçil, Ayşegül Tuş, Gülin Zeynep Öztas, Esra Aytaç Adalı and Tayf	
	Multi-criteria Decision Making Problem with Intuitionistic Fuzzy Sets: A Novel Ranking Method	Hatice Ercan Teksen	
Parallel Session 5			
10:45-12:15	Session Chair	Cengiz Kahraman-Ali Karasan (kahramanc@itu.edu.tr, karasan.ali@gmail.com)	
	Session Name	SS14.2 FUZZY ANALYTICS	
		Paper Title	Authors
	Object monitoring under Z-information based on rating points	Olga Poleshchuk	
	A New Structure of Nullnorms on Bounded Lattices	Gül Deniz Çaylı	

	On 2-Fuzzy Metric Spaces	Elif Güner and Halis Aygün
	Some Properties of Partial Fuzzy Metric Topology	Ebru Aydođdu, Bařak Aldemir, Elif Güner and Halis Aygün
12:30-13:00	A visit to Izmir: video display	
	LUNCH	
	Parallel Session 1	
	Session Chair	Cengiz Kahraman-Ali Karasan (kahramanc@itu.edu.tr, karasan.ali@gmail.com)
	Session Name	SS9.5 MULTICRITERIA DECISION MAKING-APPLICATIONS
	Paper Title	Authors
13:30-15:00	Blockchain Software Selection for a Maritime Organization with MCDM Method	Melis Kaska and A. Cagri Tolga
	Prioritization of Influence Factors for Selecting E-Learning Systems	Ali Karařan and Melike Erdogan
	Development of Assessment Model for Selection of Sustainable Energy Source in India: Hybrid fuzzy MCDM approach	Santosh Saraswat, Abhijeet Digalwar and Shyam Sunder Yadav
	Green Supplier Selection Using Intuitionistic Fuzzy AHP and TOPSIS Methods: A Case Study from the Paper Mills	Ezgi Demir and Güzde Koca
	Parallel Session 2	
	Session Chair	A. Cagri Tolga-Fatma Kutlu Gündođdu (ctolga@gsu.edu.tr, fatmakutlugundogdu@gmail.com)
	Session Name	SS7.2 INTUITIONISTIC FUZZY SETS
	Paper Title	Authors
13:30-15:00	Intuitionistic Fuzzy Assessments of the Abdominal Aorta and Its Branches	Valetin Vasilev, Evdokia Sotirova, Krassimir Atanassov and Sotir Sotirov
	Understanding the Blockchain Technology Adoption from Procurement Professionals' Perspective- An Analysis of The Te	Ayça Maden and Emre Alptekin
	Decision Making Using New Distances of intuitionistic fuzzy sets and study Their Application in the Universities	Shuker Mahmood Khalil and Mohanad Abdulkareem Hasan Hasab
	Some new ordered semi-linear spaces of intuitionistic fuzzy processes and the pair of closely related states.	Phu Nguyen Dinh, Hung Nguyen Nhut and Quynh Le Thi Ngoc
	Parallel Session 3	
	Session Chair	Irem Ucal Sari-Serhat Aydin (ucal@itu.edu.tr, saydin3@hho.edu.tr)
	Session Name	SS8.3 PYTHAGOREAN FUZZY SETS & Q-RUNG ORTHOPAIR FUZZY SETS
	Paper Title	Authors
13:30-15:00	Interval Valued q-Rung Orthopair Fuzzy EDAS Method and its application to Supplier Selection	Elmira Farrokhzadeh, Seyed Amin Seyfi Shishavan, Yaser Donyatalab and
	Similarity Measures of q-Rung Orthopair Fuzzy Sets Based on Square Root Cosine Similarity Function	Yaser Donyatalab, Elmira Farrokhzadeh and Seyed Amin Seyfi Shishavan
	Fuzzy Capital Budgeting using Fermatean Fuzzy Sets	Duygu Sergi and Irem Ucal Sari
	Technology Selection of Indoor Location Systems Using Interval Valued Type-2 Intuitionistic Fuzzy WASPAS	Basar Oztaysi, Sezi Cevik Onar and Cengiz Kahraman
	Parallel Session 4	
	Session Chair	Sukran Seker-Elif Haktanır (sseker@yildiz.edu.tr, elif.haktanir@altinbas.edu.tr)
	Session Name	SS16.1 INTELLIGENT QUALITY
	Paper Title	Authors
13:30-15:00	Analytical techniques to compute Cp and Cpm capability indices by R software	Abbas Parchami
	Defects Control Charts Using Interval-Valued Pentagorean Fuzzy Sets	Elif Haktanır and Cengiz Kahraman
	Fuzzy AHP Based Prioritization and Taxonomy of Information Quality Factors in Accounting Information Systems	Rozi Mizrahi, Berna Tektař and Aygülen Kayahan Karakul
	Design for Six Sigma and Process Capability Using Pentagorean Fuzzy Sets	Elif Haktanır and Cengiz Kahraman
	Parallel Session 5	
	Session Chair	Selcuk Cebi-Esra Ilbahar (scebi@yildiz.edu.tr, esrailbahar@gmail.com)
	Session Name	SS15.2 RISK ASSESSMENT
	Paper Title	Authors
13:30-15:00	Benchmarking and visualization of the ergonomic risks in a manufacturing plant: Joint application of Fuzzy AHP and treen	Samira Keivanpour
	Intuitionistic Fuzzy Group Decision Making on Risk Assessment and Control Efficiency of Accounting Information Systems	Aygülen Karakul, Rozi Mizrahi and Berna Tektař
	Evaluation of Occupational Safety Risk in Underground Mining Using Fuzzy Bayesian Network	Fatma Yařlı and Bersam Bolat
	Risk Analysis for Digitalization Oriented Sustainable Supply Chain Using Interval-Valued Pythagorean fuzzy AHP	Nurřah Alkan
	COFFEE BREAK	
	Parallel Session 1	
	Session Chair	Irem Ucal Sari-Serhat Aydin (ucal@itu.edu.tr, saydin3@hho.edu.tr)

15:15-16:45	Session Name	SS18.6 OPTIMIZATION	
		Paper Title	Authors
		Optimization of an Oil Refinery Valuation System through the Intuitionistic Fuzzy InterCriteria Analysis	Velichka Traneva and Stoyan Tranev
		The Analysis of Human Oriented System of Weighted Fuzzy Petri Nets for Passenger Transport Logistics Problem	Zbigniew Suraj, Oksana Olar and Yurii Bloshko
		Concepts and Methods of "Digital Twins" Models Creation in Industrial Asset Performance Management Systems	Nodirbek Yusupbekov, Fakhritdin Abdurasulov, Farukh Adilov and Arsen I
	A Fuzzy Goal Programming Model to Evaluate Green Energy Alternatives	Beyzanur Çayır Ervural	
Parallel Session 2			
15:15-16:45	Session Chair	Sezi Cevik Onar-Veyssel Coban (sezi@outlook.com, veysselcoban42@hotmail.com)	
	Session Name	SS11.5 INTELLIGENT STATISTICAL ANALYSES	
		Paper Title	Authors
		Big Data Analytics Framework for Smart City Real-time Fuzzy Complex Event Processing	Basmi Wadii, Azedine Boulmakoul, Lamia Karim and Ahmed Lbath
		A Big Data Semantic Driven Context Aware Recommendation Method	Manuel J. Barranco, Pedro J. Sánchez, Jorge Castro and Raciél Yera
	A Case Study on Vehicle Battery Manufacturing using Fuzzy Analysis of variance	Abbas Parchami, Mashaallah Mashinchi and Cengiz Kahraman	
	New suggestion for fuzzy random variable and its statistical simulation	Abbas Parchami	
Parallel Session 3			
15:15-16:45	Session Chair	A. Cagri Tolga-Fatma Kutlu Gündoğdu (ctolga@gsu.edu.tr, fatmakutlugundogdu@gmail.com)	
	Session Name	SS14.3 FUZZY ANALYTICS	
		Paper Title	Authors
		Fuzzy uncertainty modelling in cost and cash flow forecasting in project management	Dorota Kuchta and Adam Zabor
		Fuzzy RFM Analysis: An application in E-commerce.	Basar Oztaysi and Mert Kavi
	LabHub: A New Generation Architecture Proposal for Intelligent Healthcare Medical Laboratories	Bengi Tugcu Idemen, Emine Sezer and Murat Osman Unalir	
	Fusing fuzzy preferences in contexts of Social Choice: Towards a topological structure	María Jesús Campión, Esteban Induráin and Armajac Raventós Pujol	
Parallel Session 4			
15:15-16:45	Session Chair	Selcuk Cebi-Esra Ilbahar (scebi@yildiz.edu.tr, esrailbahar@gmail.com)	
	Session Name	SS17.1 HEURISTICS	
		Paper Title	Authors
		Proposal of genetic algorithm approach for solving single machine scheduling problem under learning effect	Derya Deliktas and Mustafa Urhan
		Distributed Fuzzy Permutation Flow Shop Scheduling Problem: A Bee Colony Algorithm	M. Emin Baysal, Ahmet Sarucan, Kadir Büyüközkan and Orhan Engin
	Fuzzy Metaheuristics: A state-of-the-art review	Nurşah Alkan and Cengiz Kahraman	
	Fuzzy and Evolutionary Algorithms for Transport Logistics under Uncertainty	Yuriy Kondratenko, Galyna Kondratenko, Ievgen Sidenko and Mykyta Tara	
Parallel Session 5			
15:15-16:45	Session Chair	Irem Otay-Eda Bolturk (irem.otay@bilgi.edu.tr, bolturk@itu.edu.tr)	
	Session Name	SS19.1 REVIEW AND DISCUSSION PAPERS	
		Paper Title	Authors
		Extensions of Ordinary Fuzzy Sets: a Comparative Literature Review	Cengiz Kahraman, Basar Oztaysi, Irem Otay, Sezi Cevik Onar
		Systematic Literature Review for Work Sampling with IOT Technology in Retail Store Operations	Gizem Omeroglu, Abdullah Ertug, Aysegul Ozkavukcu
	Engineering Economics Using Fuzzy Sets: A Literature Review	Eda Bolturk	
	Scientific Cooperation in The Field of Economics in Selected European Countries	Paweł Lula, Urszula Cieraszewska, Monika Hamerska	
17:00-17:45	AWARD CEREMONY SESSION		