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Programme

ICSCCW 2021

**11th International Conference on Theory and
Application of Soft Computing, Computing with
Words, Perception and Artificial Intelligence
ICSCCW - 2021**

<https://icsccw2021.com/>

23-24 August, Antalya - Turkey

**11th International Conference on Theory and Application of Soft
Computing, Computing with Words, Perception and Artificial
Intelligence**

**August 23-24, 2021
Antalya – Turkey**



*Dedicated to the memory of
professor L.A. Zadeh*

PROGRAMME

Organized by:

Azerbaijan Association of “Zadeh’s Legacy and Artificial Intelligence”

Azerbaijan State Oil and Industry University (ASOIU)

University of Siegen (Siegen, Germany)

BISC – Berkeley Initiative in Soft Computing (Berkeley, USA)

University of Texas (San Antonio, USA)

Georgia State University (Atlanta, USA)

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ICSCCW-2021 Committees

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SCHEDULE-AT-A-GLANCE

Time	Monday, August 23, 2021
08:00 – 08:40	Breakfast
08:40 – 09:20	Registration
09:20 – 09:40	Opening Ceremony
09:40 – 10:10	<i>Keynote Speech</i> Chair: M. B. Babanli, Azerbaijan R. A. Aliev: Multistage decision making in bimodal information environment
10:10 – 10:40	<i>Keynote Speech</i> Chair: R. A. Aliev, Azerbaijan J. Kacprzyk: Interactive solution of difficult choice and decision making problems: effective and efficient but not always easy
10:40 – 10:55	Tea/Coffee
10:55 – 12:25	<i>Session A</i> Theory and Application of Soft Computing Chairman: G. Imanov
12:25 – 13:45	<i>Session B</i> Decision theory with imperfect information Chairman: L. A. Gardashova
13:45 – 14:45	Lunch
14:45 – 16:15	<i>Session C</i> Fuzzy logic and Neuro-Fuzzy technology Chairman: V. Nourani
16:15 – 16:30	Tea/Coffee
16:30 – 18:00	<i>Session D</i> Soft Computing and Artificial Intelligence in engineering, economics, social sciences, medicine, and pharmaceutical sciences Chairman: R. R. Aliyev
18:00 – 18:30	<i>Keynote Speech</i> Chair: U. Eberhardt, Germany W. Pedrycz: Designing and Evaluating Interpretable Rule-Based Architecture Under Privacy Constraints: A Framework of Granular Computing
09:00-18:30	<i>Flexible Session</i> Chairman: Kh. J. Dovlatova
18:30	Welcome reception

Tuesday, August 24, 2021	
08:00 – 09:00	Breakfast
09:00 – 09:30	<i>Keynote Speech</i> Chair: F. Sadikoglu, Azerbaijan M. B. Babanli: Fuzzy classification-based alloy selection from a large dataset
9:30-11:00	<i>Session E</i> Theory and Application of Soft Computing Chairman: N. E. Adilova
11:00 – 11:15	Tea/Coffee
11:15 - 12:35	<i>Session F</i> Soft Computing and Artificial Intelligence in engineering, economics, social sciences, medicine, and pharmaceutical sciences Chairman: Akbar Paad
12:35 – 13:35	Lunch
13:35 - 15:00	<i>Session H</i> Decision theory with imperfect information Chairman: L. A. Gardashova
15:00 – 15:30	Round Table R. A. Aliev, J. Kacprzyk, W. Pedrycz, M. B. Babanli, F. S. Sadikoglu
09:00 – 18:00	Flexible Session Chairman: Kh. J. Dovlatova
18:00 – 18:30	Closing Ceremony

Welcome

I would like to convey my greetings to all the participants of ICSCCW-2021. As you know, this is a long life conference. The first conference was held in 2001. The father of fuzzy logic, the honorary Chair of ICSCCW, Prof. L.A. Zadeh participated in almost all the conferences held in different countries of the world. Unfortunately, about four years ago, in the beginning of September, 2017, we have lost a genius scientist, Prof. L.A. Zadeh. Let us rise and observe a minute of silence in memory of Prof. L.A. Zadeh.

Let me provide you with a few information about the current conference. We have received about 150 papers. After a double-blind review process, we have accepted about 100 papers. The rejection rate is more than 30%. Now we have participants from tens countries of the world such as USA, Canada, Russia, Poland, Spain, Serbia, Libya, Iran, Uzbekistan, Kazakhstan, Turkey, Azerbaijan, Cyprus etc. We have invited as keynote speakers universally recognized scientists in the fields of fuzzy logic and soft computing from different countries. I hope that this conference will be fruitful and will give chance and opportunities for exchange of experience. The conference covers such modern topics of computational intelligence and soft computing as uncertain computation, decision making under imperfect information, neuro-fuzzy approaches, deep learning and others. I wish you success in your research activities and real life.

The Chairman of ICSCCW-2021,
Prof. R.A. Aliev

Plenary Session Papers Abstracts

Multistage dynamic decision making in bimodal information environment

R.A. Aliev

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Rafik A. Aliev received the Ph.D. and Doctorate degrees from the Institute of Control Problems, Moscow, Russia, in 1967 and 1975, respectively. His major fields of study are decision theory with imperfect information, fuzzy logic, soft computing and control theory. He is a Professor and the Head of the Department of the joint MBA Program between the Georgia State University (Atlanta, GA, USA) and the Azerbaijan State Oil Academy. His current research is focused on generalized theory of stability, recurrent fuzzy neural networks, fuzzy type-2 systems, evolutionary computation, decision theory with imperfect information, calculus with Z numbers, and fuzzy economics. He has over 350 scientific publications including 55 books, 15 editor volumes and over 280 research paper. Dr. Aliev is a regular Chairman of the International Conferences on Applications of Fuzzy Systems and Soft Computing and International Conferences on Soft Computing and Computing with Words. He is an Editor of the Journal of Advanced Computational Intelligence and Intelligent Informatics (Japan), associate editor of the Information Sciences journal, a member of Editorial Boards of International Journal of Information Technology and Decision Making, International Journal of Web-based Communities (The Netherlands), Iranian Journal of Fuzzy Systems (Iran), International Journal of Advances in Fuzzy Mathematics (Italy), and International Journal “Intelligent Automation and Soft Computing.” He is series editor of “Advances in Uncertain Computation”, “World Scientific”. He was awarded USSR State Prize in field of Science (1983), and Lifetime Achievement Award in Science (2014). He was supervisor of more than 150 PhD Students and over 30 Doctorate Dissertations.

Abstract

Multistage decision making finds its important applications in various fields. A series of works devoted to solving deterministic, stochastic and fuzzy multistage problems by using dynamic programming exist. It is needed to account for the fact that real-world multistage problems are characterized by partially reliable information. Unfortunately, up to day, no works on multistage decision making problems under bimodal information exist. In this work, we consider multistage problem under Z-number-valued information. States, control actions and transition law are described by Z-number-valued restrictions and relations. An optimal solution is found as one which allows to arrive to a predefined Z-number-valued goal. A numerical example is considered for analysis of validity of the proposed approach.

Interactive solution of difficult choice and decision making problems: effective and efficient but not always easy

Janusz Kacprzyk

Polish Academy of Sciences Full - Member,
 Academia Europaea - Member,
 European Academy of Sciences and Arts - Member, International
 Academy for Systems and Cybernetic Sciences (IASCYS) -
 Member,
 Bulgarian Academy of Sciences - Foreign Member,
 Spanish Royal Academy of Economic and Financial Sciences
 (RACEF) - Foreign member,
 Finnish Society of Sciences and Letters – Foreign member
 Royal Flemish Academy of Belgium for Sciences and the Arts
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Janusz Kacprzyk graduated from Warsaw University of Technology, Poland, with M.Sc. in automatic control and computer science, obtained in 1977 Ph.D. in systems analysis and in 1991 D.Sc. in computer science. He is Professor of Computer Science at the Systems Research Institute, Polish Academy of Sciences, and at WIT – Warsaw School of Information Technology, and Professor of Automatic Control at PIAP – Industrial Institute of Automation and Measurements. He is Honorary Foreign Professor at the Department of Mathematics, Yli Normal University, Xinjiang, China, and Visiting Scientist at RIKEN Brain Research Institute, Tokyo, Japan. He is Full Member of the Polish Academy of Sciences, Member of Academia Eueopaea (Informatics), Member of European Academy of Sciences and Arts (Technical Sciences), Foreign Member of the Spanish Royal Academy of Economic and Financial Sciences (RACEF), the Bulgarian Academy of Sciences, and the Finnish Society of Sciences and Arts. He is Fellow of IEEE, IET, IFSA, EurAI and SMIA. He has been a frequent visiting professor in the USA, Italy, UK, Mexico, China, and Austria. He has been a member of evaluation commissions of many foreign universities.

His main research interests include the use of modern computation computational and artificial intelligence tools, notably fuzzy logic, in decisions, optimization, control, data analysis and data mining, with applications in databases, ICT, mobile robotics, systems modeling etc. He authored 6 books, (co)edited more than 150 volumes, (co)authored ca. 650 papers, including ca. 100 in journals with IF.. He is the editor in chief of 6 book series at Springer, and of 2 journals, and is on the editorial boards of ca. 50 journals. He is a member of the IEEE CIS Fellows Committee, was Chair of 2016 IEEE CIS Award Committee, has been since 2011 a member of Adcom of IEEE CIS, and was a Distinguished Lecturer of IEEE CIS.

He received many awards: 2006 IEEE CIS Pioneer Award in Fuzzy Systems, 2006 Sixth Kaufmann Prize and Gold Medal for pioneering works on soft computing in economics and management, 2007 Pioneer Award of the Silicon Valley Section of IEEE CIS for contribution in granular computing and computing in words, 2010 Award of the Polish Neural Network Society for exceptional contributions to the Polish computational intelligence community, IFSA 2013 Award for his lifetime achievements in fuzzy systems and service to the fuzzy community, and the 2014 World Automation Congress Lifetime Award for contributions in soft computing, the 2016 Award of the International Neural Network Society – Indian Chapter for Outstanding Contributions to Computational Intelligence. He is President of the Polish Operational and Systems Research Society and Past President of International Fuzzy Systems Association.

Abstract

The present world is characterized by a huge and growing complexity of processes and systems involved, amplified by many other characteristic features that even increase the complexity exemplified by the human centricity, time criticality, emergent behaviors, a need for trustworthiness, etc.

Therefore, the most efficient effective and efficient paradigms for the solution of today's complex problems for now, maybe also for the foreseeable future, is not the full automation", the so-called automated decision making (ADM) but rather the so called quasi-automated decision making (Quasi-ADM) which boils down to a synergistic combination of human and computer capabilities, mainly related to human capabilities to solve „delicate” problems, with a sheer number crunching ability of the computer. This is basically the essence of an interactive problem solving which is advocated by many experts, for instance, Geoff Hinton, one of the founders of deep neural networks.

We consider here difficult decision making and choice problems which involve optimization that can be solved either by a strict optimization procedure or a metaheuristic. First, we look at what can make an optimization-based problem difficult. We propose an interactive approach via the so-called decision aid paradigm. We have a decision maker, called in this context a judge, who knows his/her area but not necessarily tools and techniques for solving resulting decision making and choice problems. So, the judge commissions an analyst, called here an advisor, who need not know the area but knows how to solve those resulting decision making and choice problems. Clearly, the advisor provides advice, information and suggestions, while the judge makes the final decision.

We discuss various issues related to how the 3 stakeholder (judge, advisor and the pair, judge-advisor”) cooperate and collaborate, and in which relations they enter. This is considered, mainly in the context of advice giving (by the advisor) and advice taking (by the judge), and possible different intentions and interests of all parties. In particular, we focus on the so-called advice discounting related to an insufficient use of advice by the judge, unintentionally and intentionally, and analyze various cognitive and psychological reasons, and some ways out. We also discuss some economic aspects. Suggestions for the design and implementation of interactive solution procedure are proposed.

Designing and Evaluating Interpretable Rule-Based Architecture Under Privacy Constraints: A Framework of Granular Computing

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Witold Pedrycz is a Professor and Canada Research Chair (CRC) in Computational Intelligence in the Department of Electrical and Computer Engineering, University of Alberta, Edmonton, Canada. He is also with the Systems Research Institute of the Polish Academy of Sciences, Warsaw, Poland. He also holds an appointment of special professorship in the School of Computer Science, University of Nottingham, UK. In 2009 Dr. Pedrycz was elected a foreign member of the Polish Academy of Sciences. In 2012 he was elected a Fellow of the Royal Society of Canada. Witold Pedrycz has been a member of numerous program committees of IEEE conferences in the area of fuzzy sets and neurocomputing. In 2007 he received a prestigious Norbert Wiener award from the IEEE Systems, Man, and Cybernetics Council. He is a recipient of the IEEE Canada Computer Engineering Medal 2008. In 2009 he has received a Cajastur Prize for Soft Computing from the European Centre for Soft Computing for “pioneering and multifaceted contributions to Granular Computing”. In 2013 has was awarded a Killam Prize. In the same year he received a Fuzzy Pioneer Award 2013 from the IEEE Computational Intelligence Society. His main research directions involve Computational Intelligence, fuzzy modeling and Granular Computing, knowledge discovery and data mining, fuzzy control, pattern recognition, knowledge-based neural networks, relational computing, and Software Engineering. He has published numerous papers in this area. He is also an author of 15 research monographs covering various aspects of Computational Intelligence, data mining, and Software Engineering. Dr. Pedrycz is intensively involved in editorial activities. He is an Editor-in-Chief of Information Sciences and Editor-in-Chief of WIREs Data Mining and Knowledge Discovery (Wiley). He currently serves as an Associate Editor of IEEE Transactions on Fuzzy Systems and is a member of a number of editorial boards of other international journals.

Abstract

In data analytics, system modeling, and decision-making models, the aspects of interpretability and explainability are of paramount relevance as emphasized in numerous studies on explainable Artificial Intelligence (XAI). Those requirements are especially timely when the design of models has to be realized when considering strict requirements of privacy and security. We advocate that to efficiently address these challenges, it becomes beneficial to engage the fundamental framework of Granular Computing. It is demonstrated that a conceptualization of information granules can be conveniently carried out with the use of information granules (for example, fuzzy sets, sets, rough sets, and alike).

We cover a comprehensive discussion of information granules-oriented design of rule-based architectures. A way of forming condition parts of the rules through unsupervised federated learning is discussed along with algorithmic developments. Strategies of joint and separate learning of condition parts and conclusion parts are outlined. A granular characterization of the model formed by the server vis-a-vis data located at individual clients is presented. It is demonstrated that the quality of the rules at the client’s end is described in terms of granular parameters and subsequently the global model becomes represented as a granular model with parameters in the form of information granules of type-2.

Fuzzy classification-based alloy selection from a large dataset

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Prof. M.B. Babanli graduated from Kiev Technical University (Ukraine) with distinguished diploma, 1989. He received the PhD degree from The Institute of Physics of Metals, Academy of Sciences of Ukraine, Kiev, 1992. He received the Doctorate degree in 2008. He served as a researcher in Academy of Sciences of Ukraine, as an associate professor and professor at Azerbaijan Technical University, as a vice-president of Azerbaijan Technical University. He is the president of Azerbaijan State Oil and Industry University since 2015. His major field of research is analysis and synthesis of new smart materials, especially engineering of shape memory alloys by using experimental and computer aided approaches. His research breaks away traditional approaches to new material synthesis and selection. The proposed by him fuzzy and big data concept based approaches to new material synthesis allow to alternate hard experimental works. He studied a problem of an optimal alloy selection on the basis of the fuzzy set theory and the Z-number theory. He investigated application of the fuzzy set theory to knowledge mining from big data on material characteristics. He proposed fuzzy and Z-information based models as a basis for computer synthesis of new materials. The research results of Prof. Babanli were published in more than 180 refereed publications including 6 books and about 180 papers in journals and patents. Prof. Babanli was the head and the project member of more than 10 international research projects, such as ECONET-1 (2002-2005), STCU-5980 (2013-2015) etc. He was awarded honored scientist of Azerbaijan (2020).

Abstract

Nowadays, large datasets of alloys designed for various purposes exist. This allows using computer-guided methods for alloy synthesis and selection instead of costly experiments. Modern alloy selection problems are characterized by a large space of alternatives with complex properties. An application of classical methods to such problems may not be adequate. In turn, fuzzy logic-based methods may be effective due to good abilities of summarization and robustness to imprecision.

In this work, fuzzy classification-based selection of an alloy from a complex dataset is considered. This allows partitioning of a large space of alternatives to typical classes. An optimal alloy may then be found within most relevant classes. Such technique reduces search space under good interpretability and provides satisfactory results. An example of an alloy selection given a large dataset of alloy mechanical properties is used to illustrate effectiveness of the approach.

Sessions

Time	Monday, August 23, 2021
08:00 – 08:40	Breakfast
08:40 – 09:20	Registration
09:20 – 09:40	Opening Ceremony
09:40 – 10:10	<i>Keynote Speech</i> Chair: M. B. Babanli, Azerbaijan R. A. Aliev: Multistage dynamic decision making in bimodal information environment
10:10 – 10:40	<i>Keynote Speech</i> Chair: R. A. Aliev, Azerbaijan J. Kacprzyk: Interactive solution of difficult choice and decision making problems: effective and efficient but not always easy
10:40 – 10:55	Tea/Coffee
10:55 – 12:25	<i>Session A</i> Theory and Application of Soft Computing Chairman: G. Imanov
Hybrid Structures and Hybrid Filters of EQ-algebras Akbar Paad	
Consistent Z-preferences formulation in decision analysis R. R. Aliyev	
New High Step-up DC-DC Converter in Photovoltaic System: Performance and Analysis S. Bektas, F. M. Shahir, E. Babaei	
Investigation of the quality of fuzzy IF-THEN model for a control system N. E. Adilova	
Circular Intuitionistic Fuzzy Sets in Multi criteria Decision Making E. Çakır, M. A. Taş, Z. Ulukan	
Z+ - number based alternatives selection in investment problem Sh. A. Ahmadov	
12:25 – 13:45	<i>Session B</i> Decision theory with imperfect information Chairman: L. A. Gardashova
Fuzzy Interval-Valued Temporal Automated Planning and Scheduling Problem J. Kacprzyk, M. Knyazeva, A. Bozhenyuk	
Z-numbers-based preference of expert opinions on social capital G. Imanov, M. Murtuzaeva, A. Aliyev	
Quality metrics of LSB Image Steganography Technique for Color space HIS Yucel İnan	

Z-set based inference using ALI-2 implication for control system design L.A. Gardashova	
Z-numbers-based approach to hotel service quality assessment A. Nuriyev, B. Baysal	
Predicting Stock Prices Using Random Forest and Logistic Regression Algorithms A. Aliyeva	
13:45 – 14:45	Lunch
14:45 – 16:15	<i>Session C</i> Fuzzy logic and Neuro-Fuzzy technology Chairman: V. Nourani
Explainable Artificial Intelligence: Rules Extraction from Neural Networks A. Averkin, S. Yarushev	
Application of emotional neural network in modeling evaporation F. Sadikoglu, V. Nourani, N. J. Paknezhad, S. Emamalipour	
Malaria Detection Using Convolutional Neural Network K. Almezghwi	
Selection of information - measuring components on the basis of layout diagram of flexible manufacturing cell I. R. Aliyev, J. F. Mammadov, Sh. R. Rakhimov	
Minimizing Handover Process and Wireless Propagation Lose by using Multilayer Perception Neural Network Jamal Fathi	
Automatic control of reactive power in the load node of the power supply system based on fuzzy logic Z. I. Farkhadov, R. Z. Azizov	
16:15 – 16:30	Tea/Coffee
16:30 – 18:00	<i>Session D</i> Soft Computing and Artificial Intelligence in engineering, economics, social sciences, medicine Chairman: R. R. Aliyev
Fuzzy Aided Generalized Probability Distribution Function for Wireless Wearable Medical Sensors B. Bilgehan, F. Sadikoglu	
Use of Decision Tree and Fuzzy Logic Methods to Predict Academic Achievement of University Freshmen M. A. Salahli, T. Gasimzade, V. Salahli, F. Alasgarova, A. Guliyev	
Monthly Prediction of Reference Evapotranspiration in Northcentral Nigeria Using Artificial Intelligence Tools: A Comparative Study J. Abdullahi, G. Elkiran	

Estimation of Benchmarking Influence in Buyer's Decision-Making process by using fuzzy AHP Kh. J. Dovlatova	
Attitudes of Families of Children with Special Needs towards Technology R. K. Akdağ, Ş. Akdağ, Ç. Kılınç, Y. Yücesoy, B. Bağlama	
Some Aspects of Applying Fuzzy Logic Theory in Steel Metallurgy R. I. Karimov	
18:00 – 18:30	<i>Keynote Speech</i> Chair: U. Eberhardt, Germany W. Pedrycz: Designing and Evaluating Interpretable Rule-Based Architecture under Privacy Constraints: A Framework of Granular Computing
09:00-18:30	<i>Flexible Session</i> Chairman: Kh.J. Dovlatova
18:30	Welcome reception
Tuesday, August 24, 2021	
08:00 – 09:00	Breakfast
09:00 – 09:30	<i>Keynote Speech</i> Chair: F. Sadikoglu, Azerbaijan M. B. Babanli: Fuzzy classification-based alloy selection from a large dataset
9:30-11:00	<i>Session E</i> Theory and Application of Soft Computing Chairman: N. E. Adilova
Imperfect Knowledge Base Self-Organization in Robotic Intelligent Cognitive Control: Quantum Supremacy S.V. Ulyanov, A.V. Shevchenko, A.A. Shevchenko, A.G. Reshetnikov	
Solution of IT investment problem using fuzzy logic-based approach J. M. Babanli	
Application of ELECTRE method to decision making under Z-number-valued information K. I. Jabbarova, A. I. Jabbarova	
EFL Teachers' Competencies According to Student Opinions S. Sadıkoğlu, Ş. Akdağ, M. Tezer, R. Khalilov	
Graph – based load balancing model for Exascale computing systems A. R. Aliev, N. T. Ismayilova	
The impact of in-store environment on purchase intention in supermarkets G. Sadikoglu, N. E. Adilova, P. I. Anene	
11:00 – 11:15	Tea/Coffee

11:15 - 12:35	<p><i>Session F</i></p> <p>Soft Computing and Artificial Intelligence in engineering, economics, social sciences, medicine, and pharmaceutical sciences</p> <p>Chairman: Akbar Paad</p>
<p>Simulation of Electrodynamical Processes in a Cylindrical-Rectangular Microwave Waveguide Systems Transmitting Information</p> <p>M. H. Hasanov, I. J. Islamov, M. H. Abbasov</p>	
<p>Ranking integration factors using fuzzy TOPSIS method</p> <p>T. Suleymanli</p>	
<p>Evaluation of HCV infection laboratory test results using machine learning methods</p> <p>H. Altıparmak, Ş.Kaba, M. Yuvalı</p>	
<p>Fuzzy logic approach to the amount of medication taken during breathing with an inhalator</p> <p>A. J. Jabiyeva</p>	
<p>Fuzzy modeling of the relationship between tax administration efficiency and tax obligations fulfillment</p> <p>A. F. Musayev, M. Kh. Gazanfarli</p>	
12:35 – 13:35	Lunch
13:35 - 15:00	<p><i>Session H</i></p> <p>Decision theory with imperfect information</p> <p>Chairman: L. A. Gardashova</p>
<p>Project selection under U-number-valued information</p> <p>K. I. Jabbarova</p>	
<p>Downscaling Precipitation from GCM parameters using Recurrent Neural Networks</p> <p>V. Nourani, F. Sadikoglu, K. Khodkar, A. Shahli</p>	
<p>Solution of the personnel selection problem using Z-numbers</p> <p>L. A. Gardashova, S. Salmanov</p>	
<p>Portfolio selection model using Z-numbers theory</p> <p>L. Hasanova</p>	
<p>Predicting the Mechanical Power of a New-Style Savonius Wind Turbine Using Machine Learning Techniques and Multiple Linear Regression: Comparative Study</p> <p>Y. Kassem, H. Çamur, M.A.H.A. Abdalla</p>	
<p>Analysis of consistency of pairwise comparison matrix with fuzzy type-2 elements</p> <p>A. Dadasheva</p>	
15:00 – 15:30	<p>Round Table</p> <p>R. A. Aliev, J. Kacprzyk, W. Pedrycz, M. B. Babanli, F. S. Sadikoglu</p>
<p>Closing Ceremony</p>	
09:00 – 18:30	<p>Flexible Session</p> <p>Chairman: Kh. J. Dovlatova</p>
<p>Analysis and Assessment of Accuracy of the Oil Recovery Factor Calculations by using the Fuzzy Clustering Algorithm</p> <p>B.N. Koilybayev, M.K. Karazhanova, G.M. Efendiyev, A.S. Strekov, L.B. Zhetekova</p>	

<p>Estimation of oil-gas reservoirs capacity at great depths using fuzzy linear regressions A. B. Hasanov, M. S. Ibrahimli</p>
<p>Fuzzy Control of Mechanical Ventilation System G. Say, N. Akkaya, E. Aytac, S. Abizada, T. Yirtici, K. Ruso, I. Gunsel, R. H. Abiyev</p>
<p>Modeling of relationship between the quality indicators of plastic details Dj. A. Kerimov</p>
<p>Fuzzy-multiple model of gamified mobile application "Smart house" based on Bartle classification of psychotypes of players A. S. Alexeev, G. A. Batishcheva, T. A. Kiyaschenko, G. V. Lukyanova, V. A. Ovsyannikov</p>
<p>Decision on facility location on base of Interval Data K. R. Aliyeva</p>
<p>Fuzzy Gain Scheduling Controller for Quadrotor R. H. Abiyev, N. Akkaya, E. Aytac, S. Abizada</p>
<p>Application of Fuzzy Logic Model for Optimal Solution of Light Reflection Value in Lighting Calculations T. Abdullayev, R. Imamguluyev, N. Umarova</p>
<p>Fuzzy-multiple model of adjustment of the "Smart house" mobile application under the user level M. Ansari, A. N. Kuzminov, M. B. Stryukov, O. A. Ternovsky</p>
<p>Generation of fuzzy chaotic behavior in secure communication system K. M. Babanli</p>
<p>Exploring the Problematic of Industry 4.0 and Platform-based Economic Development N. R. Yusupbekov, Sh. M. Gulyamov, N. B. Usmanova, J. F. Khoshimov</p>
<p>Toward an analysis of pairwise comparison matrices with Z-number-valued elements R. R. Aliev, O. H. Huseynov, J. Guliyev</p>
<p>Development of an automatic parking algorithm based on fuzzy logic A. B. Sultanova</p>
<p>Staff Selection with Fuzzy Logic in the Tourism Sector A. Valiyev, R. Imamguluyev, I. Gahramanov</p>
<p>Type-2 Fuzzy logic approach for port selection K. R. Aliyeva</p>
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1. Location

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2. Conference Secretariat

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During the conference

During the conference the secretariat will be located in the reception area of the conference room. The secretariat will be opened for registration and distribution of the conference material during the conference times.

3. Conference Fee

€250

Registration fee entitles you to:

- access to the conference sessions;
- get a copy of the final program and the proceedings;
- get a list of conference participants;
- have coffee during breaks.

4. Conference Language

The conference language is English. There is no simultaneous translation available.

5. How to get to The Corner Park Hotel

The Corner Park Hotel can be reached by bus or taxi from Antalya Airport.