



TARAS SHEVCHENKO NATIONAL UNIVERSITY OF KYIV
NATIONAL TECHNICAL UNIVERSITY OF UKRAINE "IGOR SIKORSKY KYIV POLYTECHNIC INSTITUTE"
VIKTOR GLUSHKOV INSTITUTE OF CYBERNETICS OF THE NAS OF UKRAINE
INSTITUTE FOR INFORMATION RECORDING OF THE NAS OF UKRAINE
UZHHOROD NATIONAL UNIVERSITY
CHERKASY STATE TECHNOLOGICAL UNIVERSITY

PROGRAMME

II International Scientific Symposium "Intelligent Solutions"



IntSol 2021



***X International School-Seminar «Decision Making Theory»
VI International Conference «Computational Intelligence»***

September 28-30, 2021, Kyiv

The symposium will take place as video conference
using the Zoom platform on September 28-30, 2021 at **10 a.m.**

Link: <https://us02web.zoom.us/j/89633089587?pwd=SmxSTGtzMTZySitYWIRCnNubUBEQwdz09>

Meeting ID: 896 3308 9587

Passcode: 912467

Contact details:

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PROGRAM COMMITTEE

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- **Prof Michael Zgurovsky**, National Technical University of Ukraine «Igor Sikorsky Kyiv Polytechnic Institute», Kyiv, Ukraine



ORGANIZING COMMITTEE

Organizing committee

- | | | |
|--------------------|---|---|
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| Hryhoriy Hnatienko | – | PhD in Technical Sciences, Deputy Dean of the Faculty of Information Technology, Taras Shevchenko National University of Kyiv |
| Oleh Ilarionov | – | PhD in Technical Sciences, Associate Professor, Head of the Department of Intelligent Technologies of the Faculty of Information Technology, Taras Shevchenko National University of Kyiv |
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| Snezhana Gamotska | – | Assistant Professor, Faculty of Information Technology, Taras Shevchenko National University of Kyiv |



SYMPOSIUM TIMETABLE

Tuesday, September 28, 2021

Plenary sessions

Link: <https://us02web.zoom.us/j/89633089587?pwd=SmxSTGtzMTZySitYWIRCnNubEQwdz09>

Meeting ID: 896 3308 9587

Passcode: 912467

9:30 – 10:00	Registration of conference participants
10:00 – 10:15	<i>Opening of the Symposium</i>
10:15 – 13:00	Parallel sessions
13:00 – 14:00	<i>Lunch</i>
14:00 – 17:00	Parallel sessions

Section 1. Computational Intelligence

Link: <https://us02web.zoom.us/j/89633089587?pwd=SmxSTGtzMTZySitYWIRCnNubEQwdz09>

Meeting ID: 896 3308 9587

Passcode: 912467

Section 2. Decision Making Theory

Link: <https://zoom.us/j/96241625481?pwd=TzhJeFRKUXdvMnVTRVZaWEZNSXU3QT09>

Meeting ID: 962 4162 5481

Passcode: 875815



SYMPOSIUM PROGRAMME

28

Tuesday

SEPTEMBER

OPENING OF THE SYMPOSIUM (10:00 – 10:15) Moderator V.E. Snytyuk

Link: <https://us02web.zoom.us/j/89633089587?pwd=SmxSTGtzMTZySitYWIRCnBubEQwdz09>

Meeting ID: 896 3308 9587

Passcode: 912467

Welcome speech:

Vice-rector, prof. Volodymyr Ilchenko, Taras Shevchenko National University of Kyiv, Ukraine

Prof. Leonid Huliannytskyi, V.M.Glushkov Institute of Cybernetics of the National Academy of Sciences of Ukraine, Ukraine

Prof. Yuriy Zaychenko, National Technical University of Ukraine «Igor Sikorsky Kyiv Polytechnic Institute», Kyiv, Ukraine

Prof. Mykola Malyar, Uzhgorod National University, Uzhgorod, Ukraine

Tracks 1:

«Computational Intelligence»

Link: <https://us02web.zoom.us/j/89633089587?pwd=SmxSTGtzMTZySitYWIRCnBubEQwdz09>

Meeting ID: 896 3308 9587

Passcode: 912467

Head: Yuriy Zaychenko, Vitalij Snytyuk

Secretary: Oleh Ilarionov

1.	(10:15 – 10:30) Valentina Petrovych, Vladislav Kuznetsov, Eduard Manziuk, Iurii Krak, Veda Kasianiuk, Olexander Barmak, and Anatoliy Kulias	On development classification methods for hidden features separation in data
2.	(10:30 – 10:45) Iryna Rozora and Danylo Shumeiko	Handling missing values in machine learning regression problems
3.	(10:45 – 11:00) Yuriy Zaychenko and Galib Hamidov	Investigation of hybrid neo-fuzzy neural networks in the problem of pandemic forecasting

4.	(11:00 – 11:15) Olena Prysiashniuk and Olena Blyzniukova	Application of Fuzzy Approach in Modeling of Psychodiagnostic Decision Support Systems for One Class of Tasks
5.	(11:15 – 11:30) Volodymyr Polishchuk, Miroslav Kelemen, Iwona Włoch, Andriy Polishchuk, Marianna Sharkadi and Yurii Mlavets	Conceptual Model of Presentation of Fuzzy Knowledge
COFFEE BREAK (11:30 – 11:45)		
6.	(11:45 – 12:00) Stepan Bilan	A Technique for Describing and Transforming Images Based on the Evolution of Cellular Automata
7.	(12:00 – 12:15) Yuri Samokhvalov	Modeling of random variables on fuzzy intervals of their values
8.	(12:15 – 12:30) Maksym Ogurtsov	Review of Neural Networks Application in UAV Routing Problems
9.	(12:30 – 12:45) Timur Zheldak, Illia Ziborov, Vladyslav Lyman and Andrii Zhuk	Efficiency improvement of the algorithm based on an artificial immune system modeling applied to continuous and combinatorial problems
10.	(12:45 – 13:00) Mykola Robotyshyn, Marianna Sharkadi and Mykola Malyar	Surface defect detection based on deep learning approach
LUNCH (13:00-14:00)		
11.	(14:00 – 14:15) Leonid Hulianytskyi and Iryna Riasna	On Fuzzy Similarity Relations for Heterogeneous Fuzzy Sets
12.	(14:15 – 14:30) Yevgeniy Bodyanskiy, Olha Chala and Nonna Kulishova	Neo-Fuzzy System With Special Type Membership Functions Adaptation and Fast Tuning Of Synaptic Weights In Emotion Recognition Task
13.	(14:30 – 14:45) Roman Ponomarenko and Anastasiia Demchuk	IoT Control Systems base on Fuzzy Inference
14.	(14:45 – 15:00) Leonid Kupershtein, Olesya Voitovych, Tatiana Martyniuk and Artur Borusevych	Remote Host Operation System Type Detection Based on Machine Learning Approach
15.	(15:00 – 15:15) Oleksii Bychkov, Kateryna Merkulova, Yelyzaveta Zhabska and Andriy Shatyrko	Development of Information Technology for Person Identification in Video Stream
COFFEE BREAK (15:15 – 15:30)		
16.	(15:30 – 15:45) Oleh Ilarionov, Hanna Krasovska and Iryna Domanetska	Classifier of liver diseases according to textural statistics of ultrasound investigation and convolutional neural network

17.	(15:45 – 16:00) Maryna Antonevych, Nataliia Tmienova and Vitaliy Snytyuk	Models and Evolutionary Methods for Objects and Systems Clustering
18.	(16:00 – 16:15) Nataliia Danylevych, Svetlana Rudakova, Liudmyla Shchetinina and Oksana Poplavska	Digitalization of personnel management processes: reserves for using chatbots
19.	(16:15 – 16:30) Dmytro Palko, Hrygorii Hnatienko, Tetiana Babenko and Andrii Bigdan	Determining Key Risks for Modern Distributed Information Systems
Tracks 2: Decision Making Theory		
Link: https://zoom.us/j/96241625481?pwd=TzhJeFRKUXdvMnVTRVZaWEZNSXU3QT09		
Meeting ID: 962 4162 5481		
Passcode: 875815		
Head: Leonid Hulianytskyi, Sergey Yakovlev, Mykola Malyar		
Secretary: Nikolay Kiktev		
1.	(10:15 – 10:30) Oleksiy Oletsky	On Constructing Adjustable Procedures For Enhancing Consistency Of Pairwise Comparisons On The Base Of Linear Equations
2.	(10:30 – 10:45) Natalia Kondruk and Mykola Malyar	Dimensionality Reduction of the Criterion Space in Some Optimization Problems
3.	(10:45 – 11:00) Serge Dolgikh and Oksana Mulesa	Collaborative Human-AI Decision-Making Systems
4.	(11:00 – 11:15) Sergiy Yakovlev	An Approach for Improving Local Solutions in the Unequal Circles Packing Problem
5.	(11:15 – 11:30) Valentyn Sobchuk, Oleksiy Kapustyan, Volodymyr Pichkur and Olena Kapustian	Design of stable periodic regimes for one class of hybrid planar systems
COFFEE BREAK (11:30 – 11:45)		
6.	(11:45 – 12:00) Vitaliy Tsyganok, Mykhailo Dubok and Olha Tsyhanok	Keyword Search Procedure Using Fuzzy Matching to Detect Ambiguity in Expert Formulations in Knowledge Bases of Decision Support Systems
7.	(12:00 – 12:15) Olexandr Polishchuk and Mykhailo Yadzhak	Information and evaluation models of complex hierarchical network systems
8.	(12:15 – 12:30) Anatoly Anisimov, Igor Zavadskyi and Petro Kuliabko	Hybrid technologies for Databases
9.	(12:30 – 12:45) Vladimir Semenov and Sergey Denisov	Convergence of adaptive forward-reflected-backward algorithm for solving variational inequalities

10.	(12:45 – 13:00) Vyacheslav Korolyov and Olexandr Khodzinskyi	Comparative analysis of algorithms for finding the maximum independent set of graphs on quantum and traditional computer
LUNCH (13:00 – 14:00)		
11.	(14:00 – 14:15) Marina Semeniuta, Zoya Sherman and Oleh Dmitriiev	Magic type labeling of graphs in linear ordering problems
12.	(14:15 – 14:30) Hanna Rakytyanska	Design of Interpretable Rules based on Constrained Solutions of Fuzzy Relational Equations
13.	(14:30 – 14:45) Olha Matsiy and Oksana Pichugina	Permutation-Matrix Approach to Optimal Assignment Design
14.	(14:45 – 15:00) Ihor Mych, Volodymyr Nykolenko and Olena Vartsaba	The Signature Investigation of one Class of Universal Boolean Algebras
15.	(15:00 – 15:15) Vadim Shergin, Larysa Chala, Serhii Udovenko and Mariya Pogurskaya	Assortativity of an Elastic Network with Implicit Use of Information about Nodes Degree
COFFEE BREAK (15:15 – 15:30)		
16.	(15:30 – 15:45) Nikolay Kiktev, Volodymyr Osypenko, Oleksii Kalivoshko and Alexey Kutryev.	Information system for decision-making in the management of renewable energy sources in the Microgrid system
17.	(15:45 – 16:00) Dariia Manovytska, Natalya Semenova and Galyna Dolenko	Problems of decision making in subject domain “Electric Vehicle”
18.	(16:00 – 16:15) Natalya Semenova and Mariia Lomaha	Vector convex optimization problems: lexicographic optimality and solvability, method of solving
19.	(16:15 – 16:30) Natalia Pasichnyk, Dmytro Komarchuk, Oleksiy Opryshko and Nikolay Kiktev	Evaluation of the Quality of Filtering Spectral Data and the Prospects for its Functioning