



Technical programme of **IEEE IDAACS 2023 (HYBRID)**

12th IEEE International Conference on Intelligent Data Acquisition and Advanced Computing Systems: Technology and Applications

7-9 September 2023
Dortmund University of Applied Sciences and Arts, Germany

The conference is scheduled in accordance with
Central European Summer Time (CEST / UTC+2)

Address of the conference Venue: [Emil-Figge-Straße 42, 44227 Dortmund](#)

IDAACS 2023 CONFERENCE TIMETABLE

Address for **on-site** participation: [Emil-Figge-Straße 42, 44227 Dortmund](https://www.dortmund.de/en/locations/emil-figge-strasse-42)

Time Zone for **online** participation: **Central European Summer Time (CEST / UTC+2)**. Portal address through which the online participation is happening: <https://idaacs.digital/>.

THURSDAY, 7 SEPTEMBER 2023

TIME	SESSIONS AND LOCATION					
09:00 - 10:30	2nd floor hall Registration + Hybrid: Portal and Room A.E.01 Conference opening Stephan Weyers, Oksana Desyatnyuk, Daniel Hamburg, Uwe Großmann, Oleksandr Palagin and Anatoliy Sachenko					
10:30 - 11:30	Hybrid: Portal and Room A.E.01 Keynote: Prof. Richard J. Duro - "Purposeful Lifelong Open-ended Learning Autonomy: a path towards more versatile and useful robots." Plenary session					
11:30 - 12:00	Hybrid: Portal and Room A.E.01 Transformation story of Ruhrvalley and Dortmund					
12:00 - 13:30	Lunch (Kostbar)					
13:30 - 15:00	On-site: Room A.E.02 Session TA1: Workshop Beyond 5G and 6G Networks Technologies and Security	On-site: Room A.1.02 Session TB1: Data Analysis and Modeling	On-site: Room A.2.02 Session TC1: Intelligent Distributed Systems	Online: Portal Session TOA1: Special Stream on Internet of Things for Smart Buildings and Cities	Online: Portal Session TOB1: Intelligent Software Tools, Systems, and Databases	On-site: B.E.23.1 (InnoLab) IEEE IDAACS workshop of "Projects for the Digital Transformati on"
15:00- 15:30	Coffee break (1st + 2nd floor hall)					
15:30- 17:00	On-site: Room A.E.02 Session TA2: Intelligent Computer Technologies for Healthcare and Medicine	On-site: Room A.1.02 Session TB2: Special Stream on Project Management	On-site: Room A.2.02 Session TC2: Special Stream on Advanced Machine Learning	Online: Portal Session TOA2: Special Stream on Advanced Machine Learning	Online: Portal Poster session TPOB2	
17:00 - 18:00						
18:00- 22:30	On-site: German Football Museum, Platz der Deutschen Einheit 1, 44137 Dortmund IDAACS Symposium of Transformation towards Smart Cities & Conference Dinner					



FRIDAY, 8 SEPTEMBER 2023

TIME	SESSIONS AND LOCATION					
8:30 – 9:00	2nd floor hall Registration					
09:00 - 09:45	Hybrid: Portal and Room A.E.01 Keynote: Prof. Inna Skarga-Bandurova - "Acceptability of AI-based Solutions: From Building Trust to Leap of Faith"					
9:45 - 11:15		On-site: Room A.1.02 Session FB1: Data Analysis and Modeling	On-site: Room A.E.02 Session FC1: Advanced Instrumentation and Data Acquisition Systems	Online: Portal Session FOA1: Advanced Instrumentation and Data Acquisition Systems	Online: Portal Session FOB1: Special Stream on Cyber Security	
11:15 - 11:30	Coffee break (1st + 2nd floor hall)					
11:30 - 13:00	On-site: Room A.E.02 Session FA2: Special Stream on Project Management	On-site: Room A.1.02 Session FB2: Special Stream on Virtual and Augmented Reality	Online: Portal Session FOA2: Special Stream on Advanced Information Technologies	Online: Portal Session FOB2: Intelligent Computer Technologies for Healthcare and Medicine	Online: Portal Session FOC2: Special Stream on Advanced Machine Learning	
13:00 - 14:00	Lunch (Kostbar)					
14:00 - 15:30	On-site: 2nd floor IDAACS Market: Company & Student Fare/Exhibition	On-site: 1st floor hall Poster session FPA1	On-site: 2nd floor hall Poster session FPB1	Online: Portal Session FOA3: Workshop Beyond 5G and 6G Networks Technologies and Security		On-site: B.E.23.1 / B.E.23.2 (InnoLab) IEEE IDAACS workshop of "Projects for the Digital Transformation"
15:30 - 16:00	Coffee break + Market + Poster session					
16:00 - 17:30	On-site: Room A.E.02 Session FA4: Special Stream on Design and Testing of Advanced Measuring and Computer Systems	On-site: Room A.1.02 Session FB4: Special Stream on Innovation in Digital Transformation and Engineering Education	On-site: Room A.2.02 Session FC4: Special Stream on Cyber Security	Online: Portal Session FOA4: Special Stream on Design and Testing of Advanced Measuring and Computer Systems	Online: Portal Poster session FPOB4	



SATURDAY, 9 SEPTEMBER 2023

TIME	SESSIONS AND LOCATION				
9:00 – 9:30	2nd floor hall Registration				
09:30 - 11:00	On-site: Room A.1.02 Session SB1: Special Stream on Advanced Information Technologies	On-site: Room A.2.02 Session SC1: Pattern Recognition, Digital Image and Signal Processing	Online: Portal Session SOA1: Data Analysis and Modeling	Online: Portal Session SOB1: Special Stream on Advanced Information Technologies	
11:00 - 11:30	Coffee break (1st + 2nd floor hall)				
11:30 - 12:15	On-site: Room A.1.02 Session SB2 Workshop on Cyber Physical Systems for IoT Dependability and Resilience (CyberIoT 2023)	Online: Portal Keynote: Assoc. Prof. Danilo Pelusi - Nature-inspired algorithms and fuzzy logic for optimization problems	On-site: Room A.2.02 Session SC2: Stream on Intelligent Methods for/and IoT	Online: Portal Session SPOA2: Poster Session	Online: Portal Session SPOB2: Poster session
12:15 - 13:00					
13:00 - 14:00	Lunch (Kostbar)				
14:00- 15:30	Hybrid: Portal and Room A.E.01 Round Table and Closing Ceremony George Markowsky, Anatoliy Sachenko, Carsten Wolff				



TIME DIFFERENCE

Relevant only for **online** participants.

The conference time corresponds with the **CEST (Central European Summer Time)** time zone, where **German** time is the reference point.

On the **IEEE IDAACS 2023** conference [portal](#) you can find the 'live' Time difference in relation to the Conference time.

Country	Time zone	Time zone	Time difference in hours (in relation to Germany)
Germany	UTC+2	CEST	0
Morocco	UTC+0	WET	-2
Egypt	UTC+2	EET	0
Poland	UTC+2	CEST	
Hungary	UTC+2		
Italy	UTC+2		
Slovakia	UTC+2		
Sweden	UTC+2		
Ukraine	UTC+3		
Romania	UTC+3		
Iraq	UTC+3	AST	+3:30
Turkey	UTC+3	TRT	
India	UTC+5:30	IST	+4
Kazakhstan	UTC+6	ALMT	
China	UTC+8	CST	+6
Malaysia	UTC+8	MYT	
Japan	UTC+9	JST	+7
USA, TX	UTC-6	MDT	-8



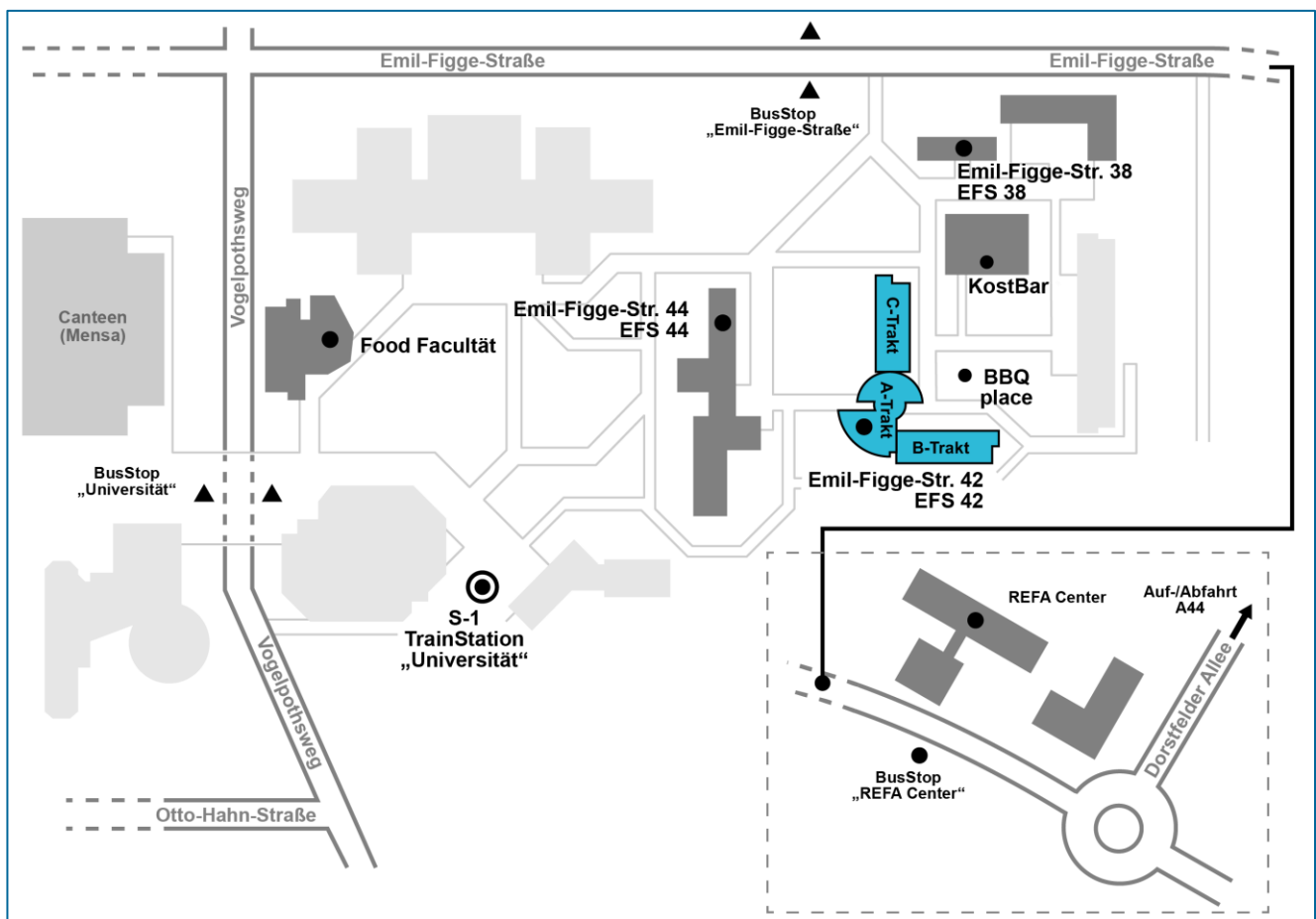
VENUE OF THE CONFERENCE

Address for **on-site** participation: [Emil-Figge-Straße 42, 44227 Dortmund](https://www.fh-dortmund.de/locations/emil-figge-strasse-42)

The venue is marked blue on the map below.

For **online participations**: participants will need to use the IDAACS 2023 portal:
<https://idaacs.digital/>

All participants will receive the login credentials several days before start of the conference.
All **links to the online sessions** will be provided in the portal!



Dortmund University of Applied Sciences and Arts (Fachhochschule Dortmund),
[Emil-Figge-Straße 42, 44227 Dortmund](https://www.fh-dortmund.de/locations/emil-figge-strasse-42)



FORMAT TYPES OF PAPERS PRESENTATION

In **IEEE IDAACS 2023** there are **4 types** of paper presentation format: on-site oral, on-site poster, online oral and online poster presentation.

The **requirements** and **templates** for preparing the presentation can be found on our website:

<https://idaacs.net/2023/paper-preparation>

Below you can check what format of presentation is your paper.

Distribution of the papers in the session you can find after this section.

ON-SITE ORAL PRESENTATIONS

- #1. Matrix Hyper-Basis Function Neural Network and Its Online Learning. Olha Chala, Yevgeniy Bodyanskiy, Anatoliy Sachenko, Maciej Dobrowolski.
- #7. Principal Component Analysis Visualization and State Discovery with Soil Data. Miki Sirola, Markku Koskinen, Tatu Polvinen, Mari Pihlatie.
- #14. Suppressing Laser Triangulation Sensors Optical Aberrations by Replacing the Lens with a Slit. Benjamin Lapointe-Pinel, Steven Pigeon.
- #18. Count Predictive Model with Mixed Categorical and Count Explanatory Variables. Evžen Uglickich, Ivan Nagy, Tetiana Reznichenko.
- #19. Applicability of Mel-cepstrum-related Features for Action Recognition Based on Data from Impulse-radar Sensors. Szymon Kruszewski, Paweł Mazurek, Roman Morawski.
- #20. The FPGA Implementation of Pseudorandom Word Generation Algorithms. Volodymyr Opanasenko, Stanislav Zavyalov.
- #21. Neural Network-based Accelerator for Natural Language Text Classification. Irina Zelenova, Artem Didenko, Tetiana Holub, Galyna Tabunshchik, Carsten Wolff, Svitlana Hrushko.
- #23. Implementation of a Time-to-Digital Converter Inside FPGA. Michal Špaček, Radek Sedláček, Jaroslav Roztočil.
- #25. Digital Health Systems: Ontology-Based Universal Dialog Service for Hybrid E-Rehabilitation Activities Support. Oleksandr Palagin, Vladislav Kaverinsky, Mykola Petrenko, Kyrylo Malakhov.
- #39. Indoor Positioning System Evaluation in Public Rooms. George Margaritis, Vasileios Serasidis, Ioannis Sofiannidis, Vasileios Konstantakos, Kostas Siozios, Theodore Laopoulos.
- #44. Methods for Assessment of Gait Asymmetry Based on Data from Depth sensors. Jakub Wagner.
- #51. APT Detection: an Incremental Correlation Approach. Salva Daneshgadeh Cakmakci, Georgios Gkoktsis, Robin Buchta, Kai Oliver Detken, Felix Heine, Carsten Kleiner.
- #54. Central Security Incident Management Platform in Industry 4.0 with Threat Intelligence Interface. Salva Daneshgadeh Cakmakci, Sercan Catalkaya, Kai Oliver Detken, Evren Eren.
- #57. Mobile EnviSense - a Wireless Sensor Network for Sustainable Agriculture, Forestry and Green Spaces in Smart Cities. Sebastian Rosewick, Felix Schorlemer, Frank Künemund.
- #61. Speech Emotion Recognition Using Combined Mel Spectrograms with 2D CNN Models. Žygimantas Marma, Mindaugas Punys, Arunas Lipnickas.
- #62. System Architecture for Digital Twin based Collision Avoidance through Private 5G Networks. Silas Ulrich, Tommy Luong, Christian Moldovan, Janis Tiemann, Andreas Lewandowski, Christof Röhrig.



- #63. YOLO-based Detection of Drilled Blind Holes in Laminated Panels with Template Similarity Assessment. Lukas Zabulis, Arūnas Lipnickas, Rytis Augustauskas, Dominykas Lelešius.
- #66. Comparative DNN-based Classification of Customers Feedbacks in E-Commerce Platform. Walid Benaouda, Siham Ouamour, Halim Sayoud.
- #67. Bimodal Author Identification on Famous Political Discourses Based on Text and Speech. Halim Sayoud, Siham Ouamour.
- #70. Higher Reconstruction Performance With Dual Deep Neural Networks for Wireless Sensor Networks Compressed Temporal Signals. Sébastien Rousseau, Romain Négrier, Fabien Courreges, Frank Itoua Engoti, Raymond Quéré.
- #72. Toward Emotional Machine-Awareness: An A.I.Based Model for Artificial Aesthetic Perception. Fatemeh Saveh, Mohand Tahar Soualah, Kurosh Madani, Abdennasser Chebira, Reza Askari Moghadam.
- #73. Analysis of a Cryptographically Secure Pseudo Random Number Generator. Benjamin Williams, Robert E. Hironoto, Albert Carlson.
- #75. Digital Twins in Engineering Education, Preparing Students for Industrial Digital Transformation. Galyna Tabunshchyk, Peter Arras, Carsten Wolff.
- #79. Examining the Impact of Team Dynamics in Agile Project Management Success in Software Development: A Systematic Literature Review. Momodou B Jallow, Mariana Rovelo, Saeed All Gharaee, Sradhya Dutta and Mahsa Askari.
- #80. Key Success Factors for Digitally Transformed Agile Remote Work. Ellen Bekoe, Kateryna Turchaninova, Aysha Fazal, Sherzod Nosirov, Renzie Thajudeen, Navid All Gharaee, Furkan Ali Yurdakul.
- #86. Chatbots Lifecycle Support Platform. Grzegorz Nowakowski, Sergii Telenyk, Yevhenii Vovk.
- #89. Distributed Team Dynamic Based on Inspirational Management Model. Sergiy Bushuyev, Carsten Wolf, Denis Bushuiev, Oleksandr Chernysh.
- #90. Implementing Project Management Principles aligned with the Circular Economy. Sergey Bushuyev, Natalia Bushuyeva, Denis Bushuiev, Victoria Bushuieva.
- #91. Using Synthetic Data to Increase the Generalization of a CNN for Surgical Instrument Segmentation. Tim Streckert, Dominik Fromme, Matti Kaupenjohann, Jörg Thiem.
- #97. Innovating Smart Buildings and Cities through Agent-Based Modeling, Discrete Event Simulation and Sensor-Based Data Analytics. Juliane Lopinski, Sabine Sachweh, Claudia Müller.
- #98. Lip-Synchronized 3D Facial Animation Using Audio-Driven Graph Convolutional Autoencoder. Ivaylo Bozhilov, Krasimir Tonchev, Nikolay Neshov, Agata Manolova.
- #100. A Containerized Template Approach for Vendor-friendly Smart Home Integration. Jonas Fleck, Jonas Sorgalla, Felix Katzenberg, Sabine Sachweh.
- #105. Implications of Agile Project Management on Performance Management. Anwasha Mukherjee, Jan Christoph Albrecht.
- #114. Investigation of Hardware-Software Solutions for an Energy-Efficient Wireless Sensor Network. Anastasiia Yatsenko, Anzhelika Parkhomenko, Carsten Wolff, Artem Tulenkov, Andriy Parkhomenko.
- #116. Enforcement of Web3 security by use Blockchain and LLMs. Vladimir Oleshchuk.
- #118. Impact of Trivial Solutions on Classification Tasks Using CNNs. Dominik Fromme, Matti Kaupenjohann, Jörg Thiem.
- #127. Towards an Interoperable and Privacy-Respecting Smart City Data Ecosystem. Marco Hector, Andreas Diepenbrock, Sabine Sachweh.



- #131. App-Guided ICAROS Pro Training via SteamVR Tracking 2.0 and Zephyr BioHarness 3.0. Katharina Meiszl, Tobias Potthast, Tessa Schulten, Marc Silberbach, Daniel Wiswede, Pegah Abbassi, Laurin Hake, Vana Hussein, Lara Kuhlmann de Canaviri, Seyedeh Delaram Mirraziroudsari, Fabian Ratert, Yannik Warnecke, Witold Schiprowski, Daniel Heß, Raphael Brüngel, Christoph M. Friedrich
- #138. Semi-Supervised Forest Type Mapping in Europe on Satellite Data. Nataliia Kussul, Andrii Shelestov, Bohdan Yailymov, Hanna Yailymova.
- #139. Embedded Real-time Human Activity Recognition on an ESP32-S3 Microcontroller Using Ambient Audio Data. Thomas Pfitzinger, Hendrik Wöhrle
- #140. Logic-based Machine Learning with Reproducible Decision Models using the Tsetlin Machine. Olga Tarasyuk, Anatoliy Gorbenko, Tousif Rahman, Rishad Shafik, Alex Yakovlev.
- #143. Agile and Waterfall Approaches Hybridization in the Hyper-Casual Games Projects. Olena Verenych, Mykhailo Semenov.
- #146. Lifetime Energy Approximation for BLE Based Battery Powered Freight Car Communication System. Daniel Lux, Philipp Köhler, Marco Brey, Claus Fühner.
- #147. Defects Localization in Images Using Deep Learning-Based Classification with CAM Output. Rytis Augustauskas, Lukas Zabulis, Arūnas Lipnickas, Simas Jokubauskas.
- #148. The Influence of Wartime on Distributed Team – Challenges, Leadership, Development: Ukraine case. Carsten Wolff, Olena Verenych, Kateryna Turchaninova.
- #149. Collecting, Distributing and Extracting Information from Wearable Devices. Noor-Aldin Titi, Miral Rimawi, Deemah Hamed, Abdalkarim Awad, Yazan Abu Farha, Aziz Qaroush.
- #150. Implement of Edge Computing for Cyber- Physical System in the Smart Grids Quasi-Real Time Control Context. Michael Dombrowski, Zbyshek Dombrowski.
- #152. Dynamic Binary Decision Diagram Creation Using an Extended Apply Algorithm. Michal Mrena, Miroslav Kvassay, Sergey Stankevich.
- #160. Amber Gemstones Colour Classification by CNN. Dovydas Katkus, Paulius Maciulevičius, Arūnas Lipnickas.
- #166. AI-based QoE-to-QoS Mapping for Next Generation Mobile Networks. Roman Odarchenko, Maksym Riabenko, Maryna Ivanova, Al-Mudhafar Akil Abdulhussein M..
- #173. FPGA-based Accelerator for FFT-Processing in Edge Computing. Peter Schulz, Grigore Sleahitichi.
- #176. Digital Application Akelius as a Blended Learning Tool. Zhannura Manapbayeva, Dinara Aliyeva.
- #184. Integrating Open Source Geospatial Technologies for Environmental Monitoring and Conservation: A Case Study of SaveGreen Project and CCIBIS Geoportal. Nataliia Yehorchenkova, Oleksii Yehorchenkov, Milan Husar.
- #185. Smart-City of Poland: Informational and Analytical Context. Galyna Fesenko, Tetiana Fesenko, Anna Pamula, Beata Gontar, Zbigniew Gontar.
- #193. HotWire – Decreasing Latency between Wake-up Calls in semi-active WUR-Scenarios. Maurice Ziesmann, Claus Fühner, Felix Büsching.
- #196. A Testbench for Stereo-Processing Acceleration Based on PYNQ and the StereoPi. John Kalomiros, John Vourvoulakis, Stavros Vologianidis.
- #198. Integration of Results from Static and Dynamic Code Analysis into an Ontological Model. Štefan Balogh, Tibor Galko.
- #203. 1D Convolutional Long-Short-Term Memory Network for Heart Diseases Detection on Electrocardiograms. Batyrkhan Omarov, Zeinel Momyunkulov, Alisher Mukhametkaliyev.



- #204. Mathematical Model for Determining the Geometric Location of the Environmental Pollutant Based on Sensor Data. Vladyslav Khaidurov, Bohdan Yailymov, Andrii Shelestov.
- #205. Use of Digital Auralised 3D Models of Cultural Heritage Sites for Long-term Preservation. Sophie Schauer, Jürgen Sieck, Krhystyna Lipianina-Honcharenko, Anatoliy Sachenko, Ivan Kit.
- #206. Detection of Defects in Soybean Seeds by Extracting Deep Features with Squeezenet. Murat Koklu, Ramazan Kursun, Elham Tahsin Yasin, Yavuz Selim Taspinar.
- #207. Enhancing Quality Control: Defect State Classification of Taralli Biscuits with MobileNet-v2 and DenseNet-201. Kemal Tutuncu, Elham Tahsin Yasin, Murat Koklu.
- #208. Detection of Broken Eggs with Deep CNNs and Performance Analysis of Model. Yavuz Selim Taspinar, Ilkay Cinar.
- #212. Justification of the Project Initiation Process Using the Markov Model. Kateryna Kolesnikova, Nursultan Alpysbay, Tetiana Olekh, Tolganay Chinibayeva.
- #213. STFO – Power-Saving Deep-Sleep States are Overrated. Maurice Ziesmann, Claus Fühner, Felix Büsching.
- #216. Detection of Chicken Diseases from Fecal Images with the Pre-Trained Places365-GoogLeNet Model. Ilkay Cinar.
- #217. Enhancing Explainability in Plant Disease Classification using Score-CAM: Improving Early Diagnosis for Agricultural Productivity. Ramazan Kursun, Murat Koklu.
- #224. Generating Monotone Boolean Functions Using Hasse Diagram. Michal Mrena, Miroslav Kvassay.
- #225. Using Active Learning Techniques for Analysis of Photomicroscopy Images. Linda Blahova and Jozef Kostolny
- #237. Implementations of Data Analysis Tools into the Biomedical Modular System. Jozef Kostolny, Linda Blahova, David Sutora.
- #241. A Scalable AI-Driven Chatbot for Real-Time Diagnostics in Manufacturing Plants: Merging Google Dialogflow, BERT, and a Self-Learning Module. Ogu Ahaneku, Maximilian Siegl, Sarah Stromberger, Radu Vidrascu.
- #254. Cross-University-Business Platform as a Part of the Digital Education Ecosystem. Polina Repka, Olena Verenych, Christian Reimann.
- #256. Am Ende Der Welt: Shifting MR Boundaries with a Co-located Multiplayer with Meta Quest 2. Laura Magdaleno Amaro, Jürgen Sieck.
- #258. XR real-time multiuser collaboration environment. Ricardo Hendrichs, Jürgen Sieck.
- #259. Body- and Pose-tracking for Augmented Reality Applications in the Field of Sports. Philip Blankenburg, Jürgen Sieck.
- #271. Stereo Vision and LiDAR Based Point Cloud Acquisition for Creating Digital Twins in Indoor Applications. Alexander Kuzminykh, Jerome Rohde, Phillip Oliver Gottschewski-Meyer, Volker Ahlers.
- #277. Drones, Lanchester's Equations, and the Russo-Ukrainian War. George Markowsky.
- #287. Deploying the Reliable UAV Swarm for Providing P2P LiFi Communications Considering Physical Obstacles: Method of Rectangles, Algorithms, and Tool. Kyrylo Leichenko, Herman Fesenko, Vyacheslav Kharchenko.
- #289. Maximizing Cognitive Readiness of Individuals in Project Management. Chinwi Mgbere, Rebecca Winston, Ivano Di Filippo.
- #291. ML-based Cryptographic Keys Quality Assessment for 5G / 6G Networks Privacy and Security. Dmytro Proskurin, Sergiy Gnatyuk, Tetiana Okhrimenko, Maksim Iavich.



- #294. Novel Cyber Incident Management System for 5G-based Critical Infrastructures. Artem Polozhentsev, Sergiy Gnatyuk, Rat Berdibayev, Viktoriia Sydorenko, Oksana Zhyharevych.
- #302. A Model for Building a Wireless Terahertz Network for 5G NR. Volodymyr Saiko, Roman Odarchenko, Bogdan Zhurakovskiy, Maryna Yevdokymenko, Vladyslav Fesenko, Olena Tkachova.
- #303. Weighted Pruning with Filter Search to Deploy DNN Models on Microcontrollers. Rick Pandey, Sebastian Uziel, Tino Hutschenreuther, Silvia Krug.
- #304. Unsupervised Pre-training of Deep Neural Classifiers. Aliksandr Kroshchanka, Vladimir Golovko, Shi Peiwen, Zofia Lubańska.
- #306. Algebraic Modeling System for Supporting Research in Medicine and Pharmacology. Oleksandr Letychevskiy, Yuliia Tarasich, Volodymyr Peschanenko.
- #307. Gait-based Multi-view Person Identification with Convolutional Neural Networks. Nikolay Neshov, Krasimir Tonchev, Agata Manolova, Slavcho Neshev.
- #308. Image-to-video Person Re-Identification Using Semantic Information. Slavcho Neshev, Krasimir Tonchev, Radostina Petkova, Agata Manolova.
- #311. Artificial Intelligence and Law: A Bibliometric Insight into Academic Publications and Research Trends. Emrah Aydemir, Halil İbrahim Cebeci.
- #320. Project Management for Cooperative Development of Welding Safety Training System using Virtual Reality. Haixia Li, Taras Lendiuk, Anatoliy Sachenko.
- #321. Towards Evidence-Based Cybersecurity Assessment of Programmable Systems to Ensure the Protection of Critical IT Infrastructure. Oleg Illiashenko, Vyacheslav Kharchenko, Oleg Odarushchenko.
- #326. Performance Evaluation of TLS Session Establishments on an ARM Cortex-M4 Platform. Julian Göppert, Antoine Chomel, Jubin Sebastian E and Axel Sikora.
- #334. Emerging digital technologies driven approach to increase the supply chains competitiveness. Vladyslav Dombrovskiy, Michael Dombrowski, Myroslav Komar, Vita Semaniuk.
- #337. Automated Verification of the Signatures' Authenticity using Artificial Intelligence Methods. Piotr Bilski, Jacek Olejnik and Mieczysław Goc.



ONLINE ORAL PRESENTATIONS

- #5. The Machine Learning Techniques for Enhancing Software Requirement Specification: Literature Review. Vira Liubchenko.
- #6. Extension of Landing Envelope for CS-23 based Aircraft by Implementing Semi-Passive Single-Action Control for Oleo-Pneumatic Shock Absorbers. Felix Willich.
- #11. Intelligent Information Technology for Identification of Remaining Defects in Software Products. Iryna Zasornova, Tetiana Hovorushchenko, Mykola Fedula, Viktoriia Buzyk
- #13. Control System for The Production of Granular Mineral Fertilizers in a Fluidized Bed. Bogdan Korniyenko, Lesya Ladieva, Andrii Nesteruk, Kateryna Berezianko.
- #15. Mathematical Modeling of the Groundwater Level Regime for Substantiation of Resource-Saving Technological Parameters of Drained Lands Water Regulation. Lyudmyla Kuzmych, Halyna Voropai, Stepan Kuzmych.
- #27. An Improved Bayesian Learner Based on Optimized Kernel Density Estimation and Wasserstein Soft Ensemble Strategy. Zhiwei Ye, Yuanhu Liu, Jiazhi Lv, Yingying Liu, Zhenwei Wu, Wanfang Bai.
- #29. Long-term Human State Monitoring Study. Bohdan Shevchuk, Orest Ivakhiv, Yuriy Brayko, Mykhaylo Geraimchuk.
- #32. Apple Detection with Occlusions using Modified YOLOv5-v1. Oleksandr Melnychenko, Oleg Savenko, Pavlo Radiuk.
- #43. Malware Detection Tool Based on Emulator State Analysis. Pavlo Rehida, Oleh Savenko, Antonina Kashtalian, Anatoliy Sachenko.
- #50. Possibilities of non-dismantling calibration of measuring channels of dispersed systems. Tetiana Bubela, Vasyl Yatsuk, Volodymyr Zdeb, Yuriy Yatsuk.
- #52. Maintenance 4.0 Model Development for Production Lines in Industry 4.0 Using a Deep Learning Approach and IoT Data in Real-Time: an Experimental Case Study. El Mahdi Bouyahrouzi, Ali El Kihel, Soufiane Embarki and Bachir El Kihel.
- #53. Research and Simulation System for Ferroelectric Multibit Memory Cells. Dávid Gál, Henrietta Bán, Andriy Haysak, Alexander Molnar, Taisiya Tretiakova, Vitaly Gerasimov.
- #55. Neural Network Architectures for Recognizing Military Objects on Satellite Images. Oleksandr Kovaliv, Yuriy Kondratenko, Anatoliy Shevchenko, Ievgen Sidenko, Galyna Kondratenko.
- #60. Eye-tracking Technology and its Application in Neuroscience. Vitaliy Pavlenko, Tetiana Shamanina, Vladyslav Chori.
- #65. Tendencies and Challenges of Artificial Intelligence Development and Implementation. Yuriy Kondratenko, Anatoliy Shevchenko, Yuriy Zhukov, Galyna Kondratenko, Oleksandr Striuk.
- #69. An Improved Fractional Model of an Electrochemical Capacitor with Accounting of Relaxation Phenomena. Mykola Fedula, Oleg Savenko, Valeriy Martynyuk, Liudmyla Koretska, Denys Makaryshkin.
- #84. Defective Microstrip structure based Phase Shifter with Reduced size for Phased Antenna Array Applications. Hajra Khan, Shahid Khan, Jamal Nasir, Syed Ahson Ali Shah, Mariana Dalarsson, Mohammad Alibakhshikenari.



- #85. Determination and optimization of the parameters of an alternative ferroelectric power supply. David Gal, Henrietta Bán, Vitaly Gerasimov, Andriy Haysak, Alexander Molnar, Taisiya Tretiakova.
- #104. Ant Colony Optimization for Resource Allocation in Cloud Computing Environments. Taras Kniazhyk, Oleksandr Muliarevych.
- #113. The Cloud-Based Optimization for Automated Warehouse Design. Oleksandr Muliarevych.
- #132. A Machine Learning Approach for the Bin Packing Problem. Francesca Guerriero, Francesco Paolo Saccomanno.
- #134. Towards Better Perception Quality Index. Oleg Kravchuk, Galyna Kriukova.
- #151. The Novel Neural Network Architecture to Detect Car Damage. Nataliya Shakhovska, Alex Turyk, Jurgen Sieck, Anatoliy Sachenko.
- #156. Analysis and Forecast of Subway Construction Cost Based on Bayesian Network. Feng Guo, Donghui Niu, Guoling Zhang, Na Hou, Zhengbing Hu.
- #157. Analysis of Extracting Core Cost of Subway Project by Linear Discrimination Method Based on Principal Component Analysis. Feng Guo, Guoling Zhang, Junying Hao, Donghui Niu, Zhengbing Hu.
- #162. Indicators of Compromise Confidence Scoring Method. Volodymyr Tkach, Oleksii Baranovskyi, Anton Kudin, Navya Godavartik, Oleksandr Kliok, Sivani Modali.
- #171. Design of a Miniaturized Dual band Dielectric Resonator Antenna by using Complimentary Split Ring Resonator. Harris Sarfraz, Shahid Khan, Naseer Khan, Mariana Dalarsson, Mohammad Alibakhshikenari, Jamal Nasir, Areeba Jadoon.
- #172. Design Models of Bit-Stream Online-Computers of Elementary Mathematical Functions. Valentyn Korniienko, Lina Larchenko, Anzhelika Parkhomenko, Bogdan Larchenko.
- #174. 5G Network Deployment Based on Open-Source Projects: A Comparative Analysis. Alla Pinchuk, Roman Odarchenko, Vladyslav Samoilenko, Azamat Imanbayev.
- #177. Method of Data Processing System Synthesis for Heterogeneous Distributed Databases Based on Network-Centric Control. Vadym Mukhin, Yaroslav Kornaga, Valerii Zavgorodnii, Yurii Bazaka, Anna Zavgorodnya, Oleg Mukhin.
- #178. UML Profile for Decision-Making Systems Development with the Logic Scoring of Preference Method. Ravil Kudermetov, Olga Polska, Natalia Shcherbak.
- #180. Composite Indicators Building Based on Concordant of Expert-Statistical Information Using Biased Ridge Kernel Regression. Leonid Lyubchyyk, Galyna Grinberg, Zoia Konokhova, Klym Yamkovyi.
- #190. Multiple Precision in Data Analysis and Modeling. Emil M Oanta.
- #195. Analysis of the Adequacy of the Simulink Stepper Motor Model in the Environment of Matlab. Aleksandr Trunov, Maksym Skoroid.
- #199. Neural Network Intelligence Model for Software Projects Cost Prediction. Mohamed Ahmed Hamada.
- #201. Information-Based Modeling of Nonlinear Dynamical Systems. Andrii Khrynenko, George Vostrov.
- #209. Near Real-Time Access Monitoring Based on IoT Dynamic Measurements of Indoor Air Pollutant. Łukasz Ścisło, Nina Szczepanik-Scislo.



- #210. Verification of the Possibility of Using a Smartphone with Matlab Mobile in Transport Monitoring Applications. Łukasz Ścisło, Paula Andruszkiewicz.
- #218. Estimation of Heart Rate and Its Variability Based on Wavelet Analysis of Photoplethysmographic Signals in Real Time. Adrian Nakonechnyi, Ihor Bereznyi.
- #219. The Functional Structure in the Decision Support System for the Automation of Passenger Transportation Management. Volodymyr Boiko, Mykola Pidhornyy, Olena Danchenko, Olena Bielova, Olga Zaiats.
- #221. Development of a Real-time ANN Algorithm Based Performance Management Strategy for Energy Generation System in the Context of Energy 4.0. Ali El Kihel, El Mahdi Bouyahrouzi, Lotfi Sehli, Soufiane Embarki, Bachir El Kihel.
- #226. Intellectual Air Quality Monitoring System Based on Arduino Uno. Ivan Rudavskyy, Halyna Klym.
- #229. Designing a Node.js Project Architecture for RESTful Microservices. Oleh Chaplia, Halyna Klym.
- #232. Policy-based Role and Access Modeling. Noha Ayman, Mariam Kiryakos, Caroline Sabty, Alia El Bolock, Slim Abdennadher.
- #248. Quantum-inspired Computing: Shor's Algorithm and Euler's Totient Function. Valerii Hlukhov.
- #257. Seamless Transition: Migrating from Relational Databases to Document-Oriented Databases. Shady Hamouda.
- #262. An Occupant-Centric Comfort Control Strategy Using Wearable Smart Devices in Smart-Buildings. Mihaela-Gabriela Boicu, Ioana Fagarasan, Grigore Stamatescu, Mihaela Vasluianu, Cosmin-Florin Fudulu, Marius-Alexandru Dobrea.
- #266. An Automated Audio and Video Dubbing System Using Emotional Transformation in Speech. Andrii Dumyn.
- #268. Thorax Disease Classification based on the Convolutional Network SqueezeNet. Roberta Avanzato, Francesco Beritell.
- #274. Cities' Air Quality and Pollution Data Analysis Approach. Arkadiusz Banasik, Aleksandra Czupryna-Nowak.
- #278. Detector Plane Data Analysis of Scattered X-rays Distribution: Theoretical Study vs Simulation Result. Mariya Smahina, Andrii Ntreba, Sergiy Radchenko.
- #279. MRI Denoising Neural Network Architecture Convolutio. Denis Sliusarenko, Andrii Ntreba, Sergiy Radchenko.
- #292. Maximizing Security and Efficiency in 5G Networks by Means of Quantum Cryptography and Network Slicing Concepts. Sergiy Dorozhynskyy, Ihor Zakutynskyy, Myroslav Ryabyy, Anatolii Skurativskyy.
- #295. Remote Voice User Verification System for Access to IoT Services Based on 5G Technologies. Alla Pinchuk, Oleksandr Lavrynenko, Hanna Martyniuk, Andrii Fesenko, Stanislav Yarotsky, Marek Aleksander.
- #296. Daily Monitoring of Speech Impairment for Early Parkinson's Disease Detection. Mohammed Kadhim Salman Al-Jizani, Grigore Stamatescu.
- #300. Dynamic Graph Learning with Long and Short-term for Multivariate Time Series Anomaly Detection. Yuyin Tian, Rong Gao, Lingyu Yan, Donghua Liu, Zhiwei Ye.





- #305. Convolutional Neural Network Assessment of Image Quality Based on the TID2013 Database. Arkadiusz Talun, Pawel Drozda, Sergei Yelmanov, Yuriy Romanyshyn, Oles Tehlivets.
- #309. Feature Engineering for Deep Learning-Based Anomaly Detection in 5G and Beyond. Taras Maksymyuk, Nazarii Lutsiv, Bohdan Shubyn, Juraj Gazda, Orest Ivakhiv.
- #312. Assessment of the Possibility of Using 5G to Build Telemedicine Networks in Various Environment. Saad Malik, Serhii Siden, Roman Tsarov, Lesya Nikityuk.
- #313. The Formal Grounds for Construction for Intellimedia Automated System. Vasyl Sheketa, Vitalii Melnyk, Roman Petryshyn, Yulia Romanyshyn, Oleg Sachenko.
- #317. A Comparative Analysis of Deep Learning-based Object Detectors for Embedded Systems. Yehor Boltov, Inna Skarga-Bandurova, Maryna Derkach.
- #318. Correlating Roughness and Implantation Characteristics in Steel: A Computer Modelling Study. Vitalii Honcharov, Oleksandr Chorny, Inna Skarga-Bandurova, Valery Zazhigalov.
- #323. Classification of Information Objects with Fuzzy Parameters in E-learning Systems. Vadym Mukhin, Valerii Zavgorodnii, Viacheslav Liskin, Sergiy Syrota, Vasyl Koval, Liudmyla Honchar.
- #327. An Aircraft Identification System Using Convolution Neural Networks. Viktor Turchenko, Iryna Turchenko, Nadiia Vasylykiv.
- #329. Certificate Based Primary Authentication for 5G Networks. Aditi Shukla, Fabian Sowieja, Jubin Sebastian, Axel Sikora.
- #331 Girls in STEM: An Exploratory Study of Students Perceptions. Shaista Falak, Nurul Sarah Binti Mohamed Ossman, Fasih Ur Rehman, Ezmieralda Melissa, Sarbani Banerjee Belur and Tariq Zaman.



ON-SITE POSTER PRESENTATIONS

- #3. Incremental auto-tuning for hybrid parallelization using OpenCL. Akiyoshi Wakatani.
- #9. Sign Language Digits Recognition Technology Based on a Convolutional Neural Network. Oleh Voloshynskyi, Victoria Vysotska, Roman Holoshchuk, Svitlana Goloshchuk, Sofia Chyrun, Diana Zahorodnia
- #22. End-to-End Latency Measurements with Black Box Components. Abdullah Muslim, Stephan Recker.
- #26. Methods And Means of Reducing The Sensitivity Threshold Of Systems With The Measurement Of Small Phase Shifts Between Infra-Low-Frequency Harmonic Signals. Ihor Buchma, Mykhailo Voichenko.
- #64. Development of Verification Model for Intelligence of Multiagent Systems. Oleksandr Martynyuk, Oleksandr Drozd, Anatoliy Sachenko, Dmitry Martynyuk, Igor Mileiko, Igor Kopytchuk, Grygoriy Hladiy.
- #87. Automatic Wood Species Classification Using Network's Architecture Model based on Convolutional Neural Network. Toma Nikolov, Nicole Christoff, Nikolay Neshov, Agata Manolova.
- #99. Application of Fourier Transformation to Signal Processing Implied by ARIMA Model. Tetiana Lem, Viktor Pavlikha, Vladyslav Halchenko, Dmytro Obidin, Tetiana Fedchuk.
- #109. Cloud Key-Value Storage. Oleh Pykulytskyi, Bohdan Havano.
- #124. Designing a Pulse Shaper of Arbitrary Duration. Oleksandr Osolinskyi, Volodymyr Kochan, Anatoliy Sachenko, Diana Zahorodnia.
- #142. Approach to Acoustic Drone Detection System Development. Roman Kochan, Nataliya Hots, Sergiy Fabirovskyy, Volodymyr Storozh, Alexander Kosterov, Leonid Ozirkovskyy, Anna Helesh, Shulhai Arkadii, Volodymyr Kochan, Bohdan Strykhalyuk, Mykola Mykyichuk, Ivan Demydov
- #169. Development of a Portable Charger for Electric Vehicles. Oksana Shpak, Volodymyr Samotyy, Ulyana Dzelendzyak.
- #191. Angioplasty Virtual Reality Simulator: Modeling of Blood flow in an Artery. Bakhyt Alipova, Fatima Tokmukhamedova, Zhiger Bolatov, Yevgeniya Daineko, Madina Ipalakova, Dana Tsoy.
- #194. Architectonics of the European Currency Integration: Cluster and Gravity Modeling. Mariia Lyzun, Oksana Desyatnyuk, Yevhen Savelyev, Vitalina Kuryliak, Svitlana Sachenko, Ihor Lishchynskyy.
- #223. Simulator of Microcontrollers Power Consumption. Orest Kochan, Oleksandr Osolinskyi, Anatoliy Sachenko, Volodymyr Kochan, Ihor Romanets.
- #236. Multi-Objective Based Multi-Agent Decision- Making System. Radu Melnic, Victor Ababii, Viorica Sudacevschi, Oleg Sachenko, Olesea Borozan, Taras Lendyuk.
- #244. Global Differentiation of Climate-digital Projects in Terms of Low-carbon Economy. Irina Maksymova, Yevhen Savelyev, Iryna Zvarych, Vitalina Kurylyak, Mariia Lyzun, Svitlana Sachenko, Ihor Lishchynskyy.
- #264. Influence of the Support Team Management Model on the Order Fulfillment by IT Company. Nadiia Vasylykiv, Lesia Dubchak, Iryna Turchenko, Anastasiia Volkova.



- #282. Mathematical Models to Determine Temperature Fields in Heterogeneous Elements of Digital Devices with Thermal Sensitivity Taken into Account. Vasyl Havrysh, Volodymyr Kochan.
- #283. The Concept of Built-in Metrological Support of Voltage Measuring Channels for Internet of Things. Volodymyr Kochan, Serhii Mokhun, Olha Fedchyshyn, Svitlana Boitsaniuk, Pavlo Bykovyy, Vasyl Parakuda, Hu Jiwei, Xu Anrang.
- #284. Ad-hoc Signal Conditioning Transducer with Self-Testing for Data Acquisition Devices. Fangting Huang, Yuriy Drohobyt'skiy, Hanna Homeniuk, Volodymyr Kochan, Roman Kochan, Mariana Levkiv, Nataliia Kochan, Pavlo Bykovyy.
- #288. Evaluating an In-Home Exercise Program Using Vision-Based Edge AI for Elderly Healthcare. Sinan Chen, Masahide Nakamura, Kiyoshi Yasuda.
- #298. Remote Voice Control of Computer Based on Convolutional Neural Network. Anastasiia Sartiukova, Oksana Markiv, Victoria Vysotska, Iryna Shakleina, Nataliia Sokulska, Ihor Romanets.
- #314. Econometric Analysis of the Relationships between Synthetic Quality of Life Indicators and Determinants of State's Economic Policy. Lena Artemenko, Viktor Artemenko, Grygoriy Hladiy.
- #315. Solving the Two-Criteria Maximum Coverage Location Problem of Continuous Area Monitored by Sensor Network. Sergiy Yakovlev, Adam Wojciechowski, Dmytro Podzaha, Oleg Illiashenko, Iryna Yakovleva.
- #316. Human-AI Collaboration in Decision Making: An Initial Reliability Study and Methodology. Tetiana Biloborodova, Inna Skarga-Bandurova.
- #322. Intelligent Method for Selecting Business Location in Smart City. Khrystyna Lipianina-Honcharenko, Anatoliy Sachenko, Vita Semaniuk, Anna Badasian, Łukasz Kopania.
- #328. Increasing the Accuracy of Determining RR Intervals of ECG using Wavelet Transform. Galina Shcherbakova, Svetlana Antoshchuk, Anatoliy Sachenko, Nataliia Volkova, Bohdan Rusyn, Sergey Rippa.
- #336. Expansion of the Initial Temperature Measurement Range Using Crystal-Optical Thermal Transducers. Mykhaylo Stepanyak, Mykola Stepanyak, Mykhaylo M. Stepanyak.



ONLINE POSTER PRESENTATIONS

- #28. IMDENCLUE: An Improved DENCLUE Clustering Based On Kernel Density Estimation Optimisation And Cluster Merging Strategy. Zhiwei Ye, Jiazhi Lv, Yuanhu Liu, Yingying Liu, Zhenwei Wu, Wanfang Bai.
- #36. Contribution to maintenance 4.0 by Monitoring and prognosis of industrial installations by Digital Twin: Case study on wastewater filtration pilot. Embarki Soufiane, El Kihel Yousra, Bouyahrouzi El Mahdi, El Kihel Bachir.
- #40. Personal Recognition System Based on EMG. Huiqi Dong, Masami Iwase, Yasuyuki Sato.
- #41. Integrated Project Delivery and Building Information Modeling in Transformation of Engineering and Credit Risk Management. Ihor Lukianchuk, Oleksandr Bugrov, Olena Bugrova.
- #48. Design of a WebAR Quartet App Based on Human-Computer Interaction. Seid Mayo Abdul Aziz Sepa.
- #71. Vehicle dynamical sensor monitoring toward forest soil moisture measuring system. Yoshinori Kiga, Takumi Tazawa, Masami Iwase.
- #74. Malware Detection by Distributed Systems with Partial Centralization. Bohdan Savenko, Antonina Kashtalian, Sergii Lysenko, Oleg Savenko.
- #81. Maturity Model Taxonomy for Digital Transformation. Manish Kumar, Muhammad G. Taj, Artur Zevalov, Raghupati Bhetwal, Kishan V. Kanani, Mahmudur Rahman.
- #101. Conceptual design and implementation of a semantic IoT-Edge-Gateway using the WoT standard. Martin Biskup, Fabian Kohlmorgen, Markus Kuller.
- #102. Diagnostics of Oil Leaks Caused by Malicious Damage to the Linear Part of Oil Pipelines. Anatoliy Obshta, Yurii Biliak.
- #103. Weight Averaging of Pulse Width Modulated Signal. Mykhaylo Dorozhovets, Piotr Kubishyn.
- #107. Resilience in Wartime Research: Case of Anticrisis Management at a Ukrainian University. Ihor Bohdanov, Sergii Kovachov, Natalia Tsybuliak, Hanna Lopatina, Anastasia Popova, Yana Suchikova.
- #108. AI will help: Preparation of Nanoengineers through Distance Learning in Times of War. Sergii Kovachov, Anastasia Popova, Natalia Tsybuliak, Hanna Lopatina, Ihor Bohdanov, Yana Suchikova.
- #120. Exploring the Vulnerabilities and Countermeasures of SSL/TLS Protocols in Secure Data Transmission Over Computer Networks. Fidan Bozkurt, Mustafa Kara, Muhammed Ali Aydin, Hasan Hüseyin Balik.
- #122. Smart Systems for Precision Agriculture, Environmental Protection and Healthcare. Volodymyr Romanov, Igor Galelyuka, Volodymyr Hrusha, Oleksandr Voronenko, Oleksandra Kovyrova, Hanna Antonova, Anna Kedych.
- #130. Gas Values Prediction and Forecast Techniques based on DL Models. Roberta Avanzato, Francesco Beritelli, Michele Russo.
- #133. The Role of Digital Technologies in Facilitating Sustainability in Developing Countries: A Case of Pakistan. Shazia Nadir Ali, Rao Aamir Ali Khan.
- #158. Ensemble Machine Learning Model for the Detection of Misinformation in News Content. Nataliya Boyko, Oleksandra Dypko.
- #163. Neural Network Technology of Mine Recognition Based on Data from Magnetic Field Sensors. Roman Peleshchak, Vasyl Lytvyn, Ivan Peleshchak, Serhii Voloshyn.
- #164. Asleep Adults' Breathing Patterns via Data Mining of Electromyograms. Gennady Chuiko, Olga Dvornik, Yevhen Darnapuk, Denis Honcharov, Olga Yaremchuk.
- #165. Research of Facial Recognition Systems and Criteria for Identification. Mariia Nazarkevych, Agnieszka Kowalska-Styczeń, Vasyl Lytvyn.



- #168. The Approach of Project Critical Path Calculation in the Schedule Management. Svitlana Krepych, Iryna Spivak, Serhii Spivak, Roman Krepych.
- #170. Using Data Analysis Methods for Predicting the Concentration of Toxic Elements in Soil. Lyazat Naizabayeva, Gulnara Zakirova.
- #187. Distance Impact on Collaboration Quality in Smart Glasses Applications. Amal Yassien, Abdelkareem Tarek, Slim Abdennadhe.
- #188. Reputation-Based Incentive Model for Decentralized Analysis of Development Proposals. Lyudmila Kovalchuk, Mariia Rodinko, Roman Oliynykov.
- #220. Accuracy Improvement of Neural Networks Under Semi-Supervised Learning. Viktor Sineglazov, Olena Chumachenko, Kyrylo Lesohorskyi.
- #231. Comparison of Hardware Complexity of Multipliers $GF(p^m)$. Ivan Zholubak, Valeriy Hlukhov, Oleksandr Muliarevych.
- #233. Non-Fungible Tokens as Alternative Means of User Access to Additional Services in the Blockchain Platform Payment Process. Oksana Herasymenko, Serhii Ihnatiuk.
- #235. Secure IoT Communication with a Blockchain-Enabled Decentralized MQTT Network. Vladyslav Makarian.
- #238. Emotional Intelligence Model in Educational Computer Games. Tetiana Luhova, Svitlana Kolot.
- #260. Adaptive Dynamic Aquila Optimization Incorporating with Improved Sine Cosine. Lang Huang, Hui Xu, Zhengbin Qin, Yang Jin.
- #261. Intrusion Classification Detection Model for SDN based on Optimized TSO and DT. Zhengbin Qin, Hui Xu, Lang Huang, Yang Jin.
- #263. Synergy Effects for Project Stakeholders under the Quadruple Helix Model. Rūta Čiutienė, Nataliia Kholiavko, Andrii Karpenko, Dmytro Plynokos, Natalia Karpenko.
- #267. A Fuzzy Approach for Metaverse Design Elicitation. Shekhar Shukla.
- #269. Blockchain design elicitation for healthcare: A VFT based approach. Shekhar Shukla, Rashmi G Shukla, Anuja Agarwal.
- #270. Multi-Stream Pill Recognition with Attention. Richárd Rádli, Zsolt Vörösházi, László Czúni.
- #280. Multi-source analysis of AI vulnerabilities: methodology and algorithms of data collection. Oleksii Neretin, Vyacheslav Kharchenko, Herman Fesenko.
- #281. Meta-learning with evolutionary strategy for resilience optimization of image recognition system. Viacheslav Moskalenko, Artem Korobov, Anton Kudravcev, Maksym Boiko.
- #285. Scanning of Web-Applications: Algorithms and Software for Search of Vulnerabilities “code injection” and “insecure design”. Oles Yudin, Vyacheslav Kharchenko, Vladimir Pevnev
- #297. Project Management of the Information System for the Selection of Project Teams. Nataliia Kovalchuk, Oleh Zachko, Oleh Kovalchuk, Dmytro Kobylkin.
- #310. The Use of BBC micro:bit in Automatic Irrigation System Through Cross-Curricular Teaching of Biology and Informatics. Nika Kvaššayová, Marek Klimo, Miroslav Kvassay.
- #319. Automated Machine Learning Evaluation of Squat Movement Patterns Using Smartphone and CoreML. Marta Sokołowska, Michał Podpora.
- #324. Logical Decision Networks Based on the Optical Coloroids. Timchenko Victor, Yuriy Kondratenko, Vladik Kreinovich.
- #325. Increasing Order of Digital Filters of the Same Type in Robotic Systems. Tykhon Sytnikov, Valerii Sytnikov, Oleh Streltsov, Pavlo Stupen
- #330. A Risk Evaluation Method Before Using a Black-box Model Considering Sensor Failure. Tangxiao Yuan, Weilin Xu, Kondo H. Adjallah, Huifen Wang, Junshan Xu.



CONFERENCE TECHNICAL PROGRAM

THURSDAY, 7 SEPTEMBER 2023

- 09:00 - 10:30 **Registration and Conference opening**
Hybrid: 2nd floor hall + A.E.01 + Portal
Stephan Weyers, Oksana Desyatnyuk, Daniel Hamburg, Uwe Großmann, Oleksandr Palagin and Anatoliy Sachenko
- 10:30 - 11:30 **Keynote: "Purposeful Lifelong Open-ended Learning Autonomy: a path towards more versatile and useful robots"**
by Prof. Richard J. Duro
Plenary session
Chair: Uwe Großmann
Hybrid: Portal and Room A.E.01
- 11:30 - 12:00 **Transformation story of Ruhrvalley and Dortmund**
Hybrid: Portal and Room A.E.01
- 12:00 - 13:30 **Lunch**
On-site: Kostbar
- 13:30 - 15:00 **Session TA1: Workshop Beyond 5G and 6G Networks Technologies and Security**
On-site: Room A.E.02
Chairs: Roman Odarchenko, Sergiy Gnatyuk
- #166 AI-based QoE-to-QoS Mapping for Next Generation Mobile Networks. *Roman Odarchenko, Maksym Riabenko, Maryna Ivanova, Al-Mudhafar Akil Abdulhussein M..*
 - #291 ML-based Cryptographic Keys Quality Assessment for 5G / 6G Networks Privacy and Security. *Dmytro Proskurin, Sergiy Gnatyuk, Tetiana Okhrimenko, Maksim Iavich.*
 - #302 A Model for Building a Wireless Terahertz Network for 5G NR. *Volodymyr Saiko, Roman Odarchenko, Bogdan Zhurakovskiy, Maryna Yevdokymenko, Vladyslav Fesenko, Olena Tkachova.*
 - #294 Novel Cyber Incident Management System for 5G-based Critical Infrastructures. *Artem Polozhentsev, Sergiy Gnatyuk, Rat Berdibayev, Viktoriia Sydorenko, Oksana Zhyharevych.*



13:30 - 15:00

Session TB1: Data Analysis and Modeling

On-site: Room A.1.02

Chairs: Miki Sirola, Sergiy Yakovlev

- #7 Principal Component Analysis Visualization and State Discovery with Soil Data. *Miki Sirola, Markku Koskinen, Tatu Polvinen, Mari Pihlatie.*
- #44 Methods for Assessment of Gait Asymmetry Based on Data from Depth sensors. *Jakub Wagner.*
- #207 Enhancing Quality Control: Defect State Classification of Taralli Biscuits with MobileNet-v2 and DenseNet-201. *Kemal Tutuncu, Elham Tahsin Yasin, Murat Koklu.*
- #206 Detection of Defects in Soybean Seeds by Extracting Deep Features with Squeezenet. *Murat Koklu, Ramazan Kursun, Elham Tahsin Yasin, Yavuz Selim Taspinar.*
- #208 Detection of Broken Eggs with Deep CNNs and Performance Analysis of Model. *Yavuz Selim Taspinar, Ilkay Cinar.*
- #306 Algebraic Modeling System for Supporting Research in Medicine and Pharmacology. *Oleksandr Letychevskyi, Yuliia Tarasich, Volodymyr Peschanenko.*

13:30 - 15:00

Session TC1: Intelligent Distributed Systems

On-site: Room A.2.02

Chair: Alex Yakovlev

- #146 Lifetime Energy Approximation for BLE Based Battery Powered Freight Car Communication System. *Daniel Lux, Philipp Köhler, Claus Fühner and Marco Brey.*
- #72 Toward Emotional Machine-Awareness: An A.I.Based Model for Artificial Aesthetic Perception. *Fatemeh Saveh, Mohand Tahar Soualah, Kurosh Madani, Abdennasser Chebira, Reza Askari Moghadam.*
- #100 A Containerized Template Approach for Vendor-friendly Smart Home Integration. *Jonas Fleck, Jonas Sorgalla, Felix Katzenberg, Sabine Sachweh.*
- #213 STFO – Power-Saving Deep-Sleep States are Overrated. *Maurice Ziesmann, Claus Fühner, Felix Büsching.*

13:30 - 15:00

Session TOA1: Special Stream on Internet of Things for Smart Buildings and Cities

Online: Portal

Chairs: Grigore Stamatescu, Bohdan Rusyn

- #262 An Occupant-Centric Comfort Control Strategy Using Wearable Smart Devices in Smart-Buildings. *Mihaela-Gabriela Boicu, Ioana Fagarasan, Grigore Stamatescu, Mihaela Vasluianu, Cosmin-Florin Fudulu, Marius-Alexandru Dobrea.*
- #84 Defective Microstrip structure based Phase Shifter with Reduced size for Phased Antenna Array Applications. *Hajra Khan, Shahid Khan, Jamal Nasir, Syed Ahson Ali Shah, Mariana Dalarsson, Mohammad Alibakhshikenari.*
- #171 Design of a Miniaturized Dual band Dielectric Resonator Antenna by using Complimentary Split Ring Resonator. *Harris Sarfraz, Shahid Khan, Naseer Khan, Mariana Dalarsson, Mohammad Alibakhshikenari, Jamal Nasir, Areeba Jadoon.*
- #52 Maintenance 4.0 Model Development for Production Lines in Industry 4.0 Using a Deep Learning Approach and IoT Data in Real-Time: an Experimental Case Study. *El Mahdi Bouyahrouzi, Ali El Kihel, Soufiane Embarki and Bachir El Kihel.*
- #29 Long-term Human State Monitoring Study. *Bohdan Shevchuk, Orest Ivakhiv, Yuriy Brayko, Mykhaylo Geraimchuk.*



13:30 - 15:00

Session TOB1: Intelligent Software Tools, Systems, and Databases

Online: Portal

Chairs: Tetiana Hovorushchenko, Janusz Goldasz

- #219 The Functional Structure in the Decision Support System for the Automation of Passenger Transportation Management. *Volodymyr Boiko, Mykola Pidhornyy, Olena Danchenko, Olena Bielova, Olga Zaiats.*
- #11 Intelligent Information Technology for Identification of Remaining Defects in Software Products. *Iryna Zasornova, Tetiana Hovorushchenko, Mykola Fedula, Viktoriia Buzyl.*
- #177 Method of Data Processing System Synthesis for Heterogeneous Distributed Databases Based on Network-Centric Control. *Vadym Mukhin, Yaroslav Kornaga, Valerii Zavgorodnii, Yurii Bazaka, Anna Zavgorodnya, Oleg Mukhin.*
- #318 Correlating Roughness and Implantation Characteristics in Steel: A Computer Modelling Study. *Vitalii Honcharov, Oleksandr Chorny, Inna Skarga-Bandurova, Valery Zazhigalov.*
- #323 Classification of Information Objects with Fuzzy Parameters in E-learning Systems. *Vadym Mukhin, Valerii Zavgorodnii, Viacheslav Liskin, Sergiy Syrota, Vasyl Koval, Liudmyla Honchar.*

13:30 - 15:30

IEEE IDAACS workshop of “Projects for the Digital Transformation”

On-site: B.E.23.1 / B.E.23.2 (InnoLab)

!!! Only registered prior to the workshop participants

15:00 - 15:30

Coffee break

On-site: 1st floor, room A.1.03 and 2nd floor room A.2.03

15:30 - 17:00

Session TA2: Intelligent Computer Technologies for Healthcare and Medicine

On-site: Room A.E.02

Chairs: Oleksandr Palagin, Piotr Bilski

- #237 Implementations of Data Analysis Tools into the Biomedical Modular System. *Jozef Kostolny, Linda Blahova, David Sutora.*
- #203 1D Convolutional Long-Short-Term Memory Network for Heart Diseases Detection on Electrocardiograms. *Batyrkhan Omarov, Zeinel Momynkulov, Alisher Mukhametkaliyev.*
- #25 Digital Health Systems: Ontology-Based Universal Dialog Service for Hybrid E-Rehabilitation Activities Support. *Oleksandr Palagin, Vladislav Kaverinsky, Mykola Petrenko, Kyrilo Malakhov.*
- #19 Applicability of Mel-cepstrum-related Features for Action Recognition Based on Data from Impulse-radar Sensors. *Szymon Kruszewski, Paweł Mazurek, Roman Morawski.*
- #225 Using Active Learning Techniques for Analysis of Photomicroscopy Images. *Linda Blahova and Jozef Kostolny*



15:30 - 17:00

Session TB2: Special Stream on Project Management

On-site: Room A.1.02

Chairs: Sergey Bushuyev, Kateryna Kolesnikova

- #143 Agile and Waterfall Approaches Hybridization in the Hyper-Casual Games Projects. *Olena Verenych, Mykhailo Semenov.*
- #148 The Influence of Wartime on Distributed Team – Challenges, Leadership, Development: Ukraine case. *Carsten Wolff, Olena Verenych, Kateryna Turchaninova.*
- #289 Maximizing Cognitive Readiness of Individuals in Project Management. *Chinwi Mgbere, Rebecca Winston, Ivano Di Filippo.*
- #90 Implementing Project Management Principles aligned with the Circular Economy. *Sergey Bushuyev, Natalia Bushuyeva, Denis Bushuiev, Victoria Bushuieva.*
- #105 Implications of Agile Project Management on Performance Management. *Anwasha Mukherjee, Jan Christoph Albrecht.*
- #79 Examining the Impact of Team Dynamics in Agile Project Management Success in Software Development: *A Systematic Literature Review.* *Momodou B Jallow, Mariana Roveló, Saeed All Gharaee, Sradhya Dutta and Mahsa Askari.*

15:30 - 17:00

Session TC2: Special Stream on Advanced Machine Learning

On-site: Room A.2.02

Chair: Arunas Lipnickas

- #140 Logic-based Machine Learning with Reproducible Decision Models using the Tsetlin Machine. *Olga Tarasyuk, Anatoliy Gorbenko, Tousif Rahman, Rishad Shafik, Alex Yakovlev.*
- #304 Unsupervised Pre-training of Deep Neural Classifiers. *Aliaksandr Kroshchanka, Vladimir Golovko, Shi Peiwen, Zofia Lubańska.*
- #307 Gait-based Multi-view Person Identification with Convolutional Neural Networks. *Nikolay Neshov, Krasimir Tonchev, Agata Manolova, Slavcho Neshev.*
- #308 Image-to-video Person Re-Identification Using Semantic Information. *Slavcho Neshev, Krasimir Tonchev, Radostina Petkova, Agata Manolova.*
- #1 Matrix Hyper-Basis Function Neural Network and Its Online Learning. *Olha Chala, Yevgeniy Bodyanskiy, Anatoliy Sachenko, Maciej Dobrowolski.*
- #91 Using Synthetic Data to Increase the Generalization of a CNN for Surgical Instrument Segmentation. *Tim Streckert, Dominik Fromme, Matti Kaupenjohann, Jörg Thiem.*
- #311 Artificial Intelligence and Law: A Bibliometric Insight into Academic Publications and Research Trends. *Emrah Aydemir, Halil İbrahim Cebeci.*



15:30 - 17:00

Session TOA2: Special Stream on Advanced Machine Learning

Online: Portal

Chairs: Yevgeniy Bodyanskiy, Leonid Lyubchyk

- #32 Apple Detection with Occlusions using Modified YOLOv5-v1. *Oleksandr Melnychenko, Oleg Savenko, Pavlo Radiuk.*
- #180 Composite Indicators Building Based on Concordant of Expert-Statistical Information Using Biased Ridge Kernel Regression. *Leonid Lyubchyk, Galyna Grinberg, Zoia Konokhova, Klym Yamkovyi.*
- #266 An Automated Audio and Video Dubbing System Using Emotional Transformation in Speech. *Andrii Dumyn.*
- #55 Neural Network Architectures for Recognizing Military Objects on Satellite Images. *Oleksandr Kovaliv, Yuriy Kondratenko, Anatoliy Shevchenko, Ievgen Sidenko, Galyna Kondratenko.*
- #65 Tendencies and Challenges of Artificial Intelligence Development and Implementation. *Yuriy Kondratenko, Anatoliy Shevchenko, Yuriy Zhukov, Galyna Kondratenko, Oleksandr Striuk.*
- #327 An Aircraft Identification System Using Convolution Neural Networks. *Viktor Turchenko, Iryna Turchenko, Nadiia Vasylykiv.*
- #199 Neural Network Intelligence Model for Software Projects Cost Prediction. *Mohamed Ahmed Hamada.*
-

15:30 - 17:00

Poster session TPOB2

Online: Portal

Chairs: Orest Kochan, Agata Manolova

Innovation in Digital Transformation and Engineering Education

- #310 The Use of BBC micro:bit in Automatic Irrigation System Through Cross-Curricular Teaching of Biology and Informatics. *Nika Kvaššayová, Marek Klimo, Miroslav Kvassay.*
- #233 Non-Fungible Tokens as Alternative Means of User Access to Additional Services in the Blockchain Platform Payment Process. *Oksana Herasymenko, Serhii Ihnatiuk.*
- #267 A Fuzzy Approach for Metaverse Design Elicitation. *Shekhar Shukla.*
- #269 Blockchain design elicitation for healthcare: A VFT based approach. *Shekhar Shukla, Rashmi G Shukla, Anuja Agarwal.*
- #108 AI will help: Preparation of Nanoengineers through Distance Learning in Times of War. *Sergii Kovachov, Anastasia Popova, Natalia Tsybuliak, Hanna Lopatina, Ihor Bohdanov, Yana Suchikova.*
- #238 Emotional Intelligence Model in Educational Computer Games. *Tetiana Luhova, Svitlana Kolot.*

Cyber Physical Systems for IoT Dependability and Resilience (CyberIoT 2023)

- #281 Meta-learning with evolutionary strategy for resilience optimization of image recognition system. *Viacheslav Moskalenko, Artem Korobov, Anton Kudravcev, Maksym Boiko.*
- #235 Secure IoT Communication with a Blockchain-Enabled Decentralized MQTT Network. *Vladyslav Makarian.*
- #102 Diagnostics of Oil Leaks Caused by Malicious Damage to the Linear Part of Oil Pipelines. *Anatoliy Obshta, Yurii Biliak.*
- #280 Multi-source analysis of AI vulnerabilities: methodology and algorithms of data collection. *Oleksii Neretin, Vyacheslav Kharchenko, Herman Fesenko.*
- #285 Scanning of Web-Applications: Algorithms and Software for Search of Vulnerabilities “code injection” and “insecure design”. *Oles Yudin, Vyacheslav Kharchenko, Vladimir Pevnev*

18:00-22:30

**IDAACS Symposium of Transformation towards Smart Cities
& Conference Dinner**

On-site: German Football Museum, [Platz der Deutschen Einheit 1, 44137 Dortmund](https://www.dortmund.de/en/visiting-the-city/visiting-the-city-1)



FRIDAY, 8 SEPTEMBER 2023

- 09:00 - 09:45 **Keynote: Acceptability of AI-based Solutions: From Building Trust to Leap of Faith**
by Prof. Inna Skarga-Bandurova
Plenary Session
Chair: Kurosh Madani
Hybrid: Portal and Room A.E.01
- 9:45 - 11:15 **Session FB1: Data Analysis and Modeling**
On-site: Room A.1.02
Chairs: Theodore Laopoulos, Volker Ahlers
- #271 Stereo Vision and LiDAR Based Point Cloud Acquisition for Creating Digital Twins in Indoor Applications. *Alexander Kuzminykh, Jerome Rohde, Phillip Oliver Gottschewski-Meyer, Volker Ahlers.*
 - #18 Count Predictive Model with Mixed Categorical and Count Explanatory Variables. *Evžen Ugllickich, Ivan Nagy, Tetiana Reznichenko.*
 - #216 Detection of Chicken Diseases from Fecal Images with the Pre-Trained Places365-GoogLeNet Model. *Ilkay Cinar.*
 - #217 Enhancing Explainability in Plant Disease Classification using Score-CAM: Improving Early Diagnosis for Agricultural Productivity. *Ramazan Kursun, Murat Koklu.*
- 9:45 - 11:15 **Session FC1: Advanced Instrumentation and data acquisition Systems**
On-site: Room A.2.02
Chairs: Vasileios Konstantakos, Sergii Telenyk
- #14 Suppressing Laser Triangulation Sensors Optical Aberrations by Replacing the Lens with a Slit. *Benjamin Lapointe-Pinel, Steven Pigeon.*
 - #39 Indoor Positioning System Evaluation in Public Rooms. *George Margaritis, Vasileios Serasidis, Ioannis Sofiannidis, Vasileios Konstantakos, Kostas Siozios, Theodore Laopoulos.*
 - #184 Integrating Open Source Geospatial Technologies for Environmental Monitoring and Conservation: A Case Study of SaveGreen Project and CCIBIS Geoportal. *Nataliia Yehorchenkova, Oleksii Yehorchenkov, Milan Husar.*
 - #70 Higher Reconstruction Performance With Dual Deep Neural Networks for Wireless Sensor Networks Compressed Temporal Signals. *Sébastien Rousseau, Romain Négrier, Fabien Courreges, Frank Itoua Engoti, Raymond Quééré.*
 - #57 Mobile EnviSense - a Wireless Sensor Network for Sustainable Agriculture, Forestry and Green Spaces in Smart Cities. Sebastian Rosewick, Felix Schorlemer, Frank Künemund.
 - #204 Mathematical Model for Determining the Geometric Location of the Environmental Pollutant Based on Sensor Data. Vladyslav Khaidurov, Bohdan Yailymov, Andrii Shelestov.
 - #114 Investigation of Hardware-Software Solutions for an Energy-Efficient Wireless Sensor Network. Anastasiia Yatsenko, Anzhelika Parkhomenko, Carsten Wolff, Artem Tulenkov, Andriy Parkhomenko.



9:45 - 11:15 **Session FOA1: Advanced Instrumentation and Data Acquisition Systems**

Online: Portal

Chair: Yuriy Lakh

- #53 Research and Simulation System for Ferroelectric Multibit Memory Cells. *Dávid Gál, Henrietta Bán, Andriy Haysak, Alexander Molnar, Taisiya Tretiakova, Vitaly Gerasimov.*
- #210 Verification of the Possibility of Using a Smartphone with Matlab Mobile in Transport Monitoring Applications. *Łukasz Ścisło, Paula Andruszkiewicz.*
- #221 Development of a Real-time ANN Algorithm Based Performance Management Strategy for Energy Generation System in the Context of Energy 4.0. *Ali El Kihel, El Mahdi Bouyahrouzi, Lotfi Sehli, Soufiane Embarki, Bachir El Kihel.*
- #201 Information-Based Modeling of Nonlinear Dynamical Systems. *Andrii Khrynenko, George Vostrov.*

9:45 - 11:15 **Session FOB1: Special Stream on Cyber Security**

Online: Portal

Chair: Sergii Lysenko

- #43 Malware Detection Tool Based on Emulator State Analysis. *Pavlo Rehida, Oleh Savenko, Antonina Kashtalian, Anatoliy Sachenko.*
- #162 Indicators of Compromise Confidence Scoring Method. *Volodymyr Tkach, Oleksii Baranovskyi, Anton Kudin, Navya Godavartik, Oleksandr Kliok, Sivani Modali.*
- #248 Quantum-inspired Computing: Shor's Algorithm and Euler's Totient Function. *Valerii Hlukhov.*
- #300 Dynamic Graph Learning with Long and Short-term for Multivariate Time Series Anomaly Detection. *Yuyin Tian, Rong Gao, Lingyu Yan, Donghua Liu, Zhiwei Ye.*
- #232 Policy-based Role and Access Modeling. *Noha Ayman, Mariam Kiryakos, Caroline Sabty, Alia El Bolock, Slim Abdennadher.*

11:15 - 11:30 **Coffee break**

On-site: 1st floor, room A.1.03 and 2nd floor room A.2.03

11:30 - 13:00 **Session FA2: Special Stream on Project Management**

On-site: Room A.E.02

Chairs: Jan Christoph Albrecht, Olena Verenysh

- #185 Smart-City of Poland: Informational and Analytical Context. *Galyna Fesenko, Tetiana Fesenko, Anna Pamula, Beata Gontar, Zbigniew Gontar.*
- #89 Distributed Team Dynamic Based on Inspirational Management Model. *Sergiy Bushuyev, Carsten Wolf, Denis Bushuiev, Oleksandr Chernysh.*
- #80. Key Success Factors for Digitally Transformed Agile Remote Work. *Ellen Bekoe, Kateryna Turchaninova, Aysha Fazal, Sherzod Nosirov, Renzie Thajudeen, Navid Ali Gharaee, Furkan Ali Yurdakul.*
- #320 Project Management for Cooperative Development of Welding Safety Training System using Virtual Reality. *Haixia Li, Taras Lendiuk, Anatoliy Sachenko.*
- #212 Justification of the Project Initiation Process Using the Markov Model. *Kateryna Kolesnikova, Nursultan Alpysbay, Tetiana Olekh, Tolganay Chinibayeva.*



11:30 - 13:00

Session FB2: Special Stream on Virtual and Augmented Reality

On-site: Room A.1.02

Chairs: Jurgen Sieck, Christian Reimann

- #98 Lip-Synchronized 3D Facial Animation Using Audio-Driven Graph Convolutional Autoencoder. *Ivaylo Bozhilov, Krasimir Tonchev, Nikolay Neshov, Agata Manolova.*
- #131 App-Guided ICAROS Pro Training via SteamVR Tracking 2.0 and Zephyr BioHarness 3.0. *Katharina Meiszl, Tobias Potthast, Tessa Schulten, Marc Silberbach, Daniel Wiswede, Pegah Abbassi, Laurin Hake, Vana Hussein, Lara Kuhlmann de Canaviri, Seyedeh Delaram Mirraziroudsari, Fabian Ratert, Yannik Warnecke, Witold Schiprowski, Daniel Heß, Raphael Brüngel, Christoph M. Friedrich*
- #256 Am Ende Der Welt: Shifting MR Boundaries with a Co-located Multiplayer with Meta Quest 2. *Laura Magdaleno Amaro, Jürgen Sieck.*
- #259 Body- and Pose-tracking for Augmented Reality Applications in the Field of Sports. *Philip Blankenburg, Jürgen Sieck.*
- #258 XR real-time multiuser collaboration environment. *Ricardo Hendrichs, Jürgen Sieck.*
- #205 Use of Digital Auralised 3D Models of Cultural Heritage Sites for Long-term Preservation. *Sophie Schauer, Jürgen Sieck, Krhystyna Lipianina-Honcharenko, Anatoliy Sachenko, Ivan Kit.*
- #139 Embedded Real-time Human Activity Recognition on an ESP32-S3 Microcontroller Using Ambient Audio Data. *Thomas Pfitzinger, Hendrik Wöhrle.*

11:30 - 13:00

Session FOA2: Special Stream on Advanced Information Technologies

Online: Portal

Chairs: Albrecht Fortenbacher, Oleksandr Letychevskyi

- #113 The Cloud-Based Optimization for Automated Warehouse Design. *Oleksandr Muliarevych.*
- #178 UML Profile for Decision-Making Systems Development with the Logic Scoring of Preference Method. *Ravil Kudermetov, Olga Polska, Natalia Shcherbak.*
- #132 A Machine Learning Approach for the Bin Packing Problem. *Francesca Guerriero, Francesco Paolo Saccomanno.*
- #313 The Formal Grounds for Construction for Intellimedia Automated System. *Vasyl Sheketa, Vitalii Melnyk, Roman Petryshyn, Yulia Romanyshyn, Oleg Sachenko.*
- #27 An Improved Bayesian Learner Based on Optimized Kernel Density Estimation and Wasserstein Soft Ensemble Strategy. *Zhiwei Ye, Yuanhu Liu, Jiazhi Lv, Yingying Liu, Zhenwei Wu, Wanfang Bai.*



11:30 - 13:00

Session FOB2: Intelligent Computer Technologies for Healthcare And Medicine

Online: Portal

Chairs: Francesco Beritelli, Łukasz Ścisło

- #85 Determination and optimization of the parameters of an alternative ferroelectric power supply. *David Gal, Henrietta Bán, Vitaly Gerasimov, Andriy Haysak, Alexander Molnar, Taisiya Tretiakova.*
- #296 Daily Monitoring of Speech Impairment for Early Parkinson's Disease Detection. *Mohammed Kadhim Salman Al-Jizani, Grigore Stamatescu.*
- #268 Thorax Disease Classification based on the Convolutional Network SqueezeNet. *Roberta Avanzato, Francesco Beritelli.*
- #218 Estimation of Heart Rate and Its Variability Based on Wavelet Analysis of Photoplethysmographic Signals in Real Time. *Adrian Nakonechnyi, Ihor Bereznyi.*
- #60 Eye-tracking Technology and its Application in Neuroscience. *Vitaliy Pavlenko, Tetiana Shamanina, Vladyslav Chori.*
- #279 MRI Denoising Neural Network Architecture Convolutio. *Denis Sliusarenko, Andrii Ntreba, Sergiy Radchenko.*

11:30 - 13:00

Session FOC2: Special Stream on Advanced Machine Learning

Online: Portal

Chairs: Yuriy Kondratenko

- #134 Towards Better Perception Quality Index. *Oleg Kravchuk, Galyna Kriukova.*
- #305 Convolutional Neural Network Assessment of Image Quality Based on the TID2013 Database. *Arkadiusz Talun, Pawel Drozda, Sergei Yelmanov, Yuriy Romanyshyn, Oles Tehlivets.*
- #317 A Comparative Analysis of Deep Learning-based Object Detectors for Embedded Systems. *Yehor Boltov, Inna Skarga-Bandurova, Maryna Derkach.*
- #331 Girls in STEM: An Exploratory Study of Students Perceptions. *Shaista Falak, Nurul Sarah Binti Mohamed Ossman, Fasih Ur Rehman, Ezmieralda Melissa, Sarbani Banerjee Belur and Tariq Zaman.*

13:00 - 14:00

Lunch

On-site: Kostbar

14:00 - 15:30

IDAACS Market: Company & Student Fare/Exhibition

On-site: 2nd floor hall



14:00 - 15:30

Poster session FPA1

On-site: 1st floor hall

Chairs: Nicole Christoff, Michael Dombrowski

Pattern Recognition, Digital Image and Signal Processing

- #87 Automatic Wood Species Classification Using Network's Architecture Model based on Convolutional Neural Network. *Toma Nikolov, Nicole Christoff, Nikolay Neshov, Agata Manolova.*

Design and Testing of Advanced Measuring and Computer Systems

- #142 Approach to Acoustic Drone Detection System Development. *Roman Kochan, Nataliya Hots, Sergiy Fabirovskyy, Volodymyr Storozh, Alexander Kosterov, Leonid Ozirkovskyy, Anna Helesh, Shulhai Arkadii, Volodymyr Kochan, Bohdan Strykhalyuk, Mykola Mykyichuk, Ivan Demydov*
- #282 Mathematical Models to Determine Temperature Fields in Heterogeneous Elements of Digital Devices with Thermal Sensitivity Taken into Account. *Vasyl Havrysh, Volodymyr Kochan.*
- #284 Ad-hoc Signal Conditioning Transducer with Self-Testing for Data Acquisition Devices. *Fangting Huang, Yuriy Drohobytskiy, Hanna Homeniuk, Volodymyr Kochan, Roman Kochan, Mariana Levkiv, Nataliia Kochan, Pavlo Bykovyy.*
- #26 Methods and Means of Reducing the Sensitivity Threshold of Systems With The Measurement of Small Phase Shifts Between Infra-Low-Frequency Harmonic Signals. *Ihor Buchma, Mykhailo Voichenko.*
- #124 Designing a Pulse Shaper of Arbitrary Duration. *Oleksandr Osolinskyi, Volodymyr Kochan, Anatoliy Sachenko, Diana Zahorodnia.*
- #223 Simulator of Microcontrollers Power Consumption. *Orest Kochan, Oleksandr Osolinskyi, Anatoliy Sachenko, Volodymyr Kochan, Ihor Romanets.*
- #283 The Concept of Built-in Metrological Support of Voltage Measuring Channels for Internet of Things. *Volodymyr Kochan, Serhii Mokhun, Olha Fedchyshyn, Svitlana Boitsaniuk, Pavlo Bykovyy, Vasyl Parakuda, Hu Jiwei, Xu Anrang.*

Advanced Information Technologies

- #9 Sign Language Digits Recognition Technology Based on a Convolutional Neural Network. *Oleh Voloshynskyi, Victoria Vysotska, Roman Holoshchuk, Svitlana Goloshchuk, Sofia Chyrun, Diana Zahorodnia*
- #314 Econometric Analysis of the Relationships between Synthetic Quality of Life Indicators and Determinants of State's Economic Policy. *Lena Artemenko, Viktor Artemenko, Grygoriy Hladiy.*
- #336. Expansion of the Initial Temperature Measurement Range Using Crystal-Optical Thermal Transducers. *Mykhaylo Stepanyak, Mykola Stepanyak, Mykhaylo M. Stepanyak.*
- #236 Multi-Objective Based Multi-Agent Decision- Making System. *Radu Melnic, Victor Ababii, Viorica Sudacevschi, Oleg Sachenko, Olesea Borozan, Taras Lendyuk.*
- #169 Development of a Portable Charger for Electric Vehicles. *Oksana Shpak, Volodymyr Samoty, Ulyana Dzelendzyak.*

Virtual and Augmented Reality

- #22 End-to-End Latency Measurements with Black Box Components. *Abdullah Muslim, Stephan Recker.*
- #191 Angioplasty Virtual Reality Simulator: Modeling of Blood flow in an Artery. *Bakhyt Alipova, Fatima Tokmukhamedova, Zhiger Bolatov, Yevgeniya Daineko, Madina Ipalakova, Dana Tsoy.*

Internet of Things for Smart Buildings and Cities

- #322 Intelligent Method for Selecting Business Location in Smart City. *Khrystyna Lipianina-Honcharenko, Anatoliy Sachenko, Vita Semaniuk, Anna Badasian, Łukasz Kopania.*



14:00 - 15:30

Poster session FPB1

On-site: 2nd floor hall

Chair: Oleg Illiashenko

Pattern Recognition, Digital Image and Signal Processing

- #328 Increasing the Accuracy of Determining RR Intervals of ECG using Wavelet Transform. *Galina Shcherbakova, Svetlana Antoshchuk, Anatoliy Sachenko, Nataliia Volkova, Bohdan Rusyn, Sergey Rippa.*

Intelligent Software Tools, Systems, and Databases

- #288 Evaluating an In-Home Exercise Program Using Vision-Based Edge AI for Elderly Healthcare. *Sinan Chen, Masahide Nakamura, Kiyoshi Yasuda.*
- #64 Development of Verification Model for Intelligence of Multiagent Systems. *Oleksandr Martynyuk, Oleksandr Drozd, Anatoliy Sachenko, Dmitry Martynyuk, Igor Mileiko, Igor Kopytchuk, Grygoriy Hladiy.*
- #99 Application of Fourier Transformation to Signal Processing Implied by ARIMA Model. *Tetiana Lem, Viktor Pavlikha, Vladyslav Halchenko, Dmytro Obidin, Tetiana Fedchuk.*
- #109 Cloud Key-Value Storage. *Oleh Pykulytskyi, Bohdan Havano.*

Special Stream on Advanced Machine Learning

- #298 Remote Voice Control of Computer Based on Convolutional Neural Network. *Anastasiia Sartiukova, Oksana Markiv, Victoria Vysotska, Iryna Shackleina, Nataliia Sokulska, Ihor Romanets.*
- #316 Human-AI Collaboration in Decision Making: An Initial Reliability Study and Methodology. *Tetiana Biloborodova, Inna Skarga-Bandurova.*

Special Stream on Innovation & Entrepreneurship in Digital Transformation

- #194 Architectonics of the European Currency Integration: Cluster and Gravity Modeling. *Mariia Lyzun, Oksana Desyatnyuk, Yevhen Savelyev, Vitalina Kuryliak, Svitlana Sachenko, Ihor Lishchynskyy.*

Special Stream on Project Management

- #264 Influence of the Support Team Management Model on the Order Fulfillment by IT Company. *Nadiia Vasylykiv, Lesia Dubchak, Iryna Turchenko, Anastasiia Volkova.*
- #244 Global Differentiation of Climate-digital Projects in Terms of Low-carbon Economy. *Irina Maksymova, Yevhen Savelyev, Iryna Zvarych, Vitalina Kurylyak, Mariia Lyzun, Svitlana Sachenko, Ihor Lishchynskyy.*

Data Analysis and Modeling

- #3 Incremental auto-tuning for hybrid parallelization using OpenCL. *Akiyoshi Wakatani.*

Cyber Physical Systems for IoT Dependability and Resilience

- #315 Solving the Two-Criteria Maximum Coverage Location Problem of Continuous Area Monitored by Sensor Network. *Sergiy Yakovlev, Adam Wojciechowski, Dmytro Podzaha, Oleg Illiashenko, Iryna Yakovleva.*



- 14:00 - 15:30 Session FOA3: Workshop Beyond 5G and 6G Networks Technologies and Security**
Online: Portal
Chair: Taras Maksymyuk
- #292 Maximizing Security and Efficiency in 5G Networks by Means of Quantum Cryptography and Network Slicing Concepts. *Sergiy Dorozhynskyi, Ihor Zakutytskyi, Myroslav Ryabyy, Anatolii Skurativskyi.*
 - #295 Remote Voice User Verification System for Access to IoT Services Based on 5G Technologies. *Alla Pinchuk, Oleksandr Lavrynenko, Hanna Martyniuk, Andrii Fesenko, Stanislav Yarotsky, Marek Aleksander.*
 - #312 Assessment of the Possibility of Using 5G to Build Telemedicine Networks in Various Environment. *Saad Malik, Serhii Siden, Roman Tsarov, Lesya Nikityuk.*
 - #309 Feature Engineering for Deep Learning-Based Anomaly Detection in 5G and Beyond. *Taras Maksymyuk, Nazarii Lutsiv, Bohdan Shubyn, Juraj Gazda, Orest Ivakhiv.*
 - #174 5G Network Deployment Based on Open-Source Projects: A Comparative Analysis. *Alla Pinchuk, Roman Odarchenko, Vladyslav Samoilenko, Azamat Imanbayev.*
 - #329 Certificate Based Primary Authentication for 5G Networks. *Aditi Shukla, Fabian Sowieja, Jubin Sebastian, Axel Sikora.*
- 14:00 - 17:00 IEEE IDAACS workshop of “Projects for the Digital Transformation”**
On-site: B.E.23.1 / B.E.23.2 (InnoLab)
!!! Only registered prior to the workshop participants
- 15:30 - 16:00 Coffee break + IDAACS Market**
On-site: 1st floor hall and 2nd floor hall
- 16:00 - 17:30 Session FA4 Special Stream on Design and Testing of Advanced Measuring and Computer Systems**
On-site: Room A.E.02
Chairs: Jozef Kostolny, Vladimir Opanasenko
- #152 Dynamic Binary Decision Diagram Creation Using an Extended Apply Algorithm. *Michal Mrena, Miroslav Kvassay, Sergey Stankevich.*
 - #23 Implementation of a Time-to-Digital Converter Inside FPGA. *Michal Špaček, Radek Sedláček, Jaroslav Roztočil.*
 - #224 Generating Monotone Boolean Functions Using Hasse Diagram. *Michal Mrena, Miroslav Kvassay.*
 - #21 Neural Network-based Accelerator for Natural Language Text Classification. *Irina Zelenova, Artem Didenko, Tetiana Holub, Galyna Tabunshchyk, Carsten Wolff, Svitlana Hrushko.*
 - #149 Collecting, Distributing and Extracting Information from Wearable Devices. *Noor-Aldin Titi, Miral Rimawi, Deemah Hamed, Abdalkarim Awad, Yazan Abu Farha, Aziz Qaroush.*



16:00 - 17:30

Session FB4: Special Stream on Innovation in Digital Transformation and Engineering Education

On-site: Room A.1.02

Chair: Andrea Kienle, Peter Arras

- #75 Digital Twins in Engineering Education, Preparing Students for Industrial Digital Transformation. *Galyna Tabunshchyk, Peter Arras, Carsten Wolff.*
- #176 Digital Application Akelius as a Blended Learning Tool. *Zhannura Manapbayeva, Dinara Aliyeva.*
- #254 Cross-University-Business Platform as a Part of the Digital Education Ecosystem. *Polina Repka, Olena Verenysh, Christian Reimann.*
- #334 Emerging digital technologies driven approach to increase the supply chains competitiveness. *Vladyslav Dombrovskiy, Michael Dombrowski, Myroslav Komar, Vita Semaniuk.*

16:00 - 17:30

Session FC4: Special Stream on Cyber Security

On-site: Room A.2.02

Chairs: Kai Oliver Detken, George Markowsky

- #51 APT Detection: an Incremental Correlation Approach. *Salva Daneshgadeh Cakmakci, Georgios Gkoktsis, Robin Buchta, Kai Oliver Detken, Felix Heine, Carsten Kleiner.*
- #54 Central Security Incident Management Platform in Industry 4.0 with Threat Intelligence Interface. *Salva Daneshgadeh Cakmakci, Sercan Catalkaya, Kai Oliver Detken, Evren Eren.*
- #116 Enforcement of Web3 security by use Blockchain and LLMs. *Vladimir Oleshchuk.*
- #198 Integration of Results from Static and Dynamic Code Analysis into an Ontological Model. *Štefan Balogh, Tibor Galko.*
- #73 Analysis of a Cryptographically Secure Pseudo Random Number Generator. *Benjamin Williams, Robert E. Hiromoto, Albert Carlson.*
- #326. Performance Evaluation of TLS Session Establishments on an ARM Cortex-M4 Platform. *Julian Göppert, Antoine Chomel, Jubin Sebastian E and Axel Sikora*

16:00 - 17:30

Session FOA4: Special Stream on Design and Testing of Advanced Measuring and Computer Systems

Online: Portal

Chair: Valerii Hlukhov

- #195 Analysis of the Adequacy of the Simulink Stepper Motor Model in the Environment of Matlab. *Aleksandr Trunov, Maksym Skoroid.*
- #69 An Improved Fractional Model of an Electrochemical Capacitor with Accounting of Relaxation Phenomena. *Mykola Fedula, Oleg Savenko, Valeriy Martynyuk, Liudmyla Koretska, Denys Makaryshkin.*
- #226 Intellectual Air Quality Monitoring System Based on Arduino Uno. *Ivan Rudavskiy, Halyna Klym.*
- #209 Near Real-Time Access Monitoring Based on IoT Dynamic Measurements of Indoor Air Pollutant. *Łukasz Ścisło, Nina Szczepanik-Scisło.*
- #50 Possibilities of non-dismantling calibration of measuring channels of dispersed resystems. *Tetiana Bubela, Vasyl Yatsuk, Volodymyr Zdeb, Yuriy Yatsuk.*
- #229 Designing a Node.js Project Architecture for RESTful Microservices. Oleh Chaplia, Halyna Klym.
- #257 Seamless Transition: Migrating from Relational Databases to Document-Oriented Databases. Shady Hamouda.



16:00 - 17:30 **Poster session FPOB4**

Online: Portal

Chair: Vladimir Romanov

Intelligent Distributed Systems

- #324 Logical Decision Networks Based on the Optical Coloroids. *Timchenko Victor, Yuriy Kondratenko, Vladik Kreinovich.*
- #122 Smart Systems for Precision Agriculture, Environmental Protection and Healthcare. *Volodymyr Romanov, Igor Galelyuka, Volodymyr Hrusha, Oleksandr Voronenko, Oleksandra Kovyrova, Hanna Antonova, Anna Kedych.*
- #101 Conceptual design and implementation of a semantic IoT-Edge-Gateway using the WoT standard. *Martin Biskup, Fabian Kohlmorgen, Markus Kuller.*

Special Stream on Internet of Things for Smart Buildings and Cities

- #36 Contribution to maintenance 4.0 by Monitoring and prognosis of industrial installations by Digital Twin: Case study on wastewater filtration pilot. *Embarki Soufiane, El Kihel Yousra, Bouyahrouzi El Mahdi, El Kihel Bachir.*

Special Stream on Cyber Security

- #74 Malware Detection by Distributed Systems with Partial Centralization. *Bohdan Savenko, Antonina Kashtalian, Sergii Lysenko, Oleg Savenko.*
- #231 Comparison of Hardware Complexity of Multipliers $GF(p^m)$. *Ivan Zholubak, Valeriy Hlukhov, Oleksandr Muliarevych.*
- #120 Exploring the Vulnerabilities and Countermeasures of SSL/TLS Protocols in Secure Data Transmission Over Computer Networks. *Fidan Bozkurt, Mustafa Kara, Muhammed Ali Aydin, Hasan Hüseyin Balik.*

Special Stream on Virtual and Augmented Reality

- #48 Design of a WebAR Quartet App Based on Human-Computer Interaction. *Seid Mayo Abdul Aziz Sepa.*
- #187 Distance Impact on Collaboration Quality in Smart Glasses Applications. *Amal Yassien, Abdelkareem Tarek, Slim Abdennadhe.*



SATURDAY, 9 SEPTEMBER 2023

09:30 - 11:00

Session SB1: Special Stream on Advanced Information Technologies

On-site: Room A.1.02

Chair: Vladimir Oleshchuk

- #138 Semi-Supervised Forest Type Mapping in Europe on Satellite Data. *Nataliia Kussul, Andrii Shelestov, Bohdan Yailymov, Hanna Yailymova.*
- #67 Bimodal Author Identification on Famous Political Discourses Based on Text and Speech. *Halim Sayoud, Siham Ouamour.*
- #303 Weighted Pruning with Filter Search to Deploy DNN Models on Microcontrollers. *Rick Pandey, Sebastian Uziel, Tino Hutschenreuther, Silvia Krug.*
- #66 Comparative DNN-based Classification of Customers Feedbacks in E-Commerce Platform. *Walid Benaouda, Siham Ouamour, Halim Sayoud.*
- #86 Chatbots Lifecycle Support Platform. Grzegorz Nowakowski, Sergii Telenyk, Yevhenii Vovk.
- #173 FPGA-based Accelerator for FFT-Processing in Edge Computing. *Peter Schulz, Grigore Sleahitichi.*

09:30 - 11:00

Session SC1: Pattern Recognition, Digital Image and Signal Processing

On-site: Room A.2.02

Chairs: John Kalomiros, Oguike Ahaneku

- #61 Speech Emotion Recognition Using Combined Mel Spectrograms with 2D CNN Models. *Žygimantas Marma, Mindaugas Punys, Arunas Lipnickas.*
- #118 Impact of Trivial Solutions on Classification Tasks Using CNNs. *Dominik Fromme, Matti Kaupenjohann, Jörg Thiem.*
- #63 YOLO-based Detection of Drilled Blind Holes in Laminated Panels with Template Similarity Assessment. *Lukas Zabulis, Arūnas Lipnickas, Rytis Augustauskas, Dominykas Lelešius.*
- #160 Amber Gemstones Colour Classification by CNN. *Dovydas Katkus, Paulius Maciulevičius, Arūnas Lipnickas.*
- #147 Defects Localization in Images Using Deep Learning-Based Classification with CAM Output. *Rytis Augustauskas, Lukas Zabulis, Arūnas Lipnickas, Simas Jokubauskas.*
- #337 Automated Verification of the Signatures' Authenticity using Artificial Intelligence Methods. *Piotr Bilski, Jacek Olejnik and Mieczysław Goc*

09:30 - 11:00

Session SOA1: Data Analysis and Modeling

Online: Portal

Chair: Miroslav Kvassay

- #156 Analysis and Forecast of Subway Construction Cost Based on Bayesian Network. *Feng Guo, Donghui Niu, Guoling Zhang, Na Hou, Zhengbing Hu.*
- #157 Analysis of Extracting Core Cost of Subway Project by Linear Discrimination Method Based on Principal Component Analysis. *Feng Guo, Guoling Zhang, Junying Hao, Donghui Niu, Zhengbing Hu.*
- #190 Multiple Precision in Data Analysis and Modeling. *Emil M Oanta.*
- #278 Detector Plane Data Analysis of Scattered X-rays Distribution: Theoretical Study vs Simulation Result. *Mariya Smahina, Andrii Netreba, Sergiy Radchenko.*
- #274 Cities' Air Quality and Pollution Data Analysis Approach. *Arkadiusz Banasik, Aleksandra Czupryna-Nowak.*
- #15 Mathematical Modeling of the Groundwater Level Regime for Substantiation of Resource-Saving Technological Parameters of Drained Lands Water Regulation. *Lyudmyla Kuzmych, Halyna Voropai, Stepan Kuzmych.*
- #5 The Machine Learning Techniques for Enhancing Software Requirement Specification: Literature Review. *Vira Liubchenko.*



09:30 - 11:00

Session SOB1: Special Stream on Advanced Information Technologies

Online: Portal

Chair: Vadym Mukhin

- #6 Extension of Landing Envelope for CS-23 based Aircraft by Implementing Semi-Passive Single-Action Control for Oleo-Pneumatic Shock Absorbers. *Felix Willich.*
- #13 Control System for The Production of Granular Mineral Fertilizers in a Fluidized Bed. *Bogdan Korniyenko, Lesya Ladieva, Andrii Nesteruk, Kateryna Bereziianko.*
- #151 The Novel Neural Network Architecture to Detect Car Damage. *Nataliya Shakhovska, Alex Turyk, Jurgen Sieck, Anatoly Sachenko.*
- #172 Design Models of Bit-Stream Online-Computers of Elementary Mathematical Functions. *Valentyn Korniienko, Lina Larchenko, Anzhelika Parkhomenko, Bogdan Larchenko.*
- #104 Ant Colony Optimization for Resource Allocation in Cloud Computing Environments. *Taras Kniazhyk, Oleksandr Muliarevych.*

11:00 - 11:30

Coffee break

On-site: 1st floor, room A.1.03 and 2nd floor room A.2.03

11:30 - 13:00

**Session SB2: Workshop on Cyber Physical Systems for IoT
Dependability and Resilience (CyberIoT 2023)**

On-site: Room A.1.02

Chairs: Vyacheslav Kharchenko, Peter Schulz

- #287 Deploying the Reliable UAV Swarm for Providing P2P LiFi Communications Considering Physical Obstacles: Method of Rectangles, Algorithms, and Tool. *Kyrylo Leichenko, Herman Fesenko, Vyacheslav Kharchenko.*
- #20 The FPGA Implementation of Pseudorandom Word Generation Algorithms. *Volodymyr Opanasenko, Stanislav Zavyalov.*
- #196 A Testbench for Stereo-Processing Acceleration Based on PYNQ and the StereoPi. *John Kalomiros, John Vourvoulakis, Stavros Vologiannidis.*
- #321 Towards Evidence-Based Cybersecurity Assessment of Programmable Systems to Ensure the Protection of Critical IT Infrastructure. *Oleg Illiashenko, Vyacheslav Kharchenko, Oleg Odarushchenko.*
- #150 Implement of Edge Computing for Cyber- Physical System in the Smart Grids Quasi-Real Time Control Context. *Michael Dombrowski, Zbyshek Dombrowski.*
- #241 A Scalable AI-Driven Chatbot for Real-Time Diagnostics in Manufacturing Plants: Merging Google Dialogflow, BERT, and a Self-Learning Module. *Ogu Ahaneku, Maximilian Siegl, Sarah Stromberger, Radu Vidrascu.*

11:30 – 12:15

Keynote: Nature-inspired algorithms and fuzzy logic for optimization problems

by Dr. Danilo Pelusi

Plenary session: Igor Grebennik

Online: Portal



11:30 - 13:00

Session SC2: Intelligent Methods for/and IoT

On-site: Room A.2.02

Chairs: Robert Hiromoto, Anzhelika Parkhomenko

- #277 Drones, Lanchester's Equations, and the Russo-Ukrainian War. *George Markowsky.*
- #62 System Architecture for Digital Twin based Collision Avoidance through Private 5G Networks. *Silas Ulrich, Tommy Luong, Christian Moldovan, Janis Tiemann, Andreas Lewandowski, Christof Röhrig.*
- #193 HotWire – Decreasing Latency between Wake-up Calls in semi-active WUR-Scenarios. *Maurice Ziesmann, Claus Fühner, Felix Büsching.*
- #127 Towards an Interoperable and Privacy-Respecting Smart City Data Ecosystem. *Marco Hecktor, Andreas Diepenbrock, Sabine Sachweh.*
- #97 Innovating Smart Buildings and Cities through Agent-Based Modeling, Discrete Event Simulation and Sensor-Based Data Analytics. *Juliane Lopinski, Sabine Sachweh, Claudia Müller.*

11:30 - 13:00

Poster Session SPOA2

Online: Portal

Chair: Nataliia Kussul

Advanced Machine Learning

- #163 Neural Network Technology of Mine Recognition Based on Data from Magnetic Field Sensors. *Roman Peleshchak, Vasyl Lytvyn, Ivan Peleshchak, Serhii Voloshyn.*
- #170 Using Data Analysis Methods for Predicting the Concentration of Toxic Elements in Soil. *Lyazat Naizabayeva, Gulnara Zakirova.*
- #158 Ensemble Machine Learning Model for the Detection of Misinformation in News Content. *Nataliya Boyko, Oleksandra Dypko.*
- #220 Accuracy Improvement of Neural Networks Under Semi-Supervised Learning. *Viktor Sineglazov, Olena Chumachenko, Kyrylo Lesohorskyi.*
- #319 Automated Machine Learning Evaluation of Squat Movement Patterns Using Smartphone and CoreML. *Marta Sokołowska, Michał Podpora.*

Data Analysis and Modeling

- #28 IMDENCLUE: An Improved DENCLUE Clustering Based On Kernel Density Estimation Optimisation And Cluster Merging Strategy. *Zhiwei Ye, Jiazhi Lv, Yuanhu Liu, Yingying Liu, Zhenwei Wu, Wanfang Bai.*
- #40 Personal Recognition System Based on EMG. *Huiqi Dong, Masami Iwase, Yasuyuki Sato.*
- #130 Gas Values Prediction and Forecast Techniques based on DL Models. *Roberta Avanzato, Francesco Beritelli, Michele Russo.*
- #260 Adaptive Dynamic Aquila Optimization Incorporating with Improved Sine Cosine. *Lang Huang, Hui Xu, Zhengbin Qin, Yang Jin.*
- #261 Intrusion Classification Detection Model for SDN based on Optimized TSO and DT. *Zhengbin Qin, Hui Xu, Lang Huang, Yang Jin.*
- #164 Asleep Adults' Breathing Patterns via Data Mining of Electromyograms. *Gennady Chuiko, Olga Dvornik, Yevhen Darnapuk, Denis Honcharov, Olga Yaremchuk.*

Pattern Recognition, Digital Image and Signal Processing

- #270 Multi-Stream Pill Recognition with Attention. *Richárd Rádlí, Zolt Vörösházi, László Czúni.*

Internet of Things for Smart Buildings and Cities

- #71 Vehicle dynamical sensor monitoring toward forest soil moisture measuring system. *Yoshinori Kiga, Takumi Tazawa, Masami Iwase.*



11:30 - 13:00

Poster Session SPOB2

Online: Portal

Chairs: Francesca Guerriero, Vitaliy Kobets

Advanced Instrumentation and Data Acquisition Systems

- #188 Reputation-Based Incentive Model for Decentralized Analysis of Development Proposals. *Lyudmila Kovalchuk, Mariia Rodinko, Roman Oliynykov.*
- #330 A Risk Evaluation Method Before Using a Black-box Model Considering Sensor Failure. *Tangxiao Yuan, Weilin Xu, Kondo H. Adjallah, Huifen Wang, Junshan Xu.*
- #325 Increasing Order of Digital Filters of the Same Type in Robotic Systems. *Tykhon Sytnikov, Valerii Sytnikov, Oleh Streltsov, Pavlo Stupen*
- #165 Research of Facial Recognition Systems and Criteria for Identification. *Mariia Nazarkevych, Agnieszka Kowalska-Styczeń, Vasyly Lytvyn.*
- #103 Weight Averaging of Pulse Width Modulated Signal. *Mykhaylo Dorozhovets, Piotr Kubishyn.*

Agile Management in Virtual Project Environments

- #81 Maturity Model Taxonomy for Digital Transformation. *Manish Kumar, Muhammad G. Taj, Artur Zevalov, Raghupati Bhetwal, Kishan V. Kanani, Mahmudur Rahman.*

Project Management

- #168 The Approach of Project Critical Path Calculation in the Schedule Management. *Svitlana Krepych, Iryna Spivak, Serhii Spivak, Roman Krepych.*
- #297 Project Management of the Information System for the Selection of Project Teams. *Nataliia Kovalchuk, Oleh Zachko, Oleh Kovalchuk, Dmytro Kobylkin.*
- #107 Resilience in Wartime Research: Case of Anticrisis Management at a Ukrainian University. *Ihor Bohdanov, Sergii Kovachov, Natalia Tsybuliak, Hanna Lopatina, Anastasia Popova, Yana Suchikova.*
- #41 Integrated Project Delivery and Building Information Modeling in Transformation of Engineering and Credit Risk Management. *Ihor Lukianchuk, Oleksandr Bugrov, Olena Bugrova.*
- #263 Synergy Effects for Project Stakeholders under the Quadruple Helix Model. *Rūta Čiutienė, Nataliia Kholiavko, Andrii Karpenko, Dmytro Plynokos, Natalia Karpenko.*
- #133 The Role of Digital Technologies in Facilitating Sustainability in Developing Countries: A Case of Pakistan. *Shazia Nadir Ali, Rao Aamir Ali Khan.*

13:00 - 14:00

Lunch

On-site: Kostbar

14:00 - 15:30

Round Table and Closing Ceremony

Hybrid: Portal and Room A.E.01

Chairs: George Markowsky, Anatoliy Sachenko, Carsten Wolff

