



Technical Program

IEEE IDAACS 2025 (HYBRID)

13th IEEE International Conference on Intelligent Data Acquisition and Advanced Computing Systems: Technology and Applications

4-6 September 2025
Silesian University of Technology, Gliwice, Poland

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

Address of the conference Venue:
Faculty of Automatic Control, Electronics, and Computer Science, Silesian University of Technology,
16 Akademicka Street, 44-100 Gliwice, Poland



IDAACS 2025 CONFERENCE TIMETABLE

Address for **on-site** participation: Faculty of Automatic Control, Electronics, and Computer Science, Silesian University of Technology, 16 Akademicka Street, 44-100 Gliwice, Poland

Time Zone for **online** participation: **Central European Summer Time (CEST / UTC+2).**

THURSDAY, 4 SEPTEMBER 2025

TIME	SESSIONS AND LOCATION			
08:00 - 09:00	1st floor hall Registration			
09:00 - 09:30	Hybrid: Zoom and Hall A Conference opening Dariusz Mrozek, Oksana Desyatnyuk, Vincenzo Piuri, George Markowsky, Anatoliy Sachenko and Wojciech Kempa			
09:30 - 10:30	Hybrid: Zoom and Hall A Plenary session Keynote: Prof. Oleksandr Letychevskyi – “Neuro-insertion-based digital twins”			
10:30 - 12:00	On-site: Room B Session TA1 Pattern Recognition, Digital Image & Signal Processing	On-site: Room C Session TB1 Advanced Mathematical Methods & Big Data	Online: Zoom & Room D Session TOA1 Stream on Intelligent software systems & tools	Online: Zoom & Room E Session TOB1 Special stream of Cyber Security
12:00 - 13:00	Lunch (Catering) Parter			
13:00 - 14:30	On-site: Room B Session TA2 Internet of Things and Industrial Internet	On-site: Room C Session TB2 Special stream of Cyber Security	Online: Zoom & Room D Session TOA2 Special stream on Advanced project management	Online: Zoom & Room E Session TOB2 Special Stream on Virtual laboratories & virtual instrumentation in STEM
14:30 - 15:00	Coffee break (1st floor hall)			
15:00 - 16:30	On-site: Room B Session TA3 Special stream on Advanced project management	On-site: Room C Session TB3 Special Stream on Virtual Laboratories & Virtual Instrumentation in STEM	Online: Zoom & Room D Session TOA3 Pattern Recognition, Digital Image & Signal Processing	Online: Zoom & Room E Session TOB3 Advanced Mathematical Methods & Big Data
16:30 - 17:30				
17:30 - 20:00	Underground Mining Tour Please wear comfortable shoes, especially recommended for women!			



FRIDAY, 5 SEPTEMBER 2025

TIME	SESSIONS AND LOCATION				
08:00 - 08:30	1st floor hall Registration				
08:30 - 09:15	Hybrid: Zoom and Hall A Plenary session Keynote: Dr. Angelo Genovese - "Industrial Anomaly Detection at the Edge"				
09:15 - 10:45	On-site: Room B Session FA1 Special stream on design & testing of advanced computer systems	On-site: Room C Session FB1 Workshop beyond 5G and 6G networks technologies & security	Online: Zoom & Room D Session FOA1 Special stream on Economics in Era of Digital Transformation	Online: Zoom & Room E Session FOB1 Intelligent information systems, data mining & ontology	Online: Zoom & Room X Poster session FPOC1
10:45 - 11:15	Coffee break (1st floor hall)				
11:15 - 12:45	On-site: Room B Session FA2 Stream on Intelligent software systems & tools	On-site: Room C Session FB2 Special Stream on Advanced Machine Learning & Intelligent information systems	Online: Zoom & Room D Session FOA2 Special stream on design & testing of advanced computer systems	Online: Zoom & Room E Session FOB2 Workshop beyond 5G and 6G networks technologies & security	Online: Zoom & Room X Poster session FPOC2
12:45 - 13:45	Lunch (Catering) Parter				
13:45 - 14:30	Hybrid: Zoom and Hall A Plenary session Keynote: Nataliia Kussul – "Artificial and Earth Intelligence for Monitoring our Changing Planet"				
14:30 - 15:30	On-site: Room B Session FA3 Computer systems for healthcare & medicine & bio-informatics	On-site: 1 st floor hall Poster session FPB3	Online: Zoom & Room D Session FOA3 Data Analysis & modelling	Online: Zoom & Room E Session FOB3 Special stream on data-driven methods of computational diagnostics	Online: Zoom & Room X Poster session FPOC3
15:30 - 16:00	Coffee break (1st floor hall)				
16:00 - 17:30	On-site: Room B Session FA4 Data Analysis & Modelling / Special stream on data-driven methods of computational diagnostics	On-site: 1 st floor hall Poster session FPB4	Online: Zoom & Room D Session FOA4 Computer systems for healthcare & medicine & bio-informatics	Online: Zoom & Room E Session FOB4 Special stream on digital law & computational legal studies	Online: Zoom & Room X Poster session FPOC4
17:30 - 18:30					
18:30 - 20:30	Conference Dinner Laznia Lancuszkowa, ul. Wolnosci 408, Zabrze				



SATURDAY, 6 SEPTEMBER 2025

TIME	SESSIONS AND LOCATION				
08:00 - 08:30	1st floor hall Registration				
08:30 - 10:00	On-site: Room B Session SA1 Special Stream on Advanced Automatic Control & IT	On-site: Room C Session SB1 Workshop Cyber IoT 2025	Online: Zoom & Room D Session SOA1 Special Stream on Advanced Automatic Control & IT	Online: Zoom & Room E Session SOB1 Special stream on Advanced machine learning	Online: Zoom & Room X Session SOC1 Special stream on Economics in Era of Digital Transformation
10:00 - 10:30	Coffee break (1st floor hall)				
10:30 - 11:15	On-site: Room B Session SA2 Special stream on digital law & computational legal studies	Online: Zoom & Room C Keynote: Dr.Viktor Kremin, Infeneon Trends and evolution the automotive human-machine interfaces	Online: Zoom & Room D Session SOA2 Workshop Cyber IoT 2025	Online: Zoom & Room E Session SPOB2 Poster Session	Online: Zoom & Room X Session SPOC2 Poster session
11:15 - 12:00					
12:00 - 13:00	Lunch (Catering) Parter				
13:00 - 14:30	Hybrid: Zoom and Hall A Round Table and Closing Ceremony George Markowsky, Anatoliy Sachenko, Wojciech Kempa				

TIME DIFFERENCE

Relevant only for **online** participants.

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

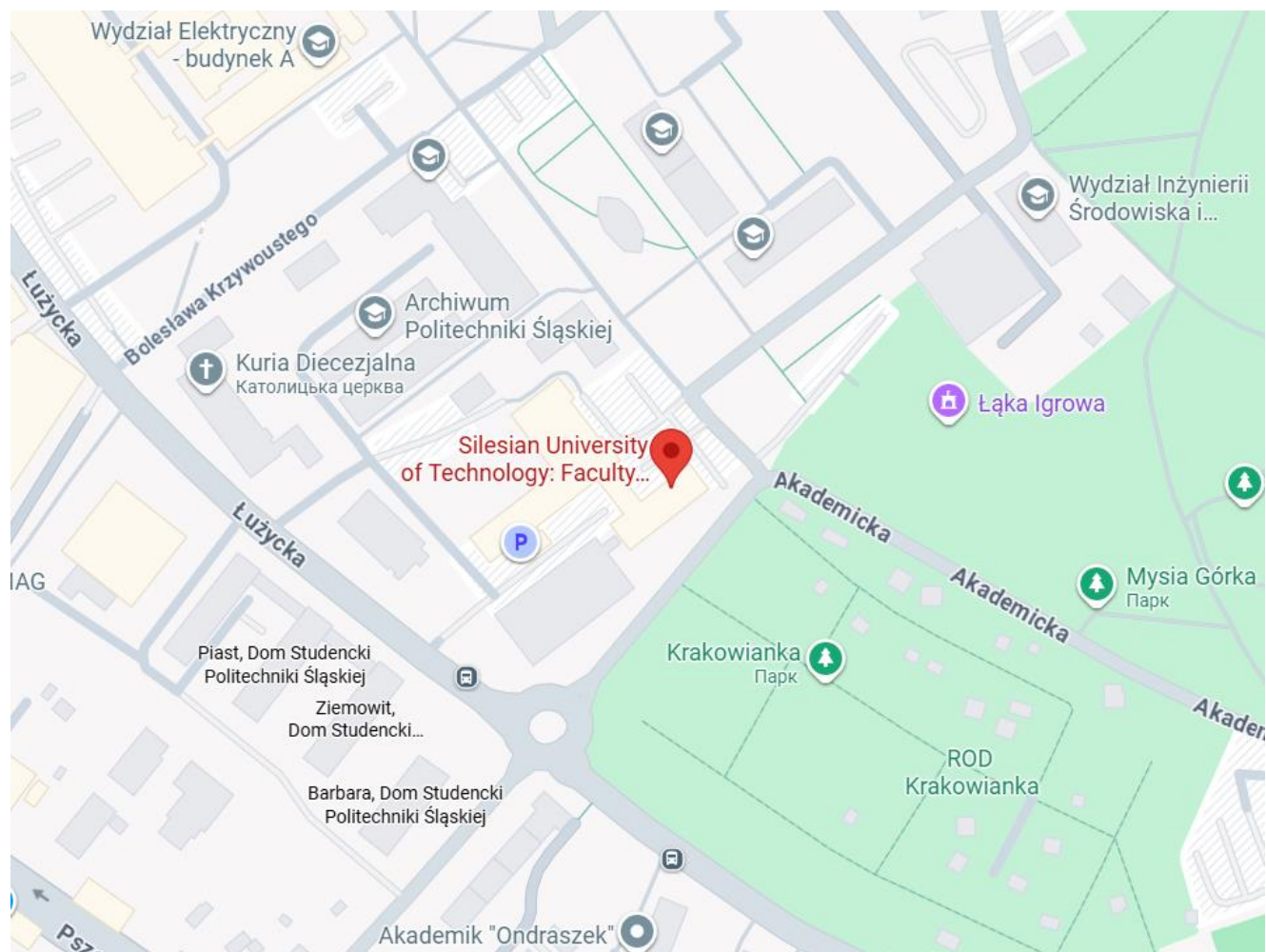
On the **IEEE IDAACS 2023** conference [Zoom](#) you can find the 'live' Time difference in relation to the Conference time.

Country	Time zone	Time zone	Time difference in hours (in relation to Poland)
Poland	UTC+2	CEST	0
Morocco	UTC+0	WET	-2
Egypt	UTC+2	EET	0
Germany	UTC+2	CEST	
Hungary	UTC+2		
Italy	UTC+2		
Slovakia	UTC+2		
Sweden	UTC+2		
Ukraine	UTC+3	EEST	
Romania	UTC+3		
Iraq	UTC+3	AST	
Turkey	UTC+3	TRT	
India	UTC+5:30	IST	+3:30
Kazakhstan	UTC+6	ALMT	+4
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: Faculty of Automatic Control, Electronics, and Computer Science, Silesian University of Technology, 16 Akademicka Street, 44-100 Gliwice, Poland. The venue is marked by red on the map below.

For **online participants**: they need to use the IDAACS 2025 Zoom. 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 Zoom!



Silesian University of Technology (Gliwice, Poland)
16 Akademicka Street, 44-100 Gliwice

CONFERENCE TECHNICAL PROGRAM

THURSDAY, 4 SEPTEMBER 2025

- 08:00 - 09:00** **Registration**
Hybrid: 1st floor hall
- 09:00 - 9:30** **Conference opening**
Hybrid: Hall A and Zoom (<https://wunu-edu-ua-ternopil.zoom.us/my/idaacs.room.4>)
Dariusz Mrozek, Oksana Desyatnyuk, Vincenzo Piuri, George Markowsky, Anatoliy Sachenko and Wojciech Kempa
- 9:30 - 10:30** **Keynote: “Neuro-insertion-based digital twins”**
by Prof. Oleksandr Letychevskyi
Plenary session
Chair: Vladimir Oleshchuk
Hybrid: Hall A + Zoom (<https://wunu-edu-ua-ternopil.zoom.us/my/idaacs.room.4>)
- 10:30 - 12:00** **Session TA1(4): Pattern Recognition, Digital Image & Signal Processing**
On-site: Room B
Co-Chairs: Wojciech Kempa, Lesia Dubchak
- # 19. YOLO Ensemble for UAV-based Multispectral Defect Detection in Wind Turbine Components. Serhii Svystun, Pavlo Radiuk, Oleksandr Melnychenko, Oleg Savenko, Anatoliy Sachenko
 - # 29. Satellite-Based Analysis of Forest Damage in Ukraine’s Protected Areas. Sofiia Drozd; Nataliia Kussul; Andrii Shelestov
 - # 348. A Novel HDMM-KRX Algorithm for Anomaly Detection on Hyperspectral Images. Ahmet Topal; Burcu Tunga; Evrim Korkmaz Özay
 - # 349. Improved Hyperspectral Anomaly Detection via High Dimensional Model Representation and Connected Component Filtering. Ahmet Topal; Burcu Tunga; Evrim Korkmaz Özay
- 10:30 - 12:00** **Session TB1(4): Advanced Mathematical Methods & Big Data**
On-site: Room C + Zoom (<https://wunu-edu-ua-ternopil.zoom.us/my/idaacs.room.5>)
Co-Chairs: Axel Sikora, Nataliia Dziubanovska
- # 25. A Chaos-Based Method for Automated Detection of Fine Dust Particles in Air. Ivan Kramar; Mykola Fedula; Oleg Savenko; Liudmyla Koretska; Mykola Lysyi
 - # 222. FuzzyTR Model - Methodological Basis and Use Case in Energy Management. Józef Augustyński; Dariusz Bober; Dariusz Czerwiński; Piotr Kapera; Piotr Miller
 - # 87. Intelligent Inductive Modelling for Dynamic Fuel Efficiency Based on Runge-Kutta Modified Method. Nataliia Vladova, Valerii Sokurenko, Oleksandr Muzychuk, Serhii Vladov, Victoria Vysotska, Pavlo Bykovyy, Vasyl Lytvyn.



- # 171. An Electronic Dynamic Controller Model Built Upon the Specified Parameters Regulation. Volodymyr Khmil, Serhii Vladov, Valerii Sokurenko, Oleksandr Muzychuk, Diana Zahorodnia, Victoria Vysotska, Vasyl Lytvyn.

10:30 - 12:00 **Session TOA1(4): Stream on Intelligent software systems & tools**

Online: Zoom (<https://wunu-edu-ua-ternopil.zoom.us/my/idaacs.room.1>) & Room D
Chair: Tetiana Hovorushchenko

- # 31. Automatic Generation of Realistic 3D Scenes from Multimodal Geodata. Artem Fisunen
- # 189. Large language models for schema evolution in event-sourced systems. Roman Malyi; Pavlo Serdyuk
- # 368. Synthesis Approach to an IT Service Authentication System Based on User Login Security Factors. Nazariy Latsyk; Andrii Shkitov; Bohdan Pashkovskyi; Oleksandr Klymenko; Victor Nadtochi; Anatolii Nadtochyi

10:30 - 12:00 **Session TOB1(3): Special stream of Cyber Security**

Online: Zoom (<https://wunu-edu-ua-ternopil.zoom.us/my/idaacs.room.2>) & Room E
Chair: Nikos Bardis

- # 54. Cybersecurity Threats When Using Marine Unmanned Vehicles. Dmytro Datsiuk; Volodymyr Korchynskyi; Yurii Kopytin; Khaled Alfaioni; Oleksandr Riabukha; Ruslan Petrovskyi
- # 147. Determining Disinformation Probability in Ukrainian Textual Content Based on Paraphrase Multilingual MiniLM L12 V2 Model and FAISS. Vitalii Danylyk, Victoria Vysotska, Oksana Hnativ, Taras Lendiuk
- # 185. Machine Learning-Based System for Crop Growing Recommendations. Pavlo Spilnyk; Victoria Vysotska; Olga Lozynska; Serhii Vladov; Iryna Spilnyk; Oksana Markiv; Stepan Tchynetskyi; Iryna Shakleina

12:00 - 13:00 **Lunch (Catering)**

On-site: Parter

13:00 - 14:30 **Session TA2 (6): Internet of Things and Industrial Internet**

On-site: Room B

Co-Chairs: Robert Hiromoto, Anzhelika Parkhomenko

- # 96. A Comprehensive Review of Public Datasets for Machine Learning-Based Intrusion Detection in IoT and OT Networks. Muhammad Afaq, Jaafer Rahmani, Axel Sikora
- # 108. A Testbed for Cyber Attack Emulation and AI-Driven Anomaly Detection in Industrial IoT- and OT-Networks. Jaafer Rahmani, Kai Oliver Detken, Axel Sikora
- # 109. A SIEM-Based Framework for Multi-Layer Data Collection and Anomaly Detection in OT-Networks. Jaafer Rahmani; Salva Daneshgاده Cakmakci; Kai Oliver Detken; Axel Sikora
- # 131. Enhancing 6LoWPAN Performance in Lossy Networks Using Complex and Combined Header Compression. Nin Hayati Mohd Yusoff, Kamil Abdullah, Norazlina Ahmad, Anu Sathyajith Mathew, Axel Sikora



- # 212. Integrating IPHC and SCHC with DTLS: A Comparative Study of Simulation and Testbed-Based IoT Networks. Nin Hayati Mohd Yusoff; Nurul A. Emran; Norharyati Harum; Kamil Abdullah; Anu Sathyajith Mathew; Axel Sikora
- # 378. Improving Supply Chain Productivity based on Real-Time Data Processing in the Face of Dynamic Change. Vladyslav Dombrovskiy; Mykhailo Dombrovskiy, Iryna Turchenko

13:00 - 14:30

Session TB2 (5): Special stream of Cyber Security

On-site: Room C

Co-Chairs: George Markowsky, Sergiy Lysenko

- # 23. A Cyber-Physical Solar Energy System for Smart Grids. Andrii Lysyi; Mykola Fedula; Artur Slyva; Liudmyla Koretska; Oleg Savenko
- # 20. Distributed Computing Framework for Detecting Malicious Behavior of Infected Programs in Modified Isolated Environments. Pavlo Rehida, Andrii Nicheporuk, Oleg Savenko, Sergii Lysenko, Bohdan Savenko, Anatoliy Sachenko
- # 139. Multi-Agent System for Detecting Polymorphic Viruses in Computer Networks. Maksym Chaikovskiy, Inna Chaikovska, Sergii Lysenko, Oleg Savenko, Anatoliy Sachenko
- # 92. Efficient Persistent Storage of Graphs in Provenance-based Intrusion Detection Systems. Sven-Ove Hänsel; Carsten Kleiner; Felix Heine; Robin Buchta; Kilian Dangendorf; Jannik Rosendahl
- # 103. Post-Intrusion Behavior Profiling for Host Intrusion Detection in the SoNiC Network OS. Andriy Dobush, Bohdan Havano

13:00 - 14:30

Session TOA2 (6): Special stream on Advanced project management

Online: Zoom (<https://wunu-edu-ua-ternopil.zoom.us/my/idaacs.room.1>) & Room D

Chair: Bassam Hussein

- # 50. Hybrid Risk Analysis Models: Integration of Machine Learning and Heuristic Methods. Roman Kulyk, Viktor Morozov
- # 106. Lean from Yesterday to Today: A Comparative Analysis between Traditional and Smart Lean Implementation. Chaymae Marjane; Mohamed Saad Bajjou; Anas Chafi
- # 122. Integrating Sustainability Measures in International Non-Governmental Organization Projects. Sharga Altaf; Rao Aamir Khan; Carsten Wolff; Christoph Albrecht
- # 137. Bayesian Approach to Productivity Evaluation in Project Management. Andrii Yakymiv, Olena Verenych
- # 375. Data-Driven Team Capacity Planning Approach in Scrum-Based IT Projects Delivery. Vladyslav Dombrovskiy, Iryna Turchenko, Mykola Kostiuk, Mykhailo Dombrovskiy, Nadiia Vasylykiv

13:00 - 14:30

Session TOB2 (3): Special Stream on Virtual Laboratories & Virtual Instrumentation in STEM

Online: Zoom (<https://wunu-edu-ua-ternopil.zoom.us/my/idaacs.room.2>) & Room E

Chair: Francesco Lamonaca

- # 197. Constructing a GitHub-based dataset for machine learning driven software effort estimation. Oleksandr Aratovskyi; Vira Liubchenko
- # 199. Software To Increase The Efficiency Of The IT Project Team. Andrii Matsuk, Liudmyla Honchar, Oleh Fursovych, Andrii Dankiv, Oleh Opalko



- # 379. Development of a Virtual Laboratory for Simulating Real Experiences: The Case of a Hybrid Drone in Complex Urban Environments. Elio Matteo Curcio; Giuseppe Gencarelli; Stefano Rodinò; Francesco Iago; Francesco Felicetti; Giuseppe Carbone; Francesco Lamonaca

14:30 - 15:00

Coffee break

On-site: 1st floor hall

15:00 - 16:30

Session TA3 (5): Special stream on Advanced project management

On-site: Room B

Co-Chairs: Sergey Bushuyev, Rao Aamir Khan

- # 22. AI Socialization Project Management Framework. Sergey Bushuyev, Natalia Bushuyeva, Victoria Bushuieva, Denis Bushuiev, Zhanna Krysko, Danylo Verenych
- # 40. Agile Management of Uncertainties in International Consortium. Galyna Tabunshchyk; Peter Arras; Dirk van Merode; Carsten Wolff
- # 159. E-Participation and Corruption: Analyzing Data for the Eastern European Countries. Galyna Fesenko, Tetiana Fesenko
- # 129. Artificial Intelligence-Enhanced Learning in XR Technologies: Case Analysis of the "Technologies of Virtual Reality". Maksym Kryvosyya, Vasyl Andrunyk, Oleh Papka, Tetiana Shestakevych, Roman Oliinyk
- # 167. Multi-Criteria Analysis of a Web-Based Platform to Support Veterans' Reintegration. Taras Cherna, Tetiana Shestakevych

15:00 - 16:30

Session TB3 (4): Special Stream on Virtual Laboratories & Virtual Instrumentation in STEM

On-site: Room C

Co-Chairs: Orest Kochan, Peter Arras

- # 402. Automating Mesh Analysis of DC and AC Circuits Using LabVIEW. Mykhailo Karpa, Krzysztof Przystupa, Michal Majka, Orest Kochan, Volodymyr Kochan
- # 357. Containernet as Enabler for Modern Network Engineering Education and Research. Oleksandra Yeremenko; Roman Savchenko; Oleksandr Lemeshko; Mykhailo Persikov; Valentyn Lemeshko
- # 403. Concept of Advanced Experimental Course in Analog Electronics. Mykhailo Karpa, Krzysztof Przystupa, Joanna Michalowska, Orest Kochan, Vitalii Betsyl, Andriy Sehin, Oleksandr Osolinsky
- # 405. Ad-hoc device for calibrating voltage measurement channels. Orest Kochan, Volodymyr Kochan, Pavlo Bykovyy, Ivanna Kochan, Oleg Zastavnyy, Alina Dovletova, Viktor Kuts.

15:00 - 16:30

Session TOA3(6): Pattern Recognition, Digital Image & Signal Processing

Online: Zoom (<https://wunu-edu-ua-ternopil.zoom.us/my/idaacs.room.1>) & Room D

Co-chairs: Bohdan Rusyn, Laszlo Czuni

- # 76. Optimised Indexing Architecture for Efficient Hybrid Storage of Visual Big Data. Glib Tereshchenko, Iryna Kyrychenko, Kirill Smelyakov, Nataliia Sharonova, Victoria Vysotska



- # 102. Correlation Properties of HDR Image Components. Olena Osharovska, Mykola Patlaienko, Andrii Doroshuk, Oleksandr Hohniak, Ivan Tomashevskyi
- # 181. Multidimensional Sigma-Pi Neural Network with Polynomial Activation Functions. Volodymyr Kartashov, Yevgeniy Bodyanskiy, Nonna Kulishova, Yehor Kulishov
- # 210. Satellite Image Compression Parallelization Methods. Taras Hrytsko; Valerii Hlukhov
- # 327. Detection and verification of printed information on plastic bags using the CV-X vision system. Tomas Liubsevicius; Arunas Lipnickas; Lukas Zabulis

15:00 - 16:30

Session TOB3(6): Advanced Mathematical Methods & Big Data

Online: Zoom (<https://wunu-edu-ua-ternopil.zoom.us/my/idaacs.room.2>) & Room E

Chair: Inna Skarga-Bandurova

- # 36. Reduced-Order Kernel Smoothed Regression for Sensor Networks Using Aggregated Data Fusion. Leonid Lyubchyk; Olha Kostiuk; Klym Yamkovyi
- # 83. Optimization Algorithms for Big Data Processing in Distributed Systems. Yaroslav Pyrih, Mykhailo Klymash; Olena Hordiichuk-Bublivska; Oleksandr Androsiuk; Taras Andrukhiv
- # 86. Dimensionality Reduction Methods for Large Datasets. Nelia Miroshnychenko; Iryna Perova; Igor Grebennik; Danylo Chyhryn
- # 155. Data-Driven Regression Model for Autonomous IoT Battery State Estimation Considering Environmental Factors. Viktor Zhukovskyy; Nataliia Zhukovska; Oleh Moskal
- # 208. Deep Sparse Transformer Networks for Air Quality Forecasting Including Long-Term Dependencies in Time Series. Andrii Biloshchytskyi; Oleksandr Kuchanskyi; Yurii Andrashko; Alexandr Neftissov; Svitlana Biloshchytska; Arailym Medetbek
- # 294. On the Inverse Problem in the Ontology of Scientific Research. Maksym Chervynskyi, Oleksandr Palagin



FRIDAY, 5 SEPTEMBER 2025

- 08:00 - 08:30 **Registration**
Hybrid: 1st floor hall
- 08:30 - 09:15 **Keynote: Industrial Anomaly Detection at the Edge
by Dr. Angelo Genovese**
Plenary Session
Chair: Carsten Wolff
Hybrid: Hall A and Zoom (<https://wunu-edu-ua-ternopil.zoom.us/my/idaacs.room.4>)
- 09:15 - 10:45 **Session FA1(6): Special stream on design & testing of advanced
computer systems**
On-site: Room B
Co-Chairs: Sergiy Gnatyuk, Miroslav Kvassay
- # 55. The Challenges of Setting up Sustainable Research Data Infrastructure. Andreas Ganzenmüller; Preston Rodrigues; Volodymyr Kushnarenko; Miroslav Puskaric; Thomas Bönisch
 - # 70. Continuous Integration for Electronic Products – Enabled by Digital Twins. Carsten Wolff; Peter Schulz; Jens Rettkowski; Noura Sleibi; Sami Trimech; Christian Hensen
 - # 154. Distributed Topological Reliability Analysis via Modular Decomposition and MPI. Filip Šefčík; Miroslav Kvassay; Michal Mrena
 - # 220. Comparison of Performance of Virtual and Non-virtual Machine Using Geekbench 6. Marek Ďurana; Miroslav Kvassay
 - # 284. A Digital Twin for Automatic Test Equipment (ATE) using Field Programmable Gate Arrays (FPGAs). Peter Schulz; Louis Y. Ungar; Braum S. Bahrampour
 - # 285. PYNQ-Based Testbed for the Evaluation of FPGA-Based Synthetic Instruments. Peter Schulz; Ahmed W. A. Noman; M. Anas Rabbani
- 09:15 - 10:45 **Session FB1 (5): Workshop beyond 5G and 6G networks technologies &
security**
On-site: Room C
Co-Chairs: Kai-Oliver Detken, Roman Odarchenko
- # 134. Development of a Vulnerability Scanner for ICS/OT 5G-based Networks. Alla Pinchuk; Roman Odarchenko; Oleh Polihenko
 - # 150. Notes on Directional Antenna Alignment Strategies for Neighbor Discovery. Robert Hiromoto, Brain Abaah Djitornu
 - # 290. Anomaly Detection in Imbalanced Datasets Using FraudX AI. Nazerke Baisholan; Mussa Turdalyuly; Sergiy Gnatyuk; James Eric Dietz; Karlygash Baisholanova; Eric T. Matson
 - # 431. Information Technology for Dependability Ensuring of the Industrial Internet of Things Systems. Maryna Kolisnyk, Iryna Piskachova
 - # 432. Threat Model for the Modern LMS Platforms Based on 5G/6G Technologies. Bakhytzhan Akhmetov, Sergiy Gnatyuk, Dinara Basshykzy



09:15 - 10:45

Session FOA1 (5): Special stream on Economics in Era of Digital Transformation

Online: Zoom (<https://wunu-edu-ua-ternopil.zoom.us/my/idaacs.room.1>) & Room D
Co-chairs: Mariia Lyzun, Oksana Chereschnyuk

- # 133. Using NLP Tools for Processing Unstructured Information for Financial Reports. Oleksii Ivanov; Vlad Iatsiuta; Vitaliy Kobets
- # 191. Information and Analytical Support for Taxation of Agricultural Enterprises in the Context of Digitalization of the Economy. Andriy Korchak; Fedir Tkachyk; Bohdana Shuliuk; Olena Petrushka
- # 116. Neuromarketing and behavioral research in the promotion of educational products. Nadiia Artyukhova; Iurii Volk; Oleksandr Ivanov; Robert Rehak; Artem Artyukhov; Oleksandr Dluhopolskyi
- # 117. Digitalization technologies and behavioral management in higher education institutions: multidimensional immersion model. Iurii Volk; Nadiia Artyukhova; Artem Artyukhov; Oleksandr Dluhopolskyi; Olena Pavlova; Nelia Chorna

09:15 - 10:45

Session FOB1(6): Intelligent information systems, data mining & ontology

Online: Zoom (<https://wunu-edu-ua-ternopil.zoom.us/my/idaacs.room.2>) & Room E
Co-chairs: Dmytro Dosyn, Vitaliy Yakovyna

- # 64. Speech Synthesis for Low-Resource Languages: StyleTTS2 vs. Tacotron2. Nataliya Boyko; Roman Sukhai; Nazar Nosach
- # 138. Comparative Analysis of Forecasting Methodologies for Residential Electricity Consumption: A Case Study of Larissa, Greece. Ia Mosashvili, Konstantinos Kokkinos
- # 152. Repo4Cat: How to Setup, Configure and Operate a Data Repository for Catalysis-Related Sciences. Volodymyr Kushnarenko; Michael Liebau; David Linke; Yuliia Dikova; Taras Petrenko; Preston Rodrigues; Nadiia Huskova; Thomas Bönisch
- # 172 Development of the architecture of a software and hardware complex for data collection and management of smart technologies. Andrii Biloshchytskyi; Didar Yedilkhan; Adil Faizullin; Svitlana Biloshchytska; Oleksandr Kuchanskyi; Arailym Medetbek
- # 353. An Intelligent Search Engine Integrating Neural Networks and ElasticSearch for Semantic and Personalized Retrieval. Vitaliy Bozhovskiy; Halyna Klym
- # 372. Adaptive Human Activity Recognition with Deep Q-Networks: A Reinforcement Learning Approach. Abdelouahab Maza; Lyazid Sabri; Nadia Agti

09:15 - 10:45

Poster session FPOC1 (12)

Online: Zoom (<https://wunu-edu-ua-ternopil.zoom.us/my/idaacs.room.3>) & Room X
Chair: Andriy Melnyk

Workshop Cyber IoT 2025

- # 300. Carbon Emission Reduction Game of Cold Chain Logistics under Government Supervision. Yong Wang, Ziruo Ding, Qian Lu, Jiamin Zhang, Lihui Wang
- # 304. Study on the Competitiveness of High-Quality Development of Manufacturing Supply Chain in Jiangmen City. Xiaoshi Chen, Muhamad Zulkiflee Osman, Wei Wei, Jixu Zhu, Lei Zhang
- # 317. Site Selection Analysis of Zhongbai Warehouse Logistics Distribution Center. Yuexin Zhou, Zhuang Ma, Ting Li



- # 397. Research on the Legal Effect and Judicial Challenges of Smart Contracts in Logistics Electronic Bills of Lading. Xi Wang
- # 398. Optimization Research on Automotive Parts Logistics Network Design for Automaker A. Yanhui Liu, Weijie Xu, Ting Yang
- # 418. Research on Layout Planning Design of DangDang Book Distribution Center. Yang Li, Zhilong Li
- # 419. Coordinated Development of Manufacturing and Logistics Industries under Hubei Province's Pilot Zone Strategy. Jiahao Zhou, Liang Xu, Qingwen Wang, Jianhao Liu
- # 420. Resilience Measurement of Green Agricultural Supply Chain under the Background of Rural Revitalization. Yang Hu, Yongjun Shen, Aiman Magde Abdallah Ahmed

Data Analysis and Modeling

- # 415. Analysis of Passenger Satisfaction with High speed Railway Station Network Ride hailing Based on Structural Equation Modeling: A Case Study of Nanning High Speed Railway Station. Jie Shang, Haibing Yang, Ahmad Nazrul Hakimi Ibrahim, Xiali Cao, Shiyu Wei
- # 417. Layout and Operation Analysis of China's LNG Receiving Stations under the Background of Dual Carbon Policy. Shanshan Bi, Hongyu Wu, Chuan Huang, Xunran Yu, Zhuo Fang, Jie Zhu

Special Stream on Advanced Machine Learning

- # 301. Short-Term Electricity Revenue Prediction Based on Ensemble Learning Models. Shaohong Lin, Yan Weng, Lingyan Xu, Fan Yang, Wei Yan, Wanqi Chen

Intelligent information systems, data mining & ontology

- # 314. Research on the influencing factors of ethnic community governance effect: a dual perspective based on SEM and ANN. Xueqin Lu, Wenjing Li, Yumei Ma, Xiaona Qin, Wei Zhang

10:45 - 11:15

Coffee break

On-site: 1st floor hall

11:15 - 12:45

Session FA2 (5): Stream on Intelligent software systems & tools

On-site: Room B

Co-Chairs: Peter Schulz, Tetyana Shestakevych

- # 93. Automatic Speech Recognition for doctor-patient conversation in Polish. Karolina Pondel-Sycz; Piotr Bilski; Piotr Bobiński; Leszek Morzyński; Marcin Lewandowski; Emil Kozłowski; Grzegorz Szczepański; Maciej Jasiński; Grzegorz Makarewicz; Agnieszka Paula Pietrzak; Andrzej Buchowicz; Paweł Mazurek; Adrian Bilski, Jacek Olejnik, Iwona Olejnik
- # 21. Biogas Production Forecasting Using Adaptive Neuro-Fuzzy Inference System. Lesia Dubchak, Leonid Bytsyura, Carsten Wolff, Anatoliy Sachenko, Bohdan Derysh, Nadiia Vasylykiv
- # 276. Modeling the Dynamics of Trust in Digital Pathology Using Explainable AI. Tetiana Biloborodova; Inna Skarga-Bandurova, Mykola Lyndin, Nataliia Hyriavenko, Zibin Sergiy
- # 345. PosLog: Creating a Part of Speech Tagger for Log Messages. Kilian Dangendorf; Sven-Ove Hänsel; Jannik Rosendahl; Felix Heine; Carsten Kleiner; Christian Wartena
- # 408. Neuro-insertion Concept of the Nuclear Reactor Digital Twin. Yuliia Tarasich; Oleksandr Letychevskyi; Vladyslav Volkov



11:15 - 12:45

Session FB2 (6): Special Stream on Advanced Machine Learning & Intelligent information systems

On-site: Room C and Zoom (<https://wunu-edu-ua-ternopil.zoom.us/my/idaacs.room.5>)

Co-chairs: Nataliia Kussul, Leonid Bytsyura

- # 14. Intelligent Algorithm for Indirect Measuring the Gas Temperature of Helicopter Turboshift Engines'. Serhii Vladov, Anatoliy Sachenko, Carsten Wolff, Nataliia Vladova, Volodymyr Kochan
- # 52. Foundation Model Integration in a Multi-Instance Digital Twin System for Land Use Change. Nataliia Kussul, Andrii Shelestov, Gregory Giuliani, Sofiia Drozd, Andrii Kolotii, Yevhenii Sali, Anton Cherniatevych, Oleksandr Yavorskyi, Volodymyr Malyniak, Charlotte Poussin
- # 104. Machine Learning for Ukraine's Forest Cover Damage Assessment based on Satellite Data. Hanna Yailymova; Bohdan Yailymov; Andrii Shelestov; Nataliia Kussul
- # 271. Optimizing Material and Workforce Flows in Construction: An AI-Driven Accounting and Control Approach. Anton Lupiichuk, Nataliia Pochynok, Andrii Hrytsyshyn
- # 356. Multi-Agent System for Forecasting and Controlling the Microclimate in Grain Storage Facilities with Diverse Crops. Andrii Lishchuk; Volodymyr Dubovoi; Maria Yukhymchuk
- # 361. Leveraging Pretrained Unimodal Models for Efficient Image-Text Retrieval. Tim Cares; Adrian Pigors; Volker Ahlers

11:15 - 12:45

Session FOA2 (4): Special stream on design & testing of advanced computer systems

Online: Zoom (<https://wunu-edu-ua-ternopil.zoom.us/my/idaacs.room.1>) & Room D

Chair: Vladimir Hahanov

- # 33. Hadamard transform on a modified unit circle qubit model. Tetiana Onyshkevych; Valeriy Hlukhov
- # 228. A Partial Deserialization Approach for Reducing Communication Overhead in Distributed Systems. Eduard Maltsev
- # 297. Vector Logic of Computing. Vladimir Hahanov; Svetlana Chumachenko; Eugenia Litvinova; Ivan Hahanov; Zaza Davitadze; David Devadze
- # 118. Harnessing Lean and Industry 4.0 for Sustainable and Human-Centric Warehousing: A Conceptual Framework Toward Lean 5.0. Yousra El Kihel; El Mahdi Bouyahrouzi; Soufiane Embarki; Lotfi Sehli; Bachir El Kihel

11:15 - 12:45

Session FOB2 (4): Workshop beyond 5G and 6G networks technologies & security

Online: Zoom (<https://wunu-edu-ua-ternopil.zoom.us/my/idaacs.room.2>) & Room E

Chair: Georgii Akhalaia

- # 156. Optimization of 5G Base Station Placement in Urban Environments Using a Genetic Algorithm. Saad Malik Talha, Serhii Siden, Roman Tsarov, Svitlana Kiiko, Liudmyla Bubentsova, Kseniia Tryfonova
- # 264. Kube5GC: Kubernetes-Native Orchestration for 5G Core Network. Thisura Wijesekera; Lakshika Jayarathna; Gayathri Pathirana; Ruhana Banu; Jagath Wickramaratne
- # 366. An Overview of Covert Channels in Software-Defined Networks. Denys Fokin; Maryna Yevdokymenko



11:15 - 12:45

Poster session FPOC2 (8)

Online: Zoom (<https://wunu-edu-ua-ternopil.zoom.us/my/idaacs.room.3>) & Room X

Chair: Francesca Guerriero

Intelligent Computing Systems for Commercial Applications

- # 48. Designing Scalable Architectures for Cloud-Based AI-Driven Systems. Yevhen Bershchanskyi; Roksolana Oberyshyn
- # 363. Objective Readiness Scoring of Jurors Using Health Metrics, Genetic Markers, and AI. Mykyta Zakharov, Dmytro Uhryn, Dmytro Iliuk, Yuriy Masikevych, Oleksii Iliuk, Victoria Vysotska

Human-Computer Interaction, Virtual and Augmented Reality

- # 47. Efficient Face Recognition System Using Computer Vision and Raspberry PI. Vitaliy Bozhovskiy, Roman Diachok; Halyna Klym

Advanced Instrumentation and Data Acquisition Systems

- # 30. Altering Driving Style Using Weighted Ensemble Model. Michal Krepelka

Advanced Mathematical Methods for Data Acquisition and Computing Systems

- # 164. Analysis properties of trajectories of nonlinear dynamical systems. Shcherbaniuk Oleksandr, Khrynenko Andriy, Vostrov George

Special Stream on Big Data and Data Science

- # 151. Fake News Features Analysis in Ukrainian-Language Content of Unbalanced Datasets Based on Word Embedding and Linear Regression. Victoria Vysotska; Roman Romanchuk
- # 184. Information Technology for Detecting and Enabling Spelling Error Correction in German Texts. Victoria Vysotska, Serhii Vladov, Oksana Markiv, Olga Lozynska, Rostyslav Fedchuk, Anastasiia Hrushetska

Hybrid Intelligent Systems

- # 291. Intelligent Multi-Modal Anomaly Detection Framework for Automated CT Quality Assessment Using Hybrid Machine Learning Algorithms. Sowad Rahman, Sumaiya Binte Shahadat, Md Kamrul Siam, Azharul Islam
- # 364. GDWRO: Real-Time WAN Routing Optimization with Graph Neural Network and Deep Reinforcement Learning. Chunliu Wang, Aijun Liu, Su Jun, Orest Kochan

12:45 - 13:45

Lunch (Catering)

On-site: Parter

13:45 – 14:30

Keynote: Artificial and Earth Intelligence for Monitoring our Changing Planet

by Dr. Nataliia Kussul

Plenary Session

Chair: **George Markowsky**

Hybrid: Hall A and Zoom (<https://wunu-edu-ua-ternopil.zoom.us/my/idaacs.room.4>)

14:30 - 15:30

Session FA3 (4): Computer systems for healthcare & medicine & bio-informatics

On-site: Room B

Co-Chairs: Theodore Laopoulos, Piotr Bilski



- # 35. Particle Swarm-Optimized ANFIS for Medical Decision Support: A Case Study in Type 2 Diabetes. Joanna Chwał; Arkadiusz Banasik; Radosław Dzik; Ewaryst Tkacz
- # 111. Non-invasive Blood Pressure Measurement with Piezoelectric Sensors. Sami Trimech; Carsten Wolff; Christof Röhrig
- # 223. Detection of Similar Bones in Different Anatomical 3D Models. Marek Klimo; Miroslav Kvassay
- # 352. Motion Magnification analysis for rPPG. Linas Saikevičius; Vidas Raudonis

14:30 - 15:30

Poster session FPB3 (14)

On-site: 1st floor hall

Co-Chairs: Orest Ivakhiv, Taras Tsavolyk

Advanced Instrumentation and Data Acquisition Systems

- # 232. Environmental Parameters Monitoring Based on Drones. Maksym Palka, Victor Ababii; Anatoliy Sachenko; Taras Lendiuk; Viorica Sudacevschi; Viorel Carbune; Silvia Munteanu; Marin Pesterean; Rodica Braniste
- # 26. Neuronal Controller Based on the Inverse Convolution of the Standard Output Signal Training. Markiyan Nakonechnyi; Orest Ivakhiv, Darek Swisulski, Yuriy Rudyk, Ruslan Kopot

Computational Intelligence for Instrumentation and Data Acquisition Systems

- # 61. Prediction of Biogas Production Using LSTM-Based Neural Networks. Dombrovskyi Vasyl, Bohdan Derysh, Arkadiusz Banasik, Lesia Dubchak, Maksym Palka

Intelligent Computing Systems for Commercial Applications

- # 186. Intelligent System for Referencing Ukrainian-Language News in Detecting Disinformation. Victoria Vysotska, Olga Lozynska, Lyubomyr Chyrun, Serhii Vladov, Oksana Markiv, Dmytro Shamota

Intelligent Distributed Systems, Embedded Systems and Remote Control

- # 359. Research and Development of Design Models of Bit-Stream Fractional-Rational Real-Time Computer. Oleksandr Vasyliiev; Lina Larchenko; Anzhelika Parkhomenko; Bogdan Larchenko; Inna Philippenko; Anatolii Miroshnyk

Internet of Things and Industrial Internet

- # 18. Automated Object Identification System Based on Edge Computing for Industry 4.0. Artem Tulenkov; Anzhelika Parkhomenko; Carsten Wolff; Iryna Zeleneva; Andriy Parkhomenko; Illia Parkhomenko

Computer Systems for Healthcare and Medicine and Bio- Informatics

- # 132. Development of a Noncontact Electrocardiogram Waveform Estimation System Using Machine Learning. Hiroto Tamura; Toru Higaki; Hirotaka Inoue

Special Stream on Virtual Laboratories and Virtual Instrumentation in STEM Education and Research

- # 401. Studying Heat Conduction Process for Thermosensitive Media with Semi-through Foreign Inclusions Using a Nonlinear Model. Vasyl Havrysh, Orest Kochan

Workshop Beyond 5G and 6G Networks Technologies and Security

- # 158. Traffic Optimization for IoT Networks. Serhii Chumachenko; Bohdan Chumachenko; Maryna Maloied; Roman Odarchenko; Maksym Zalisky; Oleksandr Lavrynenko

Computer systems for healthcare & medicine & bio-informatics

- # 125. Breath Waveform Measurement System Using Contact-less Devices. Yuto Kojima; Toru Higaki; Hirotaka Inoue



14:30 - 15:30

Session FOA3 (7): Data Analysis & modelling

Online: Zoom (<https://wunu-edu-ua-ternopil.zoom.us/my/idaacs.room.1>) & Room D

Chair: Arunas Lipnickas

- # 24. Research and optimization of a distributed computing system for heterogeneous computational tasks using a dispatcher-deployer-executor architecture. Surkov Sergii, Martynyuk Oleksandr, Surkov Serhii V
- # 78. Forecasting livestock production using time series. Mazurenko Mykyta, Boiarynova Kateryna, Fartushnyi Ivan, Kravchenko Maryna, Kulyk Anatolii, Lutsyshyna Zhanna
- # 97. Prediction Model of Magnetic Amplifier Characteristics Based on Optimization Data Produced by Genetic Algorithm. Oleh Kozak; Volodymyr Samotyy; Ulyana Dzelendzyak
- # 209. Predictive Analytics of First-Year Success at Slovak University. Andrea Galadíková; Simona Tóthová; Lucia Pančíková
- # 218. Exploring one linear permutation-based stochastic optimization problem with applications. Oksana Pichugina; Lyudmyla Kirichenko; Lyudmyla Koliechkina; Yurii Skob, Yehor Havryliuk
- # 341. Qubit Decoherence: Symbolic Modeling, Visualization, and Analysis with Maple. Gennady Chuiko; Yevhen Darnapuk

14:30 - 15:30

Session FOB3 (4): Special stream on data-driven methods of computational diagnostics

Online: Zoom (<https://wunu-edu-ua-ternopil.zoom.us/my/idaacs.room.2>) & Room E

Chair: Sergey Subbotin

- # 37. Cross-Wavelet Time-Frequency Analysis of Low-Signal Multi-Spectral rPPG. I. Berezhnyi; A. Nakonechnyi
- # 170. Development of an Information and Analytical Subsystem for Precision Farming With Integrated Technologies of Artificial Intelligence, Drones and Meteorological Data for Yield Forecasting. Andrey Mikryakov, Alexandr Neftisov, Sapar Toxanov, Andrii Biloshchytskyi, Oleksandr Kuchanskyi
- # 43. Evaluation of Microservices Architecture Quality Using Fitness Functions. Oleksii Makieiev; Natalia Kravets
- # 267. Application of DQUAD framework to increase a performance of AI models for wildfire forecasting. Kyrylo Polishchuk, Eugene Brezhniev

14:30 - 15:30

Poster Session FPOC3 (12)

Online: Zoom (<https://wunu-edu-ua-ternopil.zoom.us/my/idaacs.room.3>) & Room X

Chair: Yevgeniy Bodyanskiy, Igor Grebennik

Data Analysis and Modeling

- # 45. The Method of Support Neural Networks in Nonlinear Dynamics Modeling. Oleksii Tataryn, Oleksandr Fomin, Sergii Polozhaenko, Andrii Prokofiev, Artem Sevieliev
- # 53. Development of information-energy theory of product quality assessment in the digital age. Nazar Kuryliak, Vasyl Yatsuk, Tetiana Bubela, Mykola Mykyichuk, Victor Kutz
- # 59. Analysis of machine learning methods for traffic identification in computer networks. Oleksandr Zats, Andrei Shafranskyi, Serhii Shmatkov, Maryna Miroshnyk, Viktoriia Strilets, Vladyslav Nesterenko
- # 115. Evaluating the Reliability of Preference Ranking in Multi-Criteria Decision-Making. Victor Shkaruplyo; Ravil Kudermetov; Olga Polska; Vadym Shkaruplyo; Natalia Shcherbak



- # 233. Software Development for Customizing Web Resource Design According to User Preferences. Vladyslav Oliynyk; Nonna Kulishova; Andrii Biziuk; Daria Bilets
- # 409. Smart System Development for Fake News Detection in the Ukrainian Language Based on Machine Learning and NLP. Peter Nokolov, Victoria Vysotska; Marta Hrudzynska; Lyubomyr Chyrun; Mariia Nazarkevych; Sofia Chyrun; Roman Romanchuk; Georgi P. Dimitrov

Computer Systems for Healthcare and Medicine and Bio-Informatics

- # 215. Generalized Diffuse Label Spreading Method. Victor Sineglazov, Alexander Ruchkin
- # 354. Creation of a web-based information system to improve the rehabilitation process of patients after lower limb amputation. Karavelkov Dmytro; Liudmyla Bubentsova

Internet of Things and Industrial Internet

- # 157. A Comparative Study of Consensus Algorithms for Blockchain-Based Real-Time IoT Logistics Systems. Orest Vovchak; Zenoviy Veres

Pattern Recognition, Digital Image & Signal Processing

- # 141. Deep Learning for Smart Surveillance: Multi-Class Detection of People, Weapons, and Masks using YOLOv11. Ludovica Beritelli, Roberta Avanzato, Luca Guarnera, Francesco Beritelli, Sebastiano Battiato
- # 142. Audio-Based Rainfall Classification Using Spectrograms and YOLOv8n on Embedded Systems. Roberta Avanzato; Ludovica Beritelli; Kevin Munda; Francesco Beritelli
- # 143. Sky Classification Using CNNs for Meteorological Condition Detection. Ludovica Beritelli; Roberta Avanzato; Omar Abdelaziz; Kevin Munda; Francesco Beritelli; Sebastiano Battiato

15:30 - 16:00

Coffee break

On-site: 1st floor hall

16:00 - 17:30

Session FA4 (5): Data Analysis & modelling / Special stream on data-driven methods of computational diagnostics

On-site: Room B and Zoom (<https://wunu-edu-ua-ternopil.zoom.us/my/idaacs.room.5>)

Co-Chairs: Miki Sirola, Andriy Shelestov

- # 17. State Model for Boreal Agricultural Soil Based on PCA Multi-Variable Analysis. Miki Sirola; Markku Koskinen; Tatu Polvinen; Mari Pihlatie
- # 34. Enhanced PID Controller Using Modified Neural Networks with Pseudo-Linear Connections. Serhii Vladov, Anatoliy Sachenko, Victoria Vysotska, Svitlana Sachenko, Viktor Ostroverkhov
- # 100. Improving the performance of wavelet transform optimization using inequality constraints. Svitlana Antoshchuk; Galina Shcherbakova; Maria Glava; Daria Koshutina
- # 358. Learning Dynamic Fault Trees from Data for Interpretable Failure Prediction. Rudolf Hoffmann; Christoph Reich
- # 373. Pattern-Based Runtime Protocol Verification for Industrial Automation. Oguike Ahaneku; Philipp Melzer; Radu Vidrascu; Eduard Zechner

16:00 - 17:30

Poster session FPB4 (13)

On-site: 1st floor hall

Co-Chairs: Dariusz Bober, Nataliia Pochynok

Special Stream on Economics in Era of Digital Transformation



- # 65. Modelling Cyber Resistance Patterns in Europe. Andrii Lyzun, Mariia Lyzun, Oksana Desyatnyuk, Andriy Krysovaty, Ihor Lishchynskyy, Vitalina Kuryliak, Svitlana Sachenko
- # 130. Internal audit of the sales system: a fuzzy-multiple approach. Oksana Desyatnyuk, Oksana Cheresnyuk, Svitlana Sachenko, Halyna Liakhovych, Ruslan Brukhanskyi
- # 165. Digital Technologies And The Shadow Labor Market: New Forms Of Interaction. Volodymyr Budnyk; Liudmyla Budnyk; Iryna Danylyuk; Iryna Blazhei; Olga Ronska
- # 198. The Impact of EU Candidate Country Status on Foreign Direct Investment Inflows: A Panel Difference-in-Differences Analysis. Ivan Tsegelnyy; Nataliia Dziubanovska
- # 216. Digital Technologies and Accounting Against Shadow Economy and Corruption. Oleksii Izvoshchikov, Vita Semaniuk, Andrii Papinko, Svitlana Sachenko, Volodymyr Shpak
- # 244. Enhanced Model for IT Project Cost Estimation Based on the Functional Value Method. Vitalii Blahyi, Nadiia Savka, Liudmyla Honchar, Antonina Demianiuk, Danyil Demianiuk, Oksana Karpinska, Roman Moroz
- # 400. FinTech implementation for Business Resilience under Climate Adaptation and Mitigation. Andrii Lyzun, Iryna Maksymova, Vitalina Kuryliak, Mariia Lyzun, Yevhen Savelyev, Ihor Lishchynskyy, Maksym Kuryliak, Svitlana Sachenko

Special Stream on Advanced Automatic Control and Information Technology

- # 351. Using generative adversarial networks to improve the accuracy of person re-identification. Oleksandr Kyrylenko; Roman Kvyetnyy

Special Stream on Big Data and Data Science

- # 407. AI-Driven Natural Language Processing to SQL Query Generation for Enhanced Human-Machine Interaction in the Digital Era. Ivan Pashchuk, Iryna Turchenko, Mykhailo Dombrovskyi, Maksym Hrushytskyi

Special Stream on Cyber Security

- # 435. An Intelligent System for Detecting Malicious Messages in IP Telephony within a Corporate Network. Andriy Melnyk; Ihor Romanets, Ruslan Shevchuk, Oleh Kvasnytsia, Yurii Popyk, Vladyslav Ivanyna

Special stream on digital law & computational legal studies

- # 90. Research on the Effectiveness of Court Decision Classification Based on Text Mining. Tetiana Drakokhrust, Khrystyna Lipianina-Honcharenko, Nataliia Martsenko, Tetiana Nadvynychna, Mykola Telka, Andrii Semeshkin

Special Stream on Intelligent Software Systems and Tools

- # 347. Models of availability assessing UAV-based systems for monitoring dangerous space considering human machine interface with embedded AR. Yevhenii Kanarskyi; Vyacheslav Kharchenko; Ihor Kliushnikov; Oleksandr Orehov; Yuriy Ponochovnyy; Anastasiia Stadnyk

Special Stream on Advanced Machine Learning & Intelligent information systems

- # 60. Joint Punctuation Restoration and Text Capitalisation with a Hybrid XLM-RoBERTa–LSTM Model. Volodymyr Shymkovych; Grzegorz Nowakowski; Sergii Telenyk

Special stream on design & testing of advanced computer systems

- # 161. Design and application of edge computing architecture for real-time control in smart microgrids. Ivan Pashchuk; Mykhailo Dombrovskyi

16:00 - 17:30

Session FOA4 (7): Computer systems for healthcare & medicine & bio-informatics

Online: Zoom (<https://wunu-edu-ua-ternopil.zoom.us/my/idaacs.room.1>) & Room D

Chair: Ewaryst Tkacz



- # 85. EEG-Based Classification of MDD Using Different Feature Sets. Oleksandr Sukholeister; Adrian Nakonechnyi
- # 95. Forecasting Meningococcal Infection Dynamics in Ukraine Using Exponential Smoothing During Wartime Disruptions. Volodymyr Tsukanov; Dmytro Chumachenko
- # 112. Expanding Life Expectancy Prediction With Digital Health and Personal Data Integration. Vladyslav Malanin; Illya Chaikovsky; Olexander Palagin
- # 114. Beyond the Black Box: Harmonizing AI-Driven Medicine with Ethical-Legal Imperatives to Safeguard Human Autonomy and Accountability. Sharon Alison Ferro
- # 119. Nonlinear Integral Models of Eye Movement System in the Classification System of Human Psychophysiological States. Vitaliy Pavlenko; Denys Lukashuk
- # 335. Effective SegFormer ensemble for Diabetic Foot Ulcer segmentation. Arturas Kairys, Vidas Raudonis
- # 367. From Lean to Smart Lean Healthcare: A Cross-Sectoral and Comparative Analysis. Chaymae Marjane; Mohamed Saad Bajjou; Anas Chafi

16:00 - 17:30

Session FOB4 (4): Special stream on digital law & computational legal studies

Online: Zoom (<https://wunu-edu-ua-ternopil.zoom.us/my/idaacs.room.2>) & Room E

Chair: Tetiana Drakokhrust

- # 107. Predicting Civil Case Processing Times Using Machine Learning: A Case Study from the Italian Judicial System. Chiara Maragò; Rosita Guido; Francesca Guerriero
- # 275. Economic Sanctions: a Tool for Protecting of International Law or a Means of Aggressive Economic Policy. Konstyantyn Flissak
- # 434. Hybrid Approach for Carving Highly Fragmented OOXML Documents. Maksym Boiko, Viacheslav Moskalenko, Valentyna Sloma
- # 283. The implementation of artificial intelligence in criminal law practice: challenges and prospects for development. Yuzvyk Iryna, Farion-Melnyk Antonina, Muravska Yuliia, Moskaliuk Nadiia, Ruslana Lutsiv, Kolesnikov Andrii

16:00 - 17:30

Poster Session FPOC4 (9)

Online: Zoom (<https://wunu-edu-ua-ternopil.zoom.us/my/idaacs.room.3>) & Room X

Chair: Kateryna Kolesnikova

Special Stream on Cyber Security

- # 38. High Order Units in Group Rings Given by Finite Field and Cyclic Group. Yevhen Bershchanskyi, Roksolana Oberyshyn, Roman Popovych
- # 124. Eavesdropping Attack of Two Eavesdroppers on the Ping-Pong Protocol with GHZ triplets. Serhii Havel; Yevhen Vasiliu; Nikolaos Bardis; Sergii Staikutsa

Workshop Beyond 5G and 6G Networks Technologies and Security

- # 187. Security of the Three-Pass Protocol on Permutations. Artem Lavdanskyi; Emil Faure; Oleksandr Kharin; Alimzhan Baikenov; Sakhybay Tynymbayev
- # 217. RESEARCH ON THE AVALANCHE EFFECT OF A CRYPTOGRAPHIC ALGORITHM BASED ON INFORMATION-CONTROLLED PERMUTATION OPERATIONS. Tetiana Myroniuk; Artem Lavdanskyi; Vira Babenko; Vitalii Bondar

Special Stream on Advanced Project Management

- # 146. Driving Sustainability in Digital Transformation Projects: A Practical Framework Based on Lean Thinking and Frugal Innovation. Carolina Cruz-Villazon



- # 188. Object tracking method by optimizing the speed of neural network parameter tuning. Mitko Lukanov, Mariia Nazarkevych, Diana Zahorodnia, Victoria Vysotska, Serhii Vladov, Oleh Faizulin, Yurii Myshkovskyi, Andrii Nazarkevych, Georgi P. Dimitrov

Special Stream on Advanced Machine Learning

- # 99. Research on the performance of a neural network for recognizing combat vehicles. Yurii Myshkovskyi, Mariia Nazarkevych, Ivanna Klyujnyk

Intelligent Robotics and Sensors

- # 343. Sim-to-Sim Control of a UR3e Robot Using Soft Actor-Critic and Real-Time MATLAB–ROS–URSim Integration. Ahmed Iqdymat; Grigore Stamatescu
- # 292. Reinforcement Learning-Enhanced Attention U-Net for Cervical Spinal Cord and Multiple Sclerosis Lesion Segmentation. Sowad Rahman; Abdullah Evna Jafar; Azharul Islam; Eftekhari Hossain Ayon; Md Azad Hossain Raju



SATURDAY, 6 SEPTEMBER 2025

08:00 - 8:30

Registration

Hybrid: 1st floor hall

08:30 - 10:00

Session SA1 (7): Special Stream on Advanced Automatic Control & IT

On-site: Room B

Co-Chairs: Lukasz Scislo, Volodymyr Dubovoi

- # 81. An Emotional A.I. Based Multi-Model for Affective Artificial Perception. Mohand Tahar Soualah; Fatemeh Saveh; Kurosh Madani; Véronique Amarger
- # 84. Onboard Electronics for Small Military Drones – Constraints and Requirements. Carsten Wolff; Peter Schulz; Christof Röehrig; Anatoly Sachenko; Sami Trimech; Christoph Pierenkemper; Christian Hensen
- # 88. Self-Organizing Neural Grove for Edge Computing. Hiroataka Inoue
- # 255. Intelligent Voice Control in Industrial Automation: Python-Mediated PLC-HMI Integration for Conveyor Systems and Operational Resilience. Lukasz Scislo; Jakub Szlaga; Mateusz Rażny
- # 256. Comparison of the Random Forest Algorithm and the MediaPipe library in a gesture control system for people with disabilities. Lukasz Scislo; Albert Swakoń; Mateusz Rażny
- # 296. Stability Analysis And Optimization Of Automated Control Systems In The Electric Power Industry. Yuliia Leshchenko, Maria Yukhimchuk, Volodymyr Dubovoi, Vladislav Lesko
- # 360. The Architecture of a Virtual Intelligent Energy System for Sustainable Traction Grids. Yulii Horichenko; Anzhelika Parkhomenko; Carsten Wolff

08:30 - 10:00

Session SB1 (4): Workshop Cyber IoT 2025

On-site: Room C

Co-Chairs: Vyacheslav Kharchenko, Galyna Tabunshchuk

- # 433. Anomaly Detection Using Chebyshev's Inequality. George Markowsky; Linda Markowsky
- # 270. Monitoring and Using Open Wi-Fi Routers by UAV Swarms for Communication: Application Domains Analysis, Model and Algorithm Example. Tetyana Nikitina, Ruslan Demura, Vyacheslav Kharchenko, Yevhenii Kanarsyi
- # 166. Blockchain-Based Privacy-Preserving Reputation Systems. Vladimir Oleshchuk
- # 406. Zero-knowledge proof protocol based on the RRNS. Taras Tsavolyk; Pawel Kasproski; Vasyl Yatskiv; Anatoliy Sachenko

08:30 - 10:00

Session SOA1 (7): Special Stream on Advanced Automatic Control & IT

Online: Zoom (<https://wunu-edu-ua-ternopil.zoom.us/my/idaacs.room.1>) & Room D

Chair: Zenoviy Veres

- # 41. Improving Agricultural Vehicle RUL Prediction: The Effectiveness of GIS Data in LSTM, RNN, and FCNN Models. Anton Shykhmat; Zenoviy Veres
- # 135. Efficient Drone Route Planning in Precision Agriculture Using CETSP. Francesca Guerriero, Francesco Paolo Saccomanno



- # 153. Obstacle Avoidance and Path Following Control With Gaussian Control Barrier Functions Generated From Point Cloud Data. Arata Kusagaya; Yuya Muramatsu; Yasuyuki Satoh; Masami Iwase
- # 234. Functionality of the Electronic Archive of Wells Surveys. Andrii Levytskyi, Volodymyr Volovetskyi, Yulia Romanyshyn, Taras Romanyshyn, Vasyl Sheketa, Volodymyr Pikh
- # 265. Design and Implementation of a Mechatronic Guitar-Playing Manipulator: Integration of Robotics and Music Theory for Automated Performance. Hubert Dziadkiewicz; Karol Suchenia; Lukasz Scislo; Dariusz Krzesniak
- # 266. Control Algorithms and System Integration for a Robotic Guitar Player: A Case Study in Mechatronic Desig. Hubert Dziadkiewicz; Karol Suchenia; Lukasz Scislo; Dariusz Krzesniak
- # 371. Intelligent automated system for prediction controlled parameters dynamics in oil and gas drilling. Roman Petryshyn; Volodymyr Protsiuk; Viktoriia Bandura; Vitalii Melnyk; Vasyl Sheketa

08:30 - 10:00

Session SOB1 (3): Special Stream on Advanced Machine Learning

Online: Zoom (<https://wunu-edu-ua-ternopil.zoom.us/my/idaacs.room.2>) & Room E

Chair: Valeriy Hlukhov

- # 44. JSBSim and FlightGear as a reinforcement learning-based aircraft testing environment. Oleksii Vynokur, Iryna Perova
- # 49. Adversarial Attacks on Artificial Intelligence Models: Threat Analysis and Protection Methods. Serhii Bondarovets; Tetiana Okhrimenko
- # 196. Persistent Homology Superweights for Neural Networks Compression. Oleksandr Yavorskyi

08:30 - 10:00

Session SOC1 (4): Special stream on Economics in Era of Digital Transformation

Online: Zoom (<https://wunu-edu-ua-ternopil.zoom.us/my/idaacs.room.3>) & Room X

Co-chairs: Vladimir Jotsov, Vita Semaniuk

- # 207. Polish Anomalies vs World Trend in Artificial Intelligence Research. Valery Okulich-Kazarin; Artem Artyukhov; Oleksandr Dluhopolskyi; Nadiia Artyukhova
- # 235. Modeling Enterprise Mentoring Systems: Application of Linguistic Assessments and Artificial Intelligence Tools Amidst Deepening European Integration Processes. Orest Sydorak, Nestor Shpak, Kateryna Doroshkevych, Ihor Kulyniak
- # 258. Machine Learning-Based Early Warning System For Food Security Threats In Transitional Bioeconomies. Vasyl Brych; Olena Borysiak; Antin Shuvar; Iryna Belova; Oleksiy Yaroshchuk; Nina Petrukha; Bohdan Brych
- # 355. Enhancing Residential Energy Efficiency through an Integrated Lighting Control System. Vitaliy Bozhovskyi, Ivan Rudavskyi; Halyna Klym
- # 183. Can ML Methods Better Predict CBDC Anonymity Preference When Privacy Paradox May Hold. Ivan Tsegelnyy, Viktor Koziuk, Nataliia Dziubanovska, Yurii Ivashuk
- # 94. Multidimensional Assessment of Sustainable Development Projects. Kateryna Kolesnikova; Tetiana Olekh; Ardak Mukhamediyeva; Bohdan Haidabrus; Zhanibek Kairatuly



10:00 - 10:30

Coffee break

On-site: 1st floor hall

10:30 - 12:00

Session SA2 (4): Special stream on digital law & computational legal studies

On-site: Room B and Zoom (<https://wunu-edu-ua-ternopil.zoom.us/my/idaacs.room.5>)

Co-Chairs: Piotr Stec, Katarzyna Biczysko-Pudelko

- # 332. A Machine Learning Model Optimising Publication Strategies within the Evaluation Framework of Polish Research Institutions – A Positional Goods Approach. Piotr Sterniuk; Katarzyna Biczysko-Pudelko; Dariusz Mikołajewski; Piotr Stec
- # 273. On the digital law development issue in the strengthening Ukrainian civil society context: moral and ethical aspects. Serhii Vladov
- # 274. Decentralized Trust in Digital Law: The Legal Potential of Blockchain Technologies. Serhii Vladov
- # 438 The personality legal protection methodology in the digital environment. Serhii Vladov
- # 328. Explainable AI Systems for Credit Scoring and Loan Risk Assessment in Digital Banking Platforms. Avinash Pamisetty; Srinivasarao Paleti; Balaji Adusupalli; Jeevani Singireddy; Ramesh Inala; Kushvanth Chowdary Nagabhyru

10:30 – 11:15

Keynote: Trends and evolution the automotive human-machine interfaces

by Dr. Viktor Kremin

Plenary session:

Chair: Taras Maksymiuk

Online: Room C and Zoom (<https://wunu-edu-ua-ternopil.zoom.us/my/idaacs.room.4>)

10:30 - 12:00

Session SOA2 (6): Workshop Cyber IoT 2025

Online: Zoom (<https://wunu-edu-ua-ternopil.zoom.us/my/idaacs.room.1>) & Room D

Chair: Vadym Mukhin

- # 28. Evaluation of NIST Lightweight Cryptography Algorithms for Industrial Internet of Things. Hussein A. Al-shmailawi, Emad H. Al-Hemiary, Axel Sikora
- # 120. Drone positioning in a specified location using visual data under gps-denied conditions. Dmytro Kahitin; Volodymyr Kazymyr; Mykola Suslo; Yevhenii Yatchenko; Petro Oleksiienko
- # 369. Bluemix IIoT System for Monitoring Production Equipment. Mykola Madinov; Andrii Topalov; Oleksandr Klymenko; Volodymyr Dyvak; Dmytro Kropyvnytskyi; Taras Humeniuk
- # 370. IoT System for Diagnosing Ballast Tank Level Sensors. Mykola Madinov; Bohdan Pashkovskyi; Tetyana Tomashevskaya; Dmytro Lutsak; Oleksandr Ivanov; Oleh Pashkevych
- # 293. A system for modeling dangerous cyber physical spaces and investigating the use of UXV swarms for providing communication and overcoming obstacles. Leonid Ostapenko; Vyacheslav Kharchenko; Heorhii Zemlianko
- # 380. Fuzzy Modeling of Sensor Node and Communication Channel in Wireless Sensor Networks. Shtilman Pavel, Tishin Petr, Martynyuk Oleksandr, Nesterenko Sergei, Mileiko Igor



- # 219. Hybrid Deep Learning Model for Deception Detection in Healthcare Audio Data. Artem Khovrat; Vitalii Volokhovskiy; Volodymyr Kobziev; Oleksii Nazarov; Dmytro Uzlov; Sergiy Yakovlev
- # 46. DSP Algorithms Performance Analysis on ZYNQ 7000 SOC Platform. Olexander Shkil, Maryna Miroshnyk, Oleh Filippenko, Dariia Rakhlis, Inna Filippenko, Valentyn Kornienko, Andrei Shafranskyi

10:30 - 12:00

Poster Session SPOB2 (14)

Online: Zoom (<https://wunu-edu-ua-ternopil.zoom.us/my/idaacs.room.2>) & Room E

Chair: Grigore Stamatescu

Special Stream on Intelligent Software Systems and Tools

- # 79. An Efficient Smoothing Parameter for Improving MVDR Beamformer's Performance in Annoying Environment. Nguyen Thi Huyen Chau, Quan Trong The
- # 80. An Improved Robustness of Microphone Array Speech Enhancement in Complex Environment. Quan Trong The, Nguyen Thi Huyen Chau
- # 201. Simulation model of the damaged infrastructure recovery process using machine learning-based approach. Vitalii Alekseiko; Volodymyr Kysil; Sofiia Maglona; Tetiana Hovorushchenko; Olga Pavlova

Special Stream on Advanced Machine Learning

- # 89. Simulation-Based Analysis of AI Models for Process Automation in Intelligent Systems. Iryna Zavushchak; Viktor Zavushchak
- # 149. Comparison of Modern Deep Learning Models for Toxicity Detection. Vladyslav Horodnyk; Dmytro Sabodashko; Viktor Kolchenko; Ivan Shchudlo; Volodymyr Khoma; Yurii Khoma; Marek Baranowski; Michal Podpora
- # 211. Trainable ReLU activation function improves the performance of MLP-Mixer. Shiping Ye; Vladimir Golovko; Hanna Khatskevich; Marta Chodyka; Piotr Lichograj; Zofia Lubańska

Special Stream on Design and Testing of Advanced Computer Systems

- # 404. On Variation of Formal Specification Abstraction Level through Operation with TLA+ Concepts. Victor Shkarupilo; Vadym Shkarupilo; Valentyna Dusheba; Ravi Kudermetov; Olga Polska

Special Stream on Wireless Systems

- # 342. Genetic Approach for Balanced Placement of Wireless Sensor Network Nodes. Yuliia Pyrih; Mykhailo Klymash; Yaroslav Pyrih

Special Stream on Economics in Era of Digital Transformations

- # 200. Fiscal Efficiency of the Simplified Taxation System in Ukraine: An Information and Analytical Approach. Volodymyr Valihura, Anna Ivanova; Viktoriia Sidliar; Tetiana Valihura

Special Stream on Virtual Laboratories & Virtual Instrumentation in STEM

- # 180. Intelligent System for Adaptive Resource Management in a Hybrid Educational Laboratory. Oleksandr Osolinskyi; Ihor Maikiv; Ivan Tsiupa

Hybrid Intelligent Systems

- # 98. Developing a method For Detecting Fake Messages From Chat Users. Yurii Myshkovskiy, Mariya Nazarkevych; Victoria Vysotska; Nazar Nakonechnyi

Pattern Recognition, Digital Image and Signal Processing

- # 127. Recognition of Low Probability of Intercept Radar Signals in a Polar Coordinate System Based on a Hybrid CNN and MLP. Oleksandr Nazarkevych, Roman Peleshchak; Vasyl Lytvyn; Ivan Peleshchak; Volodymyr Motyka

Intelligent Information Systems, Data Mining and Ontology



- # 436. Optimization of the Use of Computing Resources of the Corporate network of a Higher Education Institution Using an Ontological Approach. Andriy Melnyk, Serhiy Voznyak, Iurii Shcherbiak, Yevgeniya Martsenyuk, Ihor Hevko, Volodymyr Kostetskyi

Special Stream on Intelligent Software Systems and Tools

- # 437. Mathematical Model and Software Implementation of an Intelligent Arbitrage Agent in Cryptocurrency Markets. Oleh Opalko, Roman Moroz, Liudmyla Honchar, Andrii Matsuk, Andrii Dankiv

10:30 - 12:00

Poster Session SPOC2 (12)

Online: Zoom (<https://wunu-edu-ua-ternopil.zoom.us/my/idaacs.room.3>) & Room X

Chair: Leonid Lyubchuk

Special Stream on Economics in Era of Digital Transformations

- # 306. Multi-Objective Collaborative Optimization and Simulation of Intelligent Home Appliance Warehousing Based on Bi-Level Integer Programming. Mengya Zhang, Xueyan Li, Ruiqi Xiao
- # 318. Complex Network and TOPSIS based Port Connectivity Evaluation in the Pearl River-Xijiang River Economic Belt. Yiting Sun, Ruiqi Xiao, Jingjing Cao
- # 319. Optimization of Customs Declaration Business Process for Manufacturing Enterprises Based on AEO Certification. Yongyi Wu, Lei Zhang
- # 396. Empowering "Specialized, Refined, Unique and Novel" Enterprises with High Quality Development through Digital Inclusive Finance. Jie Yu, Yang Hu, Rong Huang, Aiman Magde Abdalla Ahmed
- # 416. Organization for Waterway Transportation of LNG Overseas Imports to the Central Region Based on Economic Analysis and Empirical Models. Hongyu Wu, Ziwen Yuan, Audi Wu, Xunran Yu, Changze Mu

Special stream on data-driven methods of computational diagnostics

- # 299. Analysis of the Synergy Mechanism of Dual-Channel Pharmaceutical Supply Chain Based on Evolutionary Game Theory. Yong Wang, Huiyi Xu, Qian Lu, Huajun Luo, Lihui Wang

Special Stream on Advanced Automatic Control and Information Technologies

- # 298. Monitor of Cold Chain Logistics Transportation Process Based on MEWMA Control Chart. Jiandong Liu, Ying Zhang, Yulin Hou

Special Stream on Virtual Laboratories & Virtual Instrumentation in STEM

- # 305. Construction of an Innovative Model for International Chinese Language Education Knowledge Driven by Generative Artificial Intelligence- Based on the SECI Model Framework. Shuyue Gao, Haifeng Yang, Wenjie Fan
- # 316. Component-Based Rapid Modeling Method for Mechanical Digital Twin Teaching Platform. Yanfeng Yang, Fayang Sang, Jia Li, Wenjun Shao, Leyao Zhang

Hybrid Intelligent Systems

- # 303. Analysis of Potential Charging Pile Load Patterns Based on the Improved Bat Algorithm and K-means Integration. Wuxiao Chen, Zhijun Jiang, Xuan Deng, Yuqing Cai, Chenhan Zhang, Junfan Ma
- # 307. Construction of a Customer-Oriented Evaluation System Index Library for Logistics Service Quality Based on AHP. Wei Lu



- # 394. Risk Evaluation of Fresh Agricultural Products Supply Chain Based on the AHP Method - Case Study of Wuhan Agriculture Trade Markets. Yang Zhao, Zhaozhe Wu, Xuan Fang, Zijie Zhao
- # 376. 5G Network Coverage Estimation Using Physics Informed Neural Networks. Taras Maksymyuk; Ivan Fesiuk; Stepan Dumych; Nazarii Kotliar; Oleg Kapshii; Oleksandr Karpin

12:00 - 13:00

Lunch (Catering)

On-site: Parter

13:00 - 14:30

Round Table and Closing Ceremony

Hybrid: Hall A and Zoom (<https://wunu-edu-ua-ternopil.zoom.us/my/idaacs.room.4>)

Co-Chairs: George Markowsky, Anatoliy Sachenko, Wojciech Kempa

