



ICyberPhys

Programme of the 2nd International Workshop on Intelligent & CyberPhysical Systems (ICyberPhysS-2025)

Khmelnytskyi, Ukraine, July 04, 2025

Time regarding the Kyiv

Countries which represent authors	Time in countries regarding the time of Ukraine
United States of America	- 7
United Kingdom	- 2
Poland	- 1
Czech Republic	- 1
Slovakia	- 1
Austria	- 1
Algeria	- 2
Spain	- 1
Kyrgyz Republic	+ 3
Egypt	The same
Estonia	The same

IMPORTANT!!! All Ukrainian participants of Workshop should be connected to all sessions from shelters in order to ensure uninterrupted work during air alarms! We will not stop the Workshop's sessions in case of an air alarm!

All workshop participants should have a backup connection option (charged mobile phone with a connected mobile internet) to ensure uninterrupted operation in case of emergencies – power outages, etc.

Timetable of the Workshop

Time (Kyiv)	July 04 th 2025
9.00	Welcome & Plenary Session
9.15	Section Session 1 Intelligent Systems, Green Technologies, Smart City & Smart House, IoT-Systems
11.45	Coffee Break
12.00	Section Session 2 Computer systems and networks, Cyberphysical Systems, Security and Protection of Computer & Cyberphysical Systems
14.45	Coffee Break
15.00	Awards and Close Ceremony

Presentation timing:

Session presentations – 10 minutes + 5 minutes Q&A (**15 minutes for 1 speaker!**).

Testing of Connection:

July 04th, 2025, 08.45-09.00 (8.45 AM – 09.00 AM), Kyiv time

Zoom links:

Plenary session	https://us02web.zoom.us/j/83609216649?pwd=fRm3bH8bajncH4vU8AfBUBjEbwhtX.1 Meeting ID: 836 0921 6649 Passcode: 2025
Session 1 Intelligent Systems, Green Technologies, Smart City & Smart House, IoT-Systems	https://us02web.zoom.us/j/83609216649?pwd=fRm3bH8bajncH4vU8AfBUBjEbwhtX.1 Meeting ID: 836 0921 6649 Passcode: 2025
Session 2 Computer systems and networks, Cyberphysical Systems, Security and Protection of Computer & Cyberphysical Systems	https://us02web.zoom.us/j/83609216649?pwd=fRm3bH8bajncH4vU8AfBUBjEbwhtX.1 Meeting ID: 836 0921 6649 Passcode: 2025

Plenary Sessions' Schedule

Plenary sessions	Invited presentations
<p>Welcome & Plenary Session</p> <p>July 04th 2025 09.00-09.15</p> <p>Moderators: Tetiana Hovorushchenko, Sergii Lysenko</p>	<p>09.00-09.10 <i>Greetings from the ICyberPhys Organizers:</i> Tetiana Hovorushchenko, Khmelnytskyi National University, Ukraine (General Chair of the Workshop) Oleg Syniuk, Vice-Rector of Khmelnytskyi National University, Ukraine Sergii Lysenko, Khmelnytskyi National University, Ukraine (International Program Committee Chair) Yelyzaveta Hnatchuk, Khmelnytskyi National University, Ukraine (Organizing Committee Co-Chair) Olga Pavlova, Khmelnytskyi National University, Ukraine (Organizing Committee Co-Chair)</p> <p>09.10-09.15 <i>Trends of the ICyberPhys-2025</i> Tetiana Hovorushchenko, Khmelnytskyi National University, Ukraine</p>
<p>Awards and Close Ceremony</p> <p>July 04th 2025 15.00-15.15</p> <p>Moderators: Tetiana Hovorushchenko, Sergii Lysenko</p>	<p>15.00-15.15 <i>Awards and Close Ceremony</i></p>

Section Sessions' Schedule

Section Sessions	Presentations
<p>Section Session 1 Intelligent Systems, Green Technologies, Smart City & Smart House, IoT-Systems</p> <p>July 04th 2025 09.15-11.45</p> <p>Moderators: Tetiana Hovorushchenko, Yelyzaveta Hnatchuk, Olga Pavlova</p>	<p>Oleksandr Vyshnevskyy, Liubov Zhuravchak and Vitaliy Yakovyna <i>Improving energy efficiency in smart building using deep reinforcement learning control strategy</i></p> <p>Roman Havdulskyi, Liubov Zhuravchak and Vitaliy Yakovyna <i>Inclusion parameters estimation using INBEM and CNNs with gradient-based feature extraction</i></p> <p>Viacheslav Kovtun <i>Nonparametric data recovery in IoT sensor networks based on a priori density</i></p> <p>Alona Kudriashova, Iryna Pikh, Vsevolod Senkivskyy, Vitaly Levashenko, Myroslava Kadyliak and Oleksii Bilyk <i>Modelling the process of forming the intelligent systems design quality</i></p> <p>Oleksandr Tymchenko, Bohdana Havrysh, Miroslav Kvassay and Volodymyr Chorniak <i>Structures of CRM Systems</i></p> <p>Kateryna Yalova, Mykhailo Babenko, Kseniia Yashyna, Artem Boyarchuk <i>Implementation of transformer model for natural language to SQL query translation</i></p> <p>Tetyana Holubnyk, Myroslava Dubnevych, Artem Boyarchuk <i>Digital method of analyzing color parameters during PDF document verification</i></p> <p>Vasyl Teslyuk, Olha Narushynska, Maxym Arzubov, Tetiana Martyniuk and Tetiana Trachuk <i>Module for the analysis of digital skin images aimed at early diagnosis of dermatological conditions based on deep learning methods</i></p> <p>Serhii Vladov, Anatoliy Sachenko, Victoria Vysotska, Nataliia Vladova and Viktor Ostroverkhov <i>Hybrid model for predicting and correcting readings of the helicopter turboshaft engines gas temperature sensor using neural networks and CPS infrastructure</i></p> <p>Alla Herts, Andrii Ostrovskyy, Tetiana Hovorushchenko, Yurii Voichur and Viktor Lysak <i>Method for automated checking legal eligibility of integrated environmental permit</i></p>
<p>Section Session 2 Computer systems and networks, Cyberphysical Systems, Security and Protection of Computer & Cyberphysical Systems</p>	<p>Dmytro Zubov, Vitaly Levashenko, Andrey Kupin and Nurlan Shaidullaev <i>Smart emergency heart project: campus network of WearOS smartwatches connected via Firebase database</i></p>

July 04th 2025
12.00-14.45

Moderators:
Oleh Savenko,
Sergii Lysenko,
Andrii Nicheporuk

Vasyl Teslyuk, Artem Kazarian, Iryna Gado and Solomiia Zhuromska
Modeling and analysis of ultraviolet radiation data in cyber-physical monitoring systems

Sergii Danchuk, Andrii Nicheporuk, Oksana Yashyna, Tomas Sochor
Anomaly-based detection of DDoS attacks in encrypted network traffic using autoencoder neural networks

Mykola Stetsiuk, Yurii Klots, Victor Cheshun and Abdel-Badeeh M. Salem
A statistical method for real-time intrusion detection and response in ZigBee networks

Oleg Riznyk, Yurii Kynash, Evgeny Savelov, Evgeny Matviychuk and Abdel-Badeeh M. Salem
Method of adaptive Barker-like protection, coding and data transmission

Oleksandr Kozelskyi, Andriy Drozd, Bohdan Savenko, Piotr Gaj
A model for probabilistic monitoring and proactive restart of real-time operating systems under intensive state changes in cyber-physical systems

Oleh Savenko, Yevhenii Sierhieiev, Piotr Gaj
Using artificial intelligence in the context of buffer overflow vulnerabilities

Andriy Sverstiuk, Taras Dubyniak, Petro Mykulyk, Volodymyr Nevozhai and Oles Hospodarskyi
Increase the reliability of the device when duplicating the functions of individual nodes

Sergii Lysenko, Oleh Bondaruk, Oleksii Bondar, Liudmyla Koretska and Tomas Sochor
Mathematical model of the cloud infrastructure life cycle

Olga Pavlova, Dmytro Denysiuk, Andrii Harmatiuk, Andrii Kuzmin and Houda EL Bouhissi
Method of local UAV navigation using neural networks

Andriy Sverstiuk, Iryna Belyakova, Vadim Piscio, Volodymyr Medvid and Oles Hospodarskyi
Optimizing form of a piezoelectric transformer