



**Programme of the 1st International Workshop on Intelligent Information Technologies & Systems of Information Security (IntelITSIS-2020)**

**Khmelnyskyi, Ukraine, June 10 – 12, 2020**

**Time regarding the Kyiv**

<b>Countries which represent authors</b>	<b>Time in countries regarding the time of Ukraine</b>
Belarus	The same
Poland	- 1
Slovakia	- 1
Austria	- 1
Czech Republic	- 1
Turkey	The same
Estonia	The same
Greece	The same
United Kingdom	- 2
United States	- 7

## Timetable of the Workshop

Time (Kyiv)	June 10 <sup>th</sup> 2020	June 11 <sup>th</sup> 2020	June 12 <sup>th</sup> 2020
9.30		Section Session 1 Intelligent Information Technologies	Section Session 2 Systems of Information Security
11.00		Coffee Break	Coffee Break
11.30		Section Session 1 Intelligent Information Technologies	Section Session 1 Intelligent Information Technologies
13.00		Lunch	Lunch
14.00	<b>Plenary Session</b> Welcome Secure and Intelligent World	Section Session 2 Systems of Information Security	Section Session 1 Intelligent Information Technologies
15.30	Coffee Break	Coffee Break	Coffee Break
16.00	<b>Plenary Session</b> Secure and Intelligent World	Section Session 2 Systems of Information Security	<b>Plenary Session</b> Awards and Close Ceremony

### Presentation timing:

Invited speakers – 25 minutes + 5 minutes Q&A;

Session talks – 15 minutes + 5 minutes Q&A.

Each session includes additional 10 minutes for discussion.

### Testing of Connection:

June 10<sup>th</sup>, 2020, 13.45-14.00 (1.45 PM – 02.00 PM)

June 11<sup>th</sup>, 2020, 09.15-09.30 (9.15 AM – 09.30 AM)

June 12<sup>th</sup>, 2020, 09.15-09.30 (9.15 AM – 09.30 AM)

### Zoom links:

Plenary session	<a href="https://us02web.zoom.us/j/8751320811?pwd=YWJ1STZmanBLUGZtWlJwK3Roand5UT09">https://us02web.zoom.us/j/8751320811?pwd=YWJ1STZmanBLUGZtWlJwK3Roand5UT09</a> Meeting ID: 875 132 0811 Password: 025729
Session 1 Intelligent Information Technologies	<a href="https://us02web.zoom.us/j/8751320811?pwd=YWJ1STZmanBLUGZtWlJwK3Roand5UT09">https://us02web.zoom.us/j/8751320811?pwd=YWJ1STZmanBLUGZtWlJwK3Roand5UT09</a> Meeting ID: 875 132 0811 Password: 025729
Session 2 Systems of Information Security	<a href="https://us02web.zoom.us/j/8751320811?pwd=YWJ1STZmanBLUGZtWlJwK3Roand5UT09">https://us02web.zoom.us/j/8751320811?pwd=YWJ1STZmanBLUGZtWlJwK3Roand5UT09</a> Meeting ID: 875 132 0811 Password: 025729

## Plenary Session Schedule

Plenary sessions	Invited presentations
<p>Welcome Secure and Intelligent World</p> <p><b>June 10<sup>th</sup> 2020</b> <b>14.00-17.00</b></p> <p>Moderators: Tetiana Hovorushchenko, Sergii Lysenko</p>	<p>14.00-14.20 <i>Greetings from the IntellTSIS Organizers:</i> <b>Professor Tetiana Hovorushchenko</b>, Khmelnytskyi National University, Ukraine (General Chair of the Workshop) <b>Professor Oleg Syniuk</b>, Vice-Rector of Khmelnytskyi National University, Ukraine <b>Professor Vyacheslav Kharchenko</b>, National Aerospace University “KhAI”, Ukraine (President of PUBLIC ORGANIZATION “UKRAINIAN SCIENTIFIC AND EDUCATIONAL IT SOCIETY”) <b>Dr Peter Popov</b>, Centre for Software Reliability, City University of London, United Kingdom (International Program Committee Chair) <b>Dr Sergii Lysenko</b>, Khmelnytskyi National University, Ukraine (International Program Committee Chair)</p> <p>14.20-14.30 <i>Trends of the IntellTSIS-2020</i> <b>Professor Tetiana Hovorushchenko</b>, Khmelnytskyi National University, Ukraine</p> <p>14.30-15.00 <i>Co-engineering for Safety and Security The AQUAS project perspective</i> <b>Dr Peter Popov</b>, Centre for Software Reliability, City University of London, United Kingdom</p> <p>15.00-15.30 <i>Big Safety and Big Accidents: Big Data versus Black Swan</i> <b>Professor Vyacheslav Kharchenko</b>, National Aerospace University “KhAI”, Centre for Safety Infrastructure Oriented Research and Analysis Centre, RPC Radiy, Ukraine</p> <p>15.30 – 16.00 <i>Coffee Break</i></p> <p>16.00-16.30 <i>Abstract Painting as an Interactive Art: Augmented Reality and Internet of Galleries</i> <b>Olena Golembowska</b>, Magazine “Carte-Blanche”, Ukrainian Scientific-Educational IT-Society, Ukraine</p> <p>16.30-17.00 <i>A Method of Developing a Checkable Self-Recovery Floating-Point Pipeline System</i> <b>Professor Oleksandr Drozd</b>, Odessa National Polytechnic University, Ukraine</p>

Awards and Close Ceremony	16.00-16.15 <i>Presentation of PUBLIC ORGANIZATION "UKRAINIAN SCIENTIFIC AND EDUCATIONAL IT SOCIETY"</i>
<b>June 12<sup>th</sup> 2020</b> <b>16.00-16.30</b>	<b>Dr Olha Cherednichenko</b> , National Technical University "KhPI", Ukraine
Moderators: Tetiana Hovorushchenko, Sergii Lysenko	16.15-16.30 <i>Awards and Close Ceremony</i>

## Section Sessions Schedule

Section Sessions	Presentations
<p style="text-align: center;">Section Session 1 Intelligent Information Technologies</p> <p style="text-align: center;"><b>June 11<sup>th</sup> 2020</b> <b>09.30-11.00</b></p> <p>Moderators: Tetiana Hovorushchenko, Yelyzaveta Hnatchuk, Olga Pavlova</p>	<p>Iurii Krak, Anatolii Pashko, Oleg Stelia, Olexander Barmak and Sergey Pavlov (Ukraine) <i>Selection Parameters in the ECG Signals for Analysis of QRS Complexs</i></p> <p>Tetiana Hovorushchenko, Alla Herts and Yelyzaveta Hnatchuk (Ukraine) <i>Information Technology for Legal Regulation of the Dental Services Contract</i></p> <p>Tatiana Neskorodieva, Eugene Fedorov and Ivan Izonin (Ukraine) <i>Forecast method for Audit Data Analysis by Modified Liquid State Machine</i></p> <p>Serhii Lupenko, Iaroslav Lytvynenko, Nataliia Stadnyk, Halyna Osukhivska (Ukraine) and Natalia Kryvinska (Austria, Slovakia) <i>Modification of the Software System for the Automated Determination of Morphological and Rhythmic Diagnostic Signs by Electrocardio Signals</i></p>
<p style="text-align: center;">Section Session 1 Intelligent Information Technologies</p> <p style="text-align: center;"><b>June 11<sup>th</sup> 2020</b> <b>11.30-13.00</b></p> <p>Moderators: Tetiana Hovorushchenko, Yelyzaveta Hnatchuk, Olga Pavlova</p>	<p>Tetiana Hovorushchenko, Artem Boyarchuk, Oleh Borovyk, Dmytro Medzatyi and Mykola Krasovskiy (Ukraine) <i>Structure of Multifunctional Cooperative Robotics System based on the Ontological Approach</i></p> <p>Rykhard Bohush, Sergey Ablameyko, Yahor Adamovskiy and Dmitry Glukhov (Belarus) <i>Effective object localization in images by calculating ratio and distance between pixels</i></p> <p>Vita Kashtan and Volodymyr Hnatushenko (Ukraine) <i>A wavelet and HSV pansharpening technology of high resolution satellite images</i></p> <p>Oleksii Ivanov, Liudmyla Koretska, Volodymyr Lytvynenko (Ukraine) <i>Intelligent Modeling of Unified Communications Systems Using Artificial Neural Networks</i></p>
<p style="text-align: center;">Section Session 1 Intelligent Information Technologies</p> <p style="text-align: center;"><b>June 12<sup>th</sup> 2020</b> <b>11.30-13.00</b></p> <p>Moderators: Tetiana Hovorushchenko, Yelyzaveta Hnatchuk, Olga Pavlova</p>	<p>Artem Boyarchuk, Olga Pavlova, Mykyta Bodnar and Ivan Lopatto (Ukraine) <i>Approach to the Analysis of Software Requirements Specification on Its Structure Correctness</i></p> <p>Olexander Barmak, Iurii Krak, Eduard Manziuk, Volodymyr Lytvynenko and Oleg Kalyta (Ukraine) <i>Classification Technology Based on Hyperplanes for Visual Analytics with Implementations for Different Subject Areas</i></p> <p>Pavlo Radiuk (Ukraine) and Hakan Kutucu (Turkey) <i>Heuristic Architecture Search Using Network Morphism for Chest X-Ray Classification</i></p> <p>Kateryna Yalova, Kseniia Yashina and Nataliia Savina (Ukraine) <i>Medical Information System Development: Practical aspects</i></p>

<p>Section Session 1 Intelligent Information Technologies</p>	<p>Tetiana Kysil, Ivan Izonin and Olha Hovorushchenko (Ukraine) <i>Information Technology for Choosing the Trademark Considering the Attitude of Consumer</i></p>
<p><b>June 12<sup>th</sup> 2020</b> <b>14.00-15.30</b></p>	<p>Oksana Karpenko, Iryna Tarnovska, Olha Kravchenko, Valentyna Vlasova and Ivanna Dronyuk (Ukraine) <i>Information System "Academic Load Distribution"</i></p>
<p>Moderators: Tetiana Hovorushchenko, Yelyzaveta Hnatchuk, Olga Pavlova</p>	<p>Elena Odarushchenko, Oleg Odarushchenko, Valentina Butenko, Vyacheslav Kharchenko and Larysa Degtyareva (Ukraine) <i>Development of Wearable Solutions for Healthcare: Initial Stages Analysis and Case Study</i></p>
	<p>Vyacheslav Gorev, Alexander Gusev and Valerii Korniienko (Ukraine) <i>On the telecommunication traffic forecasting in a fractional Gaussian noise model</i></p>

Section Sessions	Presentations
<p>Section Session 2 Systems of Information Security</p> <p><b>June 11<sup>th</sup> 2020</b> <b>14.00-15.30</b></p> <p>Moderators: Oleh Savenko, Sergii Lysenko, Andrii Nicheporuk</p>	<p>Oleg Bisikalo, Oksana Kovtun, Viacheslav Kovtun and Victoria Vysotska (Ukraine) <i>Research of Pareto-optimal schemes of control of availability of the information system for critical use</i></p> <p>Andrii Nicheporuk, Vadym Paiuk, Bohdan Savenko, Oleg Savenko and Olena Geidarova (Ukraine) <i>Detecting Software Malicious Implant Based on Anomalies Research on Local Area Networks</i></p> <p>Kira Bobrovnikova, Sergii Lysenko (Ukraine), Piotr Gaj (Poland), Valeriy Martynyuk and Dmytro Denysiuk (Ukraine) <i>Technique for IoT Cyberattacks Detection Based on DNS Traffic Analysis</i></p> <p>Mykola Stetsyuk, Leonid Bedratyuk, Bohdan Savenko, Vasily Stetsyuk and Oleg Savenko (Ukraine) <i>Providing the resilience and survivability of specialized information technology across corporate computer networks</i></p>
<p>Section Session 2 Systems of Information Security</p> <p><b>June 11<sup>th</sup> 2020</b> <b>16.00-17.45</b></p> <p>Moderators: Oleh Savenko, Sergii Lysenko, Andrii Nicheporuk</p>	<p>Roman Belfer, Antonina Kashtalian, Andrii Nicheporuk (Ukraine), George Markowsky (USA) and Anatoliy Sachenko (Ukraine) <i>Proof-of-Activity Consensus Protocol Based on the Network's Active Nodes Indication</i></p> <p>Olha Yanholenko, Olga Cherednichenko, Olena Yakovleva and Denis Arkatov (Ukraine) <i>A Model for Estimating the Security Level of Mobile Applications: a Fuzzy Logic Approach</i></p> <p>Kostiantyn Zashcholkin, Oleksandr Drozd and Olena Ivanova (Ukraine) <i>Formation of the Interval Stego Key for the Digital Watermark Used in Integrity Monitoring of FPGA-based Systems</i></p> <p>Volodymyr Sherstiuk, Marina Zharikova and Ruslan Levkivskyi (Ukraine) <i>Computational Model of Soft Safety Domains and Rough Motion Corridors within Configuration Spaces</i></p> <p>Mykhaylo Voynarenko, Oksana Mykoliuk, Valentyna Bobrovnik (Ukraine), Michal Greguš (Slovakia) and Oleksiy Svistunov (Ukraine) <i>A Forecast Model Of Energy Security Level In The System Of Managing Energy Efficiency At Enterprises</i></p>
<p>Section Session 2 Systems of Information Security</p> <p><b>June 12<sup>th</sup> 2020</b> <b>09.30-11.00</b></p>	<p>Sergii Lysenko, Kira Bobrovnikova (Ukraine), Peter Popov (United Kingdom), Viacheslav Kharchenko and Medzaty Dmytro (Ukraine) <i>Spyware Detection Technique based on Reinforcement Learning</i></p> <p>Oleksii Duda, Nataliia Kunanets, Serhii Martsenko, Oleksandr Matsiuk and Volodymyr Pasichnyk <i>Building secure urban information systems based on IoT technologies</i></p>

Moderators:  
Oleh Savenko,  
Sergii Lysenko,  
Andrii Nichaporuk

Oleksandr Tymchenko (Poland), Bohdana Havrysh (Ukraine), Aneta Poniszewska-Maranda (Poland), Bohdan Kovalskyi, Oleksandr O. Tymchenko and Kateryna Havrysh (Ukraine)  
*Development and Research of VAD-Based Speech Signal Segmentation Algorithms*

Lubomir Sikora, Rostislav Tkachuk, Natalia Lysa, Ivanna Dronyuk and Olga Fedevych (Ukraine)  
*Information and logic cognitive technologies of decision-making in risk conditions*