

**MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE
LVIV POLYTECHNIC NATIONAL UNIVERSITY
NATIONAL AVIATION UNIVERSITY**

Young Scientists Associations of NAU
Faculty of Cybersecurity, Computer and Software Engineering
Faculty of Air Navigation, Electronics and Telecommunications
NAU Cybersecurity R&D Lab



***2nd International Conference on Cyber
Hygiene & Conflict Management in Global
Information Networks***



PROGRAM
November 30, 2020
Kyiv-Lviv

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Management in Global Information Networks***

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CONFERENCE DIRECTIONS:

- Social Networking Services;
- Security and Privacy of Critical Applications;
- ICT Infrastructures and Systems;
- Management of Cyber Incidents, Warfare and Conflicts;
- Social Engineering and Identity Theft Protection Techniques;
- Digital Content Processing.

Kyiv-Lviv

CONFERENCE ORGANIZING COMMITTEE

Chairman of the Organizing Committee

VOLODYMYR KHARCHENKO, DSc, Professor, Vice-Rector for Research

Vice-chairmen of the Organizing Committee

SERGIY GNATYUK, DSc, Associate Professor

ROMAN ODARCHENKO, DSc, Associate Professor

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TETIANA OKHRIMENKO, PhD, Doctoral Student

VIKTORIA SYDORENKO, PhD, Associate Professor

ANDRIY GIZUN, PhD, Associate Professor

YULIIA POLISHCHUK, PhD Student

SCHEDULE

Date	Time	Event	Room
November 30	11:00 – 12:30	Plenary Session	https://meet.google.com/ixn-zzss-vvn
	13:00	Session 1 Management of Cyber Incidents, Warfare and Conflicts	https://meet.google.com/cqz-xyiu-cjb
	13:00	Session 2 Secure Digital Content Processing for Modern Applications	meet.google.com/ozp-wcci-ncp
	13:00	Session 3 Intelligence Systems of Data Processing	http://meet.google.com/xzi-cmgw-zts
	13:00	Session 4 Modern Information and Communication Technologies	http://meet.google.com/gqv-wnqs-ovo
	13:00	Session 5 Secure Information and Communication Technologies of Global Social Space	https://meet.google.com/mvu-nqfg-ngm

PLENARY SESSION

November 30, 2020, 11:00 – 12:30

<https://meet.google.com/ixn-zzss-vvn>

Chair: Sergiy Gnatyuk

Welcoming

Organizing Committee (*Sergiy Gnatyuk, NAU, Kyiv, Ukraine*)

Young Scientists Association (*Roman Odarchenko, NAU, Kyiv, Ukraine*)

International Center of Informatics and Computer Science (*Zhengbing Hu, Central China Normal University, Wuhan, China*)

Keynote Speakers

Cybersecurity prospects (*Oleksii Assaul, HUAWEI*)

5G cybersecurity problems (*Maksim Iavich, Scientific Cyber Security Association, Caucasus University, Tbilisi, Georgia*)

Web security scanners for vulnerability assessment (*Jugoslav Achkoski, Military Academy, “General Mihailo Apostolski”, Skopje, North Macedonia*)

Analysis of anomaly detections and identification (*Tamara Radivilova, NURE, Kharkiv, Ukraine*)

Analysis and development of mathematical models and data processing methods to detect types of DDoS attacks (*Olimzhon Baimuratov, Suleyman Demirel University, Kaskelen, Kazakhstan*)

Session 1

MANAGEMENT OF CYBER INCIDENTS, WARFARE AND CONFLICTS

November 30, 2020, time: 13:00, <https://meet.google.com/cqz-xyiu-cjb>

Chair: Sergiy Gnatyuk

1. Nikolay Poluyanenko, Vladyslav Safonenko and Alexandr Kuznetsov
Refinement of the Results of S. Nakamoto and M. Rosenfeld, on the Probability of Success of an Attack on the Blockchain System, Based on the Independent Players Model
2. Avtandil Gagnidze, Maksim Iavich, Giorgi Iashvili, Dali Magraqvelidze
Investigation of the Possible Relations between Bitcoin Prices and S&P 500 Index
3. Emil Faure, Iryna Myronets and Svitlana Sysioienko
Method for forming pseudorandom sequence of permutations based on linear congruential generator
4. Kirill Shekhanin, Lyudmila Gorbachova, Alexander Kuznetsov
Comparative Analysis and Study of Storage Devices Properties for Steganographic Data Hiding in Cluster File Systems
5. Giorgi Akhalaia, Maksim Iavich, Giorgi Iashvili
Secure Connection on Georgian Website
6. Hanna Martyniuk, Valeriy Kozlovskiy, Yuriy Balanyuk, Tetiana Meleshko
Review on Audio Steganography and Steganalysis Methods
7. Oleksandr Korystin
Risk assessment of cyberattacks in conditions of hybrid war based on analysis of cybersecurity basic capacity in the civil security sector in Ukraine
8. Nataliia Pashchenko, Valentin Mokiichyk
Risk management and laboratory information system
9. Hennadii Hulak, Volodymyr Buriachok, Dmytro Kasatkin, Olga Kasatkina
Bilinear Differential Quality Games for Managing the Financing of Cyber Security Projects
10. Sergiy Gnatyuk, Ivan Azarov, Rat Berdibayev
Modern SIEM systems analysis and critical requirements definition

Session 2

SECURE DIGITAL CONTENT PROCESSING FOR MODERN APPLICATIONS

November 30, 2020, time: 13:00, meet.google.com/ozp-wcci-ncp

Chair: Olena Kozhokhina

1. Vadym Kalchenko, Leonid Melnyk, Nataliia Barchenko, Andrii Tolbatov, Volodymyr Tolbatov, Victor Obodiak and Sergiy Gnatyuk
Method of comparison of security profiles of complex information security systems
2. Liudmyla Lakhtionova, Larysa Hnylytska, Svitlana Kalabukhova
Improvement of Risk Assessment Information Models for Formation of Safe Enterprise Management Strategies
3. Gennadii Sokolov
Computer Analysis of the Acoustic Information Signal of the UAV and the City Sounds Masking It
4. Serhii Vladov, Yuri Shmelov and Marina Nozhnova
Use of Hierarchical Decision-Making Models in the Field of Aviation Transport
5. Ivan Yashanov and Marlen Asanov
Substantiation of Model for Air Navigation Equipment Operation Costs
6. Tetiana Shmelova, Kseniia Lohachova and Maxim Yatsko
Collaborative Decision-Making Uncertainty Models of Air Navigation System Operators in Conflict Situations
7. Ivan Ostroumov and Nataliia Kuzmenko
A probabilistic approach for air traffic safety management
8. Alona Dorozhynska
Digital replication of terminological dictionaries in the paradigm of the lexicographic systems theory

Session 3

INTELLIGENCE SYSTEMS OF DATA PROCESSING

November 30, 2020, time: 13:00, <http://meet.google.com/xzi-cmgw-zts>

Chair: Maksym Zaliskyi

1. Maksym Zaliskyi, Serhii Dmytriiev and Onyedikachi Chioma Okoro
Statistical Simulation of Failures of the Systems and Structures of S-76 C++ Helicopters in Nigeria
2. Andriy Goncharenko
One Special Case of a Generalized Cyber Object Optimal Behavior in a Two-Alternative Situation with the Preferences Uncertainty
3. Andriy Goncharenko
Management of the Cyber Conflicts at the Aircraft Extremum Horizontal Flights with the Use of the Combined Hybrid Pseudo-Entropy Relative Function
4. Oleksiy Zuiev, Yuliia Petrova and Alina Osipchuk
Analysis of Modified Nonparametric Algorithms for Detecting Radar Signals
5. Pylyp Prystavka, Olha Cholyskhina and Tetiana Sorokopud
Experimental study of distributions differential invariants based on spline image models
6. Bohdan Zhurakovskiy, Volodymyr Saiko, Nataliia Tsopa, Yevhenii Batrak and Oleksiy Nedashkivskiy
Reduce the error of determining the direction - hardware-repeater in mobile communication systems by automatically controlling the parameters of the AESA radiation pattern
7. Dmitriy Shevchuk, Oleksandr Yakushenko, Denys Medynskiy, Yuliya Shevchenko and Dasha Maliarenko
Intelligent decision support system based on a simulation model for performing a transport task with considering the features of the route and the influence of the human factor
8. Lyudmyla Kuzmych, Dmytro Ornatskiy, Volodymyr Kvasnikov, Andriy Dudnik, Vitalii Polishchuk
The development of the intelligent instrument system for measurement parameters of the strain state of complex structures
9. Anastasiia Vavilenkova
Ways of Spinning Implementation in Complex Natural Language Sentences
10. Igor Prokopenko
Robust signal and data processing methods

Session 4
MODERN INFORMATION AND COMMUNICATION
TECHNOLOGIES

November 30, 2020, time: 13:00, <http://meet.google.com/gqv-wnqs-ovo>

Chair: Roman Odarchenko

1. Yanina Shestak, Larysa Murytenko, Serhii Toliupa, Ogbu James Onyigwang and Valeriia Solodovnyk
Simulation of Distributed Information Networks Load Balancing and Resource Management
2. Valeriyi Kuzmin, Oleksandr Solomentsev, Maksym Zaliskyi and Yuliia Petrova
Method of Mathematical Model Building with Segmented Parabolic Regression Usage
3. Valeriia Kovach, Anna Iatsyshyn, Valentyna Kovalenko, Oleksandr Popov, Andrii Iatsyshyn and Volodymyr Artemchuk
Digital society demands to informational and analytical competence of scientist
4. Olha Ozerova, Petro Yanovsky, Petro Ovchar, Sergiy Lytvynenko, Irina Borets and Larysa Lytvynenko
Transport Flow Modeling for the Implementation of an Integrated Information-Intelligent Transport System of the City
5. Elena Tachinina, Alexander Lysenko, Stanislav Valuiskyi, Valery Novikov, Kateryna Nesterenko
The Model of Global Mobile Sensor Network for Environmental Monitoring
6. Volodymyr Saiko, Serhii Toliupa, Volodymyr Nakonechnyi, Bohdan Zhurakovskiy, Nataliia Tsopa, Yevhenii Batrak
Model of wireless system of terahertz range based on IR-UWB use
7. Roman Marusenko, Volodymyr Buriachok, Volodymyr Sokolov, Pavlo Skladannyi
Social Engineering Penetration Testing in Higher Education Institutions
8. Giorgi Labadze, Maksim Iavich, Giorgi Iashvili, Irakli Pirtskhalava, Dali Magraqvelidze
The idea of decreasing the signature size in hash-based digital signatures
9. Serhiy Dorozhynskyy, Tatiana Okhrimenko
Research of features of integrating quantum technologies into activities of leading cellular operators in Europe

Session 5

SECURE INFORMATION AND COMMUNICATION TECHNOLOGIES OF GLOBAL SOCIAL SPACE

November 30, 2020, time: 13:00, <https://meet.google.com/mvu-nqfg-ngm>

Chair: Olena Kovtun

1. Nata Bibiluri, Gia Surguladze and Giorgi Tsaava
Global processes of economy`s sustainable development, information society, systems and technologies.
2. Angelika Kokarieva, Lesia Khomenko-Semenova, Oleksandra Alpatova, Viktor Gnatyuk
The virtual learning space as a basis for the formation of new cultural virtual communication
3. Elvira Luzik, Nataliia Ladohubets, Nataliia Demchenko and Nataliia Proskurka
Communication Processes in Modern Educational and Information Environment of Technical University
4. Nataliia Glushanytsia, Tetyana Tarnavska
Communication in aviation maintenance environment: model of foreign language communicative competence
5. Olena Kotykova, Maryna Radchenko, Liudmyla Halii and Tetiana Petrenko
Role Competence as a Background for Effective Communication of Students Majoring in Social Work
6. Olena Kovtun, Tetiana Harmash, Nataliia Khaidari and Tetiana Orel
Ecolinguistic characteristics of virtual communication (based on the corporate websites)
7. Alla Sitko, Iryna Struk, Olha Lyntvar and Tetiana Semyhinivska
Translation Analysis of Errors in Cyberspace
8. Olena V. Cherniavska, Nadiia M. Shmygol, Yevhenii Y. Yelisieiev, Yeugeniia I. Shmygol and Alexandra D. Cherniavska
Alternative network businesses and approaches of operative income prediction within Youtube channel case
9. Olena Chebanyuk, Vitalii Velychko, Olexander Palahin
Conceptual Basics of Semantic Comparison Texts in Social Networks
10. Nataliia Kraus, Nataliia Andrusiak and Kateryna Kraus
Cyber security of business entities in the conditions of digitalization of the economy