







Agenda
CYBERWARFARE: INTELLIGENCE, DEFENSE
AND OFFENSIVE SECURITY
 23 April 2024

№	Time	Topic	Author	Photo
Introduction words of Heads of Academics				
Moderator - DSc, SRF Vladyslav Chevardin (Ukraine)				
1	9.15 - 9.20	Introduction words	Hryhorii RADZIVILOV Candidate of Technical Sciences, Associate Professor. Deputy Commandant of the Kruty Heroes Military Institute of telecommunications and information technologies. (Ukraine)	
2	9.20 - 9.30	Introduction words	Serhiy PROKOPENKO Head of the NCCC Support Service of the NSDC Staff. (Ukraine)	
3	9.30 - 9.40	Introduction words	Dmitrii STOLIAROV CybExer Technologies - senior cyber security expert. (Estonia)	
4	9.40 - 9.50	Introduction words	Ranie E. TOMTER Commandant Norwegian Defence Cyber Academy. (Norway)	

Panel 1. CRYPTOGRAPHIC CYBERSECURITY SOLUTIONS

Moderator - DSc, SRF Vladyslav Chevardin (Ukraine)

Methodological basis (principles, approaches, models, methods, methodologies) of technologies and the means of ensuring cybersecurity based on cryptographic information transformation: modern symmetric and asymmetric cryptosystems; modern crypto protocols; virtual private networks; authentication based on identification certificates; public key infrastructure; cryptanalysis; post-quantum cryptosystems; blockchain.

5	09.50 - 09.55	Introduction words about panels.	Vladyslav CHEVARDIN DSc, senior research officer. Head of Cybersecurity department of the Kruty Heroes Military Institute of telecommunications and information technologies. (Ukraine)	
6	09.55 - 10.10	Statistical criteria of random variables independence checking and its application in cryptology.	Ludmyla KOVALCHUK DSc, professor. National Technical University of Ukraine “Kyiv Polytechnic Institute”. (Ukraine)	
7	10.10 - 10.20	Frontrunning attacks detailed overview and calculation of success probability.	Ludmyla KOVALCHUK DSc, professor. National Technical University of Ukraine “Kyiv Polytechnic Institute”. (Ukraine)	
8	10.20 - 10.35	Harnessing the Power of GPT for Natural and Undetectable Linguistic Steganography	Oleksander KUZNETSOV DSc, professor. V. N. Karazin Kharkiv National University Department of Information Systems and Technologies Security. (Ukraine)	
9	10.35 - 10.45	Construction of a differential failure attack on the modified Qalqan cipher.	Serhii YAKOVLIEV PhD, assistant professor. National Technical University of Ukraine “Kyiv Polytechnic Institute”. (Ukraine)	

10	10.45 - 10.55	Probability of double spend attack on a proof-of-stake-based blockchain with checkpoints.	Andrii KOLOMIETS Post-graduate student. National Technical University of Ukraine "Kyiv Polytechnic Institute". (Ukraine)	
11	10.55 - 11.05	DNA – a source of noise and non-physical random sequences. Main statements of practical research.	Yaroslav DEREVIANKO Researcher-consultant. V. N. Karazin Kharkiv National University. (Ukraine)	
12	11.05 - 11.15	Investigating the impact of a floating point on the security of the Falcon electronic signature algorithm.	Serhii KANDII Researcher-consultant. V. N. Karazin Kharkiv National University. (Ukraine)	
13	11.15 - 11.25	Analysis of the cybercriminal's personality.	Yelyzaveta LOHACHOVA Student. V. N. Karazin Kharkiv National University. (Ukraine)	
14	11.25 - 11.35	Methods and tools for comparing the properties of random sequences and random numbers.	Dmytro HORBENKO Student. V. N. Karazin Kharkiv National University. (Ukraine)	
15	11.35 - 11.45	Noise source models for generating random sequences based on PTRNG and NPTRNG.	Yelyzaveta OSTRIANSKA Researcher-consultant. V. N. Karazin Kharkiv National University. (Ukraine)	

16	11.45 - 11.55	Data authentication method based on transformations resistant to quantum cryptanalysis	Ivan LAVRYK Post-graduate student. Kruty Heroes Military Institute of telecommunications and information technologies. (Ukraine)	
Panel 2. INTELLIGENT ANALYSIS OF INCIDENTS AND SIGNAL STRUCTURES IN CYBERSPACE				
Moderator – PhD, Associate professor Voscolovych Oleksii (Ukraine)				
Methodological basis (principles, approaches, models, methods, methodologies) of data mining in memory content, file control system objects, network traffic registration arrays, event messages, laws and signal structures of the electromagnetic spectrum for detecting cyber incidents (cyber attacks).				
17	11.55 - 12.00	Introduction words about panels.	Oleksii VOSKALOVYCH PhD, assistant professor. Kruty Heroes Military Institute of telecommunications and information technologies. (Ukraine)	
18	12.00 - 12.25	Development and optimization of responding to cyber attacks methods in the modern warfare conditions.	Oleksandr KULAKOVSKIY Cyber Security Solution Architector in OpenText.	
19	12.25 - 12.40	Multi-sensor platform based intelligent UAV systems for demining: safety and security issues.	Vyacheslav KHARCHENKO DSc, professor. National Aerospace University KhAI, Department of Computer Systems, Networks and Cybersecurity. (Ukraine)	
20	12.40 - 12.55	Synthesis of Convolutional Neural Network Architecture with Extreme Machine Learning Algorithm for Computer Vision Problems.	Oleksii FESENKO PhD. Kruty Heroes Military Institute of telecommunications and information technologies. (Ukraine)	

21	12.55 - 13.10	Cyber intelligence in the electromagnetic spectrum.	Kyrylo Oleksii SILKO PhD, assistant professor. Krutyy Heroes Military Institute of telecommunications and information technologies. (Ukraine)	CHYKRIY, 
22	13.10 - 13.25	Electromagnetic method for detecting moving conductive bodies at low altitudes	Igor BUCHMA DSc, Professor of the Department of Computerized Control Systems. Lviv Polytechnic National University. (Ukraine)	
	13.25 - 13.40	AI-based cryptographic security systems.	Sergiy GNATYUK DSc, professor. Dean of the Faculty of Computer Science and Technology, National Aviation University. (Ukraine)	
	13.40 - 13.55	Resilience in interconnected networks	Igor LINKOV Ph.D, professor. United States Engineer Research and Development Center. (USA)	


Panel 3. DECISION SUPPORT FOR CYBER DEFENSE

Moderator - Dmitrii Stoliarov (Estonia)

Methodological basis (principles, approaches, models, methods, methodologies) of support for engineering and technical decisions of cyber defense measures: threat analysis; infrastructure vulnerability analysis and software tools for its assessment; possible cyber attacks modeling with analysis and assessment of their consequences; risk analysis; planning and evaluating the effectiveness of measures; differentiation of access to information; network screening; user authentication; event logging; synthesis of the components structure of systems and tools for detecting cyber incidents (cyber attacks); information backup storage; ensuring the reliability and reservation of tools; load balancing; response to cyber incidents (cyber attacks); information recovery; cyber defense object functioning restoring; cyber incidents (cyber attacks) investigation; penetration testing; SOC organizational ergonomics.

23	13.55 - 14.05	Introduction words about panels.	Dmitrii STOLIAROV CybExer Technologies - senior cyber security expert. (Estonia)	
24	14.05 - 14.20	Security and resilience of critical infrastructure.	Roman PROSKUROVSKY Ph.D., assistant professor. Head of the Department of Critical Infrastructure Protection National Bank of Ukraine. (Ukraine)	
25	14.10 - 14.25	Using Cyber Threat Intelligence during preparation of Red Team assessments.	Dimitar NIKOLOV Ph.D., assistant professor. Assistant Professor of Nikola Vaptsarov Naval Academy IT Department. (Republic of Bulgaria)	
26	14.25 - 14.40	Programmable logic devices as a way to increase the cyber resistance of technological systems from hardware bookmark.	Serhii SHTANENKO Ph.D, assistant professor. Associate Professor of Telecommunications Systems and Networks Department. Kruty Heroes Military Institute of telecommunications and information technologies. (Ukraine)	
27	14.40 - 14.55	Techniques and approaches to organize cyber competitions based on modern cyber ranges.	Vladyslav CHEVARDIN DSc, senior researcher. Head of the Cybersecurity department. Kruty Heroes Military Institute of telecommunications and information technologies. (Ukraine)	

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28	14.55 - 15.05	Final words	Hryhorii RADZIVILOV Candidate of Technical Sciences, Associate Professor. Deputy Commandant of the Kruty Heroes Military Institute of telecommunications and information technologies. (Ukraine)	
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