NGSec 2022: International Conference on Next Generation Cybersecurity Systems and Applications

26-27 April 2023, National aviation university

Conference Organizers

National Aviation University, Kyiv, Ukraine
Kharkiv National University of Radio Electronics, Kharkiv, Ukraine
V.N. Karazin Kharkiv National University, Kharkiv, Ukraine

List of Committee Members

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- **Oleksandr Potii**, Deputy Chairman of the State Service of Special Communications and Information Protection of Ukraine

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- **Roman Oliynykov**, V.N. Karazin Kharkiv National University, Kharkiv, Ukraine

CONFERENCE PROGRAM

Conference opening and session

April 26, 2023, time: 10:00, https://meet.google.com/tbn-hkkm-ucr

Moderators: Roman Odarchenko, Dmytro Ageyev

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1. Welcome speech from Oleksii Shkuratov, Vice rector of National aviation university

2. Welcome words from co-chairs:

- Sergiy Gnatyuk, National Aviation University, Kyiv, Ukraine
- Tamara Radivilova, Kharkiv National University of Radio Electronics, Kharkiv, Ukraine
- Alexandr Kuznetsov, V.N. Karazin Kharkiv National University, Kharkiv, Ukraine

3. Keynote speech:

1. Maksim Iavich
   Perspectives of post-quantum cryptography

Regular session 1

April 26, 2023, time: 11:00, https://meet.google.com/tbn-hkkm-ucr

Moderator: Alexandr Kuznetsov

1. Alexandr Kuznetsov, Nikolay Poluyanenko, Emanuele Frontoni, Serhii Kandii and Yelyzaveta Kuznetsova
   Generation of S-boxes with Dynamically Varying Cost Function Parameters

2. Anatoly Beletsky
   Generalized Gray's Transformations and Discrete Vilenkin-Crestenson Functions Systems

3. Hanna Martyniuk and Andrew Okhrimenko
   Analysis of Methods for Assessing the Quality of Pink Noise Generators

4. Alexandr Kuznetsov, Nikolay Poluyanenko, Emanuele Frontoni, Serhii Kandii and Mykhailo Kononenko
   Genetic Algorithms for Generating Substitution Boxes

5. Alexandr Kuznetsov, Emanuele Frontoni and Kateryna Kuznetsova
   Harnessing NFT Technology for Secure and Transparent Digital Register Tokenization

6. Alexandr Kuznetsov, Emanuele Frontoni, Kyrylo Chernov, Oleksii Smirnov and Dmytro Prokopovich-Tkachenko
   Evaluating the Robustness of Spread Spectrum Image Steganography against AI Detection

Regular session 2

Critical information infrastructure, networks and applications security

April 26, 2023, time: 11:00, https://meet.google.com/rac-fsxq-aox

Moderator: Sergiy Gnatyuk

1. Yuri Samokhvalov, Mykola Brailovskyi and Bohdan Zhuravel
Methodological approach to the assessment of the information security of the organization according to the criterion of confidence

2. Mykhailo Honcharov and Andrii Yefimenko
The study of the possibilities of using SOC based on free and open source software

3. Dmytro Palko, Tetiana Babenko, Hnatiienko Hryhorii, Larysa Myrutenko and Andrii Bigdan
Intelligent risk assessment models in distributed systems based on the neural network approach

4. Kateryna Mokliakova, Tetiana Babenko and Dmytro Palko
Cybersecurity level assessment models

5. Sergiy Gnatyuk, Vasyl Kinzeryavyy, Yuliia Polishchuk, Dauriya Zhaksigulova and Bohdan Horbakha
Data security and privacy ensuring in the transmission process by radio channel from UAV to ground station

6. Yurii Voloshyn, Roman Maksymovych, Iryna Les and Olga Streltsova
Ensuring Nuclear Safety in the Context of the Russian-Ukrainian War: International Legal and National Aspects

7. Roman Odarchenko, Maksim Iavich, Giorgi Iashvili, Avtandil Gagnidze and Sergiy Gnatyuk
Formation of main requirements and network slice templates for deploying a secure 5G network in Georgia

CONFERENCE CLOSING

April 27, 2023, time: 10:00, https://meet.google.com/kte-fgdz-oyw

Moderator: Roman Odarchenko

CONFERENCE ORGANIZERS

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