Proposals for cooperation
of Computer and Information Technology department of NTU «KhPI»
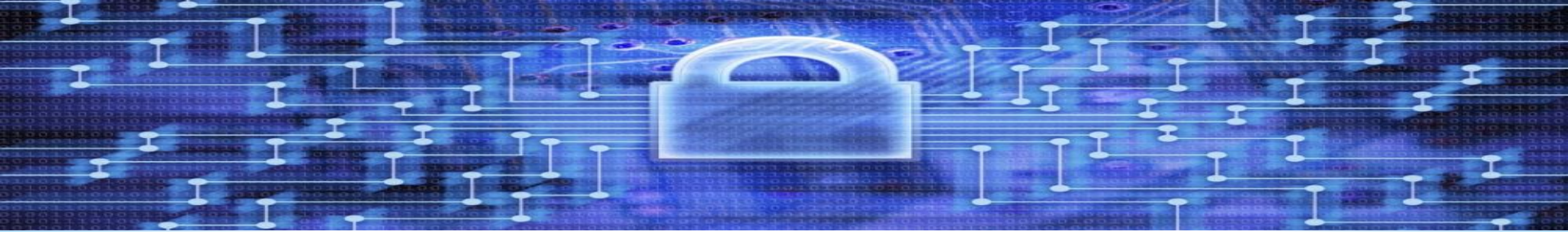
Department of "Computer Engineering and Programming"

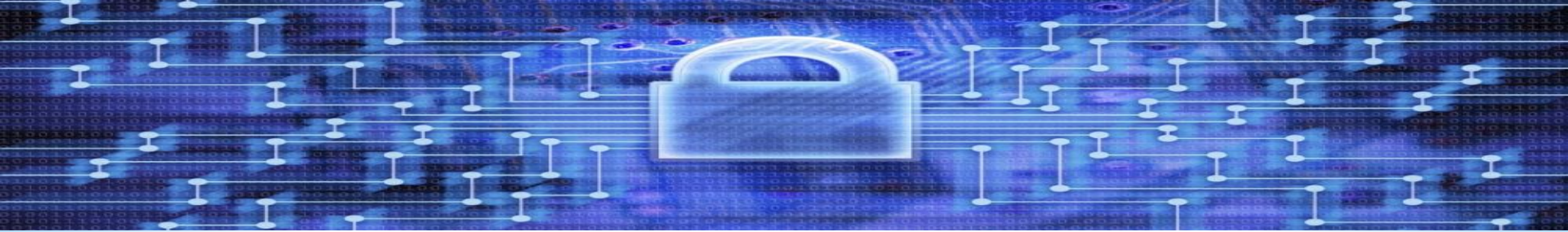**Head of the department:** Dr. Semenov Serhii G.

Specialty: "Computer Engineering"

Subjects of research: "Information security in computer systems"

PROJECT

Scientific research project "Technologies of statistical data in the computer systems of general and special purpose"

Design **Methods and means of access and distribution of data protection emergency computerized information control system**

The method for estimation of security level of ECICS, that differs from the known ones with considering the peculiarities of structural and functional layout of the system.

The network method for research of the ECICS parameters on the base of the multilayer GERT-network, allowing to take into account multilevel structural and functional layout of ECICS.

The method for the structural identification of the ECICS state, taking into account the statistical dependencies in the changes of the system under external influences.

The complex for adaptive control of the ECICS that uses an intelligent approach to the detection of security breaches on the set of the ECICS parameters.

The method of increasing secrecy in the transmission of binary signals in the mobile communications segment of the ECICS, taking into account the peculiarities of information hiding in the signal that is a chaotic sequence.

The method for optimal tuning parameters for the access distribution in the ECICS that differs from the well-known ones with considering the major indices of the administration in modern operating systems.

PUBLICATION

1. Semenov S, Dorokhov O., Grynov D. The Concept Definition of Mathematical Modelling of the Secured Information-Telecommunication System with Regard to Conditions of the Posterior Uncertainty / Transport and Telecommunication. Riga. Volume 14, Issue 2, Pages 167–174, ISSN (Online) 1407-6179, ISSN (Print) 1407-6160, DOI: 10.2478/ttj-2013-0014, April 2013

2. Semenov S., Gavrylenko S. Formation and study of heuristics in antivirus analyzers using the Mamdani algorithm / Journal of Qafqaz university-mathematics and computer science 2015, Vol.(3), № 2 Pages 133-139

3. Semenov S., Gavrylenko S., Chelak V. Developing parametrical criterion for registering abnormal behavior in computer and telecommunication systems on the basis of economic tests / Actual Problems of Economics. Scientific economic journal. №4(178) 2016. Pages 451-459

INTRUSION DETECTION SYSTEM IN COMPUTERS

Purpose. Computer security in the conditions of external influences.

Result. The method of distribution of access and data protection.

Technical indicators: Accuracy of detection of external influences on the system, more than 70%.

Scientific novelty: It differs from the known use of complex statistical and intellectual methods analysis a computer's state

Practical significance: It is possible to develop algorithms, software and information security protocols.