GENERAL INFORMATION

SYSTEMS WITH ARTIFICIAL INTELLIGENCE

TELECOMMUNICATION SYSTEMS AND NETWORKS

RESEARCH TOPICS

OUR PROJECTS

OUR PUBLICATIONS

PROPOSAL FOR JOINT RESEARCH

GENERAL INFORMATION

Information Systems Department was founded in 1993 and provides teaching in the field of
"Systems with Artificial Intelligence" and
"Telecommunication systems and networks"

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BACK

SYSTEMS WITH ARTIFICIAL INTELLIGENCE

Bachelor 122 **"Computer Science and Information Technologies"**

Master 122-04 **" Systems with Artificial Intelligence"**

PhD 05.13.06 **"Information Technologies"**

Core courses:
System analysis; Theory and design of algorithms;
Algorithmic languages and object-oriented programming;
Organization of data- and knowledge bases;
Architecture of computer systems and networks;
Data mining; Design of systems with artificial intelligence;
System programming and operating systems;
Fundamentals of automated design of complex objects and systems; Methods of data protection; Decision making theory;
Technologies of distributed systems and parallel computing;
Neural Methods of Computational Intelligence;
Multiagent Systems and Technologies;
Web technologies and Web design.

BACK

TELECOMMUNICATION SYSTEMS AND NETWORKS

Bachelor 172   ''Telecommunications and Radioelectronics''

Master 172-01   ''Telecommunication Systems and Networks''

PhD 05.12.02   ''Telecommunication Systems and Networks''

Core courses:

Digital signal processing; Mobile communication systems;
Software for mobile communication systems;
Theoretical basis of communication;
Information security in telecommunication systems;
Fundamentals of postal services;
Fundamentals of receiving- transmitting devices;
Information technologies for processing of text, graphics,
audio, video; Transmission lines;
Computer circuitry; Computer systems and networks;
Telecommunication and information networks; Systems of
radio and television broadcasting.

BACK

RESEARCH TOPICS

Cognitive Infocommunication Systems and Technologies:

Mathematical modeling and optimization in computer and telecommunication systems and networks.

Studies of electromagnetic compatibility and stability of telecommunication systems in terms of powerful impulse noise.

Optimization and adaptation of information in distributed systems and networks.

Technologies and methods of processing information in connection with moving objects.

Systems with artificial intelligence in infocommunications.

Cognitive radio systems and technologies.

BACK

OUR PROJECTS

GameHub:

University-Enterprises Cooperation in Came Industry in Ukraine (561728-EPP-1-2015-1-ES-EPPKA2-CBHE-JP Erasmus+, 2015-2017).

State Budget Topics:

№ ДР 0110U001250 - Development of information processing theory and identification of objects in a global information network of surveillance systems (*from 2009 to 2011*)

№ ДР 0115U000611 - Early warning system for thunderstorm danger (*from 2015to 2017*)

BACK

OUR PUBLICATIONS

❖Serkov A. Prototype of the Management Module for Cognitive Self-Organszsng Base Stations Network [Text] / I.Obod, S.Nikitin // Nauka I Studia. – Pzemysl: Nauka I Studia, 2015. - № 16(147). – P 74 – 79.

❖ Nikitin S. Adaptive optimization of information transmission speed in the space-dedicated channels of wireless telecommunications networks [Text] / S.O.Nikitin // Information Systems Department: Coll. Science. papers / Ed. prof. V.A.Kravets And Prof. O.A.Serkov- H., 2013. - pp. 239 - 244.

❖Serkov AA The hybrid model of cognitive control module of self-organizing networking base stations [Text] / I.I.Obod, SA Nikitin // Scientific statements BSU. Series: History. Political science. Economy. Computer science. - 2013. - № 15 (158). Vol. 27/1. - S. 228 - 232.

❖SerkovO.A. Method for improving the efficiency of radio frequency band for networks IEEE 802.22 WRAN. [Text] / S.O.Nikitin, L.O.Nikitina // Vestnik NTU "KPI" Coll. Science. works. Topics. no. "Engineering and Electrophysics of high voltages." - H .: NTU "KPI". - 2011 - number 49 - P. 139-145.

❖Breslavets V.S. Methods for increasing performance of radio-access networks / S.O.Nikitin // Information processing systems: Coll. Science. pr. - H .: HVU, 2016 - Vol. 2 (139). - C. - 89-91.

OUR PUBLICATIONS

❖**Certificate of Ukraine no. 24621, 31.05.2008, on the registration of copyright. The computer program for interactive analysis of the experimental data and generating reports / O.A.Serkov, S.O.Nikitin, V.O.Kravets, L.O.Nikitina.**

❖**Patent of Ukraine for utility model no. 70174, IPC (2012.01) H04L 12/00. The method of information transfer / I.I.Obod, L.O.Nikitina, S.O.Nikitin, IV - № u 2011 14690; appl. 12.12.2011; publ. 25.05.2012, Bull. Number 10.**

❖ **Patent of Ukraine for utility model number 70955, IPC (2012.01) H04L 12/00. The method of information transfer [Text] / I.I.Obod, L.O.Nikitina, S.O.Nikitin, IV - № u 2012 00074; appl. 03.01.2012; publ. 25.06.2012, Bull. Number 12.**

❖**Serkov A. Thunderstorm Hazards Early Warning System / A. Serkov, S. Nikitin, V. KravchenkoV.Knyazev// Second International Scientific-Practical Conference "Problems of Infocommunications. Science and Technology" (IEEE PIC S&T' 2015, October 13-15 2015) Kharkiv, Ukraine. –C. 137-138.**
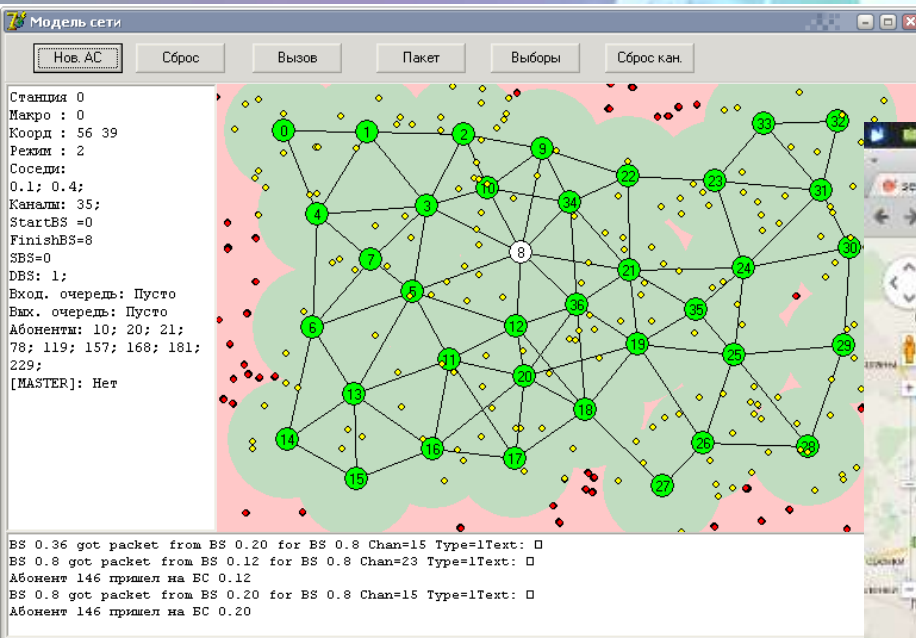
BACK

PROPOSAL FOR JOINT RESEARCH
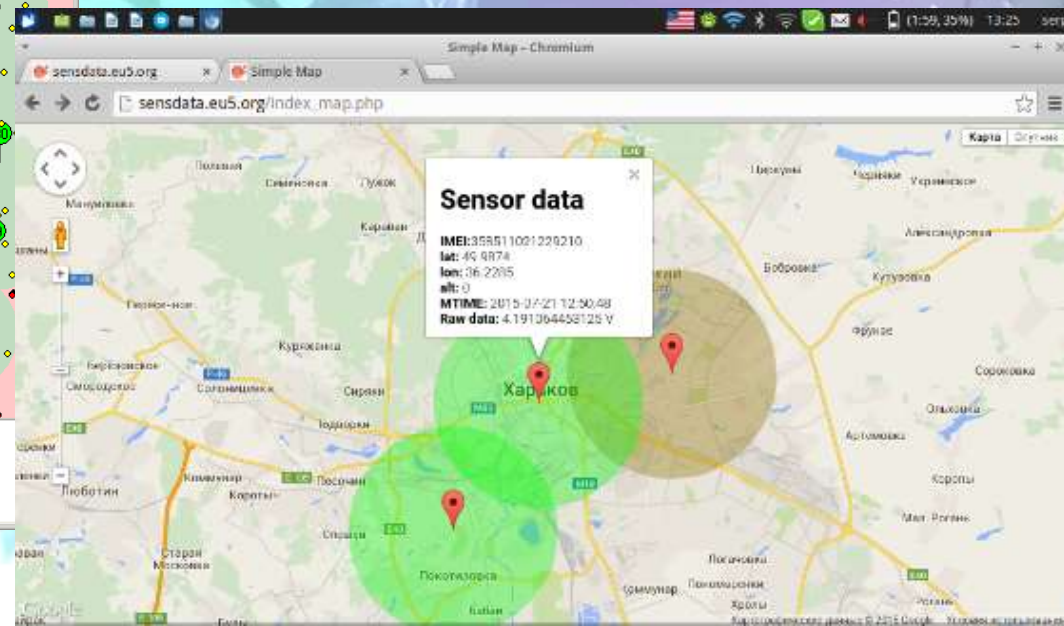
Project 1 –

"*Development of cognitive techniques for infocommunicational systems for collecting and processing of distributed data*"
Allowes the development of models and methods to improve the quality and reliability distributed information collected in real time.

Application of model for simulatin of networking BS

Application of system for collecting and processing distributed data
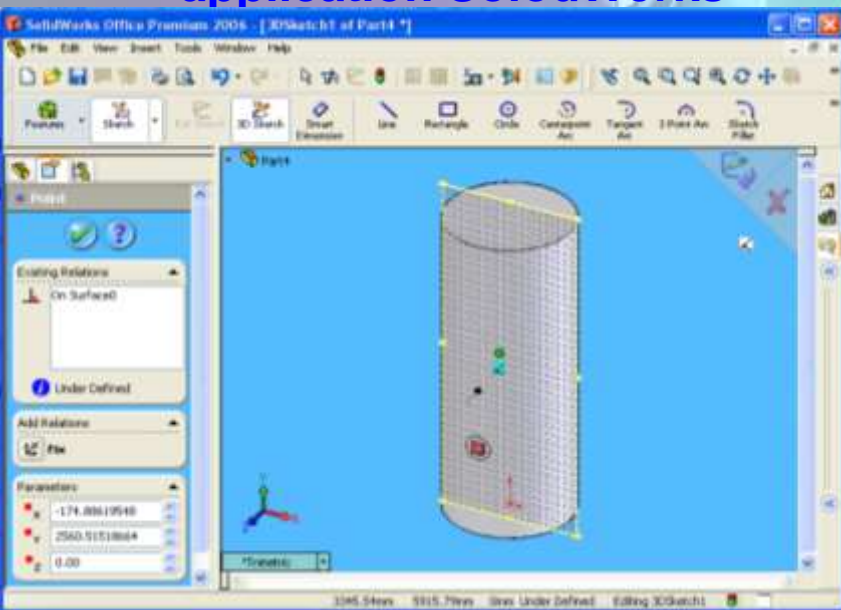

BACK

Proposal for joint research

Project 2 –
**"*Development of methods for assessing the survivability of technical systems in the early stages of design "*
Allows to calculate and visualize the structure of the penetration of the electromagnetic field inside the screen with the account of electrical inhomogeneities.**

Model of a construction in the application SolodWorks

Visualization of components of electromagnetic radiation at the selected point
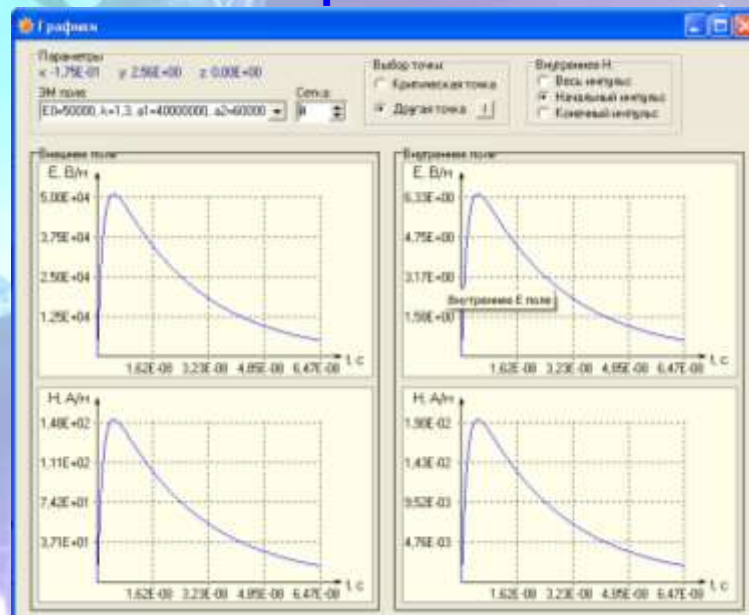
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**Welcome to study
at the Information Systems Department!**

Welcome to cooperate!