

Institute of Radio and Information Systems (IRIS)
Institute of Electrical and Electronics Engineers (IEEE)
Media Publisher Ltd

International Scientific Conference

**«2025 SYSTEMS OF SIGNALS GENERATING
AND PROCESSING IN THE FIELD
OF ON BOARD COMMUNICATIONS»**

(IEEE Conference # 64229)

12-14 March 2025

CONFERENCE PROGRAM

**Moscow
2025**

CONFERENCE ORGANIZERS

INSTITUTE OF RADIO AND INFORMATION SYSTEMS (IRIS)
INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE)
MEDIA PUBLISHER LTD

CONFERENCE SECTIONS *

1. Antennas and Radio Waves Propagation.
2. Navigation and Mathematical Algorithms of an Object Space Orientation.
3. Radiofrequency Applications.
4. Wire and Optical Communication and Control Systems.
5. Intelligent Transport Systems
6. Digital signal processing in on-board radio systems
7. Electrical and electronic engineering pedagogy

* The reports in the program inside the sections are listed in alphabetical order by the name of the first author. By agreement with the chairman of the section, the order of reports may be changed
(Доклады в программе внутри секций перечислены в алфавитном порядке по фамилии первого автора. По согласованию с председателем секции порядок следования докладов может быть изменен).

CONFERENCE SCHEDULE

CONGRESS CENTER AVIA-PLAZA
Moscow, Aviamotornaya st., 10, bldg. 2, 4th floor

12 March 2025 (Wednesday)

- 10-30 — 11-00** Registration of participants (*регистрация участников*) **Congress Center Hall**
- 11-00 — 13-00** Plenary session (*пленарное заседание*) **Conference Hall**
- 13-00 — 17-30** Conference section 1-3 (*работа секций 1-3*) **Room No. 4**
- 13-00 — 18-00** Conference section 4 (*работа секции 4*) **Room No. 1**
- 13-00 — 18-00** Conference section 5 (*работа секции 5*) **Rooms No. 2**
- 13-00 — 18-00** Conference section 6 (*работа секции 6*) **Rooms No. 3**
- 13-00 — 17-30** Conference section 7 (*работа секции 7*) **Conference Hall**

13 March 2025 (Thursday)

11-00 — 16-00 Workshops (*Antennas and Radio Waves Propagation, Navigation and Mathematical Algorithms of an Object Space Orientation, Radiofrequency Applications*)

14 March 2025 (Friday)

11-00 — 16-00 Workshops (*Intelligent Transport Systems, Digital signal processing in on-board radio systems, Electrical and electronic engineering pedagogy*)

Moscow, Aviamotornaya st., 10, bldg. 2, 4th floor
March 12, 2025 (Wednesday)
11-00 – 13-00

PLENARY SESSION

11-00 – 11-10

WELCOMING REMARKS

Sergey D. Erokhin

Rector, Moscow Technical University of Communications and Informatics, Moscow, Russia

11-10 – 11-40

Report «SURVEY OF LLMS AND AI AGENTS IN V2X: SIMULATION, ANALYSIS & ARCHITECTURES»

Sriram Panyam

IEEE Senior Member, Cloud Computing, Data Engineering, AI Platforms, Sunnyvale, United States

Gunjan Paliwal

IEEE Senior Member, Product Marketing & Development, Seattle, United States

Anujkumarsinh Donvir

IEEE Senior Member, Application Development, Wayne, NJ, United States

Praveen Gujar

IEEE Senior Member, Enterprise Data Products in Digital Advertising, Saratoga, United States

11-40 – 12-00

Report «MATHEMATICAL MODELING FOR INTELLIGENT TRANSPORT SYSTEMS DESIGN AND ADMINISTRATION»

Galina G. Lazareva

Corresponding Member of the Russian Academy of Sciences, Professor of the Russian Academy of Sciences, Doctor of Physical and Mathematical Sciences, Moscow, Russia

12-00 – 12-20

Report «INFLUENCE OF PRIMARY AND SECONDARY PATH ESTIMATION ACCURACY ON ACTIVE NOISE CONTROL PERFORMANCE»

Victor I. Djigan

IEEE Senior Member, Doctor of Technical Sciences, Professor, Institute of Microdevices and Control Systems, National Research University of Electronic Technology, Moscow, Russia

12-20 – 12-40

**Report «ANALYSIS OF THE EARTH'S IONOSPHERE INFLUENCE
ON THE PARAMETERS OF HIGH-FREQUENCY RADIO SIGNALS
USING THE BICHARACTERISTICS METHOD»**

Dmitry V. Rastyagaev

*Vice-Rector for Information Technology, Candidate of Physical and Mathematical Sciences,
Associate Professor, Institute of Information System and Engineer – Computer Technology,
Russian New University, Moscow, Russia*

*co-authors: Andrew S. Kryukovsky, Institute of Information System and Engineer – Computer
Technology, Russian New University, Moscow, Russia; Boris G. Kutuza, Kotelnikov Institute
of Radioengineering and Electronics, Moscow, Russia*

12-40 – 12-50

Information message

Svetlana S. Dymkova

Chair of Russia Section TEM/GRS/ITSS Joint Chapter

*Publication program coordinator of conference «Systems of signals generating and processing
in the field of on board communications», Member, IEEE, Ph.D., CEO of Media Publisher LLC*

12-55 – 13-00

«PHOTO SESSION OF PARTICIPANTS»

March 12, 2025 (Wednesday)
13-00 – 17-30

SECTION 1-3
Antennas and Radio Waves Propagation.
Navigation and Mathematical Algorithms of an Object Space Orientation
Radiofrequency Applications

SECTION CHAIRMENS: **Vadim A. Kaloshin**, *Doctor of Physical and Mathematical Sciences, IEEE Region 8, Chair of AP Moscow Chapter, Vice-chair of MTT/ED/AES Moscow Chapter, Senior Member, IEEE*

Andrey S. Kryukovsky, *Doctor of Physical and Mathematical Sciences (radiophysics), professor, USSR State Prize laureate, Head of Department, Russian New University*
Leading Researcher at IRE RAS

Oleg V. Varlamov, *Doctor of Sciences (Engineering), IEEE Region 8, Chair of Russia Section CAS Chapter, Professor of Moscow Technical University of Communications and Informatics, Senior Member, IEEE*

SECTION 1
Antennas and Radio Waves Propagation

1. A. A. Frolov, A. V. Lobzov, P. A. Titovets, L. N. Isaeva
Moscow Technical University of Communications and Informatics, Moscow, Russia

THEORETICAL CALCULATION OF PROTECTIVE SCREEN
FOR BASE STATIONS OF CELLULAR COMMUNICATION SYSTEMS

2. A. F. Kryachko, A. I. Tyurina
State University of Aerospace Instrumentation, St. Petersburg, Russia

DIFFRACTION OF A NONHARMONIC SIGNAL ON A SPATIALLY PERIODIC
STRUCTURE OF A SAWTOOTH PROFILE

3. A. Yu. Perlov (Member, IEEE), A. V. Timoshenko (Member, IEEE)
Moscow Institute of Electronic Technology, Moscow, Russia

S. N. Marfin
JSC «Scientific and production association of Long-range radar», Moscow, Russia
A. S. Zakharov, MIREA – Russian Technological University, Moscow, Russia
MODEL OF COMPENSATION FOR THE INFLUENCE OF NON-IDENTICALITY
OF PHASE DISTRIBUTION OF THE ACTIVE PHASED ANTENNA ARRAY
ON RADAR ACCURACY CHARACTERISTICS

4. Aleksey Rybakov, Grigoriy Fokin

*The Bonch-Bruевич Saint Petersburg State University of Telecommunications,
Saint Petersburg, Russia*

**IMPROVING THE EFFICIENCY OF ADAPTIVE OPERATION
OF THE DECAMETER COMMUNICATION LINE**

5. Nikita Sheremet, Grigory Fokin, Dmitry Volgushev

*The Bonch-Bruевич Saint Petersburg State University of Telecommunications,
Saint Petersburg, Russia*

Vladimir Grigoriev

*Limited Liability Company "Laboratory of Infocommunication Networks",
Saint Petersburg, Russia*

**SOFTWARE DEFINED RADIO FOUR-ELEMENT ANTENNA ARRAY DESIGN
WITH NANOSECOND SYNCHRONISATION**

SECTION 2

Navigation and Mathematical Algorithms of an Object Space Orientation

1. Andrei G. Erokhin, Margarita F. Vanina

Moscow Technical University of Communications and Informatics, Moscow, Russia

**JAGERMAN APPROXIMATION OF ERLANG PROCESSES IN ON-BOARD
COMPUTING SYSTEMS MODELS**

2. Timur Fatkhulin, Yuri Leokhin, Alexey Zanegin, Aziza Rakhmatova

Moscow Technical University of Communications and Informatics, Moscow, Russia

**DEVELOPMENT AND RESEARCH OF A MODIFIED GRADIENT BOOSTING
METHOD EFFECTIVENESS TO SOLVE APPLIED PROBLEMS
OF TIME-SERIES FORECASTING**

3. Evgeny Glushankov, Andrey Khrenov, Zakhar Kondrashov

State University of Telecommunications, Saint-Petersburg, Russia

**INFLUENCE OF ENERGY EFFICIENCY ON LOCATION ACCURACY
IN SYSTEMS USING SPATIO-TEMPORAL SIGNAL PROCESSING**

4. V. A. Smolnikov, Nawar Faesal Mohammad, L. I. Voronova

Moscow Technical University of Communications and Informatics, Moscow, Russia

**MOTION PLANNING OF THE INDUSTRIAL MANIPULATOR
IN THE TARGET SPACE**

5. S.V. Sokolov, I.V. Reshetnikova

Don State Technical University, Rostov-on-Don, Russia

S. A. Shvidchenko, E. V. Vavilova

Moscow Technical University of Communications and Informatics, Moscow, Russia

**EFFECTIVE ESTIMATION OF MOTION PARAMETERS OF MOBILE
ROBOTIC COMPLEXES BASED ON INFORMATION PROCESSING
OF TECHNICAL VISION SYSTEMS**

6. Lilia I. Voronova, Nawar Faesal Mohammad, Victor A. Smolnikov, Vyacheslav I. Voronov
Moscow Technical University of Communications and Informatics, Moscow, Russia
**COMPARATIVE ANALYSIS OF KINEMATIC MODEL PREDICTIONS
AND REAL DATA FOR 6-DOF ROBOT KUKA KR4 R600**

7. A. G. Zhilichkin, D. V. Nikerov, D. V. Grishin, N. V. Pokusin, A. P. Zhuravlev
Moscow Technical University of Communications and Informatics, Moscow, Russia
**A STUDY OF CLOSED-FORM AND ITERATIVE METHODS FOR SOLVING
MULTILATERATION PROBLEM**

SECTION 3.

Radiofrequency Applications

1. O. V. Arinin

Moscow Technical University of Communications and Informatics, Moscow, Russia

D. M. Bakhmach, A. I. Katsnelson, A. S. Kurbeteva, A. A. Yelizarov (*Senior member, IEEE*),
HSE University, Moscow, Russia

**METHOD OF AUTOMATED DATASET COLLECTION FOR MICROWAVE
FILTERS SYNTHESIS**

2. Anastasia V. Ermakova, Svetlana F. Gorgadze

Moscow Technical University of Communications and Informatics, Moscow, Russia

**METHOD FOR TRANSFORMING MATRIX CIRCULANTS OF MULTIPOSITION
LINEAR RECURRENCE SEQUENCES INTO MATRICES OF VILENKIN-
CRESTENSON FUNCTIONS**

3. Egor O. Melikhov, Elena P. Strojanova

Moscow Technical University of Communications and Informatics, Moscow, Russia

**BROADCAST CONTENT DISTRIBUTION IN 5G MOBILE NETWORKS
INTEGRATED WITH SATELLITES**

4. O. V. Varlamov (*Senior Member, IEEE*)

Moscow Technical University of Communications and Informatics, Moscow, Russia

**DOLBY SURROUND SOUND APPLICATIONS IN DRM DIGITAL RADIO
BROADCASTING**

March 12, 2025 (Wednesday)
13-00 – 18-00

SECTION 4
Wire and Optical Communication and Control Systems

SECTION CHAIRMAN: Sergey N. Stepanov, *Doctor of Sciences (Engineering), Professor*
Moscow Technical University of Communications
and Informatics, Moscow, Russia

1. Vladimir Babkin, Elena Stroganova

Moscow Technical University of Communications and Informatics, Moscow, Russia

MONITORING OF PACKET TELECOMMUNICATION NETWORKS

2. Elena V. Bulgakova, Alexander N Kubankov, Daniil S. Doynikov,
Pavel A. Vasilevskiy

Moscow Technical University of Communications and Informatics, Moscow, Russia

ANALYSIS OF EXPLAINABLE ARTIFICIAL INTELLIGENCE METHODS
IN SECURITY INFORMATION AND EVENT MANAGEMENT SYSTEMS

3. Tammam Z. Dawood, Mikhail S. Stepanov

Moscow Technical University of Communications and Informatics, Moscow, Russia

Artwell R. Muzata, Ghanshyam Singh

University of Johannesburg, Johannesburg, South Africa

Margarita G. Kanishcheva

Moscow Technical University of Communications and Informatics, Moscow, Russia

THE IMPACT OF HETEROGENEITY ON NETWORK RESOURCE
ALLOCATION PROCESS FOR MANAGING EDUCATION IN REAL TIME

4. I. M. Gostev

*Russian Scientific and Technical Society of Radio Engineering, Electronics and Communi-
cations named after A.S. Popov, Moscow, Russia*

S. V. Bolovtsov

*Russian Presidential Academy of National Economy and Public Administration (RANEPA),
Moscow, Russia*

ON THE PERFORMANCE OF SPECIALIZED DISTRIBUTED COMPUTING
SYSTEMS USING MULTIPLE PARALLEL TASK QUEUES

5. B. G. Ibrahimov (*Senior Member, IEEE*), **Z. A. Ismaylov** (*Senior Member, IEEE*)
Azerbaijan Technical University, Baku, Azerbaijan

QUALITIE OF COMMUNICATION FIBER-OPTIC TRANSMISSION SYSTEMS
USING WAVE MULTIPLEXING TECHNOLOGY

6. A. Yu. Insarov, *Intis Telecom, Kazan, Russia*

TO THE ISSUE OF SWITCHER SIMULATION WITH MULTISERVICE TRAFFIC IMPACT

7. Vladimir N. Korshunov, Nikolay I. Likhachev, Nadezhda A. Shishova

Moscow Technical University of Communications and Informatics, Moscow, Russia

Aleksei G. Koriakin, Nikita V. Kurilenko

MPEI, Moscow, Russia

SYSTEM ASPECTS OF MULTICHANNEL FIBER APPLICATIONS IN OPTICAL TRANSPORT NETWORKS

8. Yuri Leokhin, Timur Fatkhulin, Alexey Zanegin, Aziza Rakhmatova

Moscow Technical University of Communications and Informatics, Moscow, Russia

RESEARCHING THE EFFICIENCY OF MACHINE LEARNING METHODS USED IN FORECASTING DEMAND FOR CERTAIN TYPES OF GOODS

9. Ivan Malygin, Ilya Lukinukh, Elena Korotkova, Vitaliy Loginovskikh, Maxim Lyubin

Institute of Radioelectronics and Informational Technologies, Ural Federal University, Yekaterinburg, Russia

DESIGN AND STUDY OF PASSIVE OPTICAL LOGIC ELEMENT "AND" FOR APPLICATION IN PHOTONIC INTEGRATED CIRCUITS

10. Nawar F. Mohammad, Lilia I. Voronova, Vyacheslav I. Voronov

Moscow Technical University of Communications and Informatics, Moscow, Russia

PROTOCOL DEVELOPMENT FOR EFFICIENT DATA ROUTING IN A TERRESTRIAL WIRELESS SENSOR NETWORK

11. Victor Netes

Moscow Technical University of Communications and Informatics, Moscow, Russia

SETTING AND CHECKING AVAILABILITY REQUIREMENTS FOR COMMUNICATION NETWORKS AND SYSTEMS

12. Konstantin Yu. Novoderyozhkin, Konstantin S. Shvartsman

Moscow Technical University of Communications and Informatics, Moscow, Russia

Yuriy V. Nemtsov, *Russian University of Transport, Moscow, Russia*

Dmitry S. Stroev, *Russian State Social University, Moscow, Russia*

Margarita V. Morugova, *Russian Technological University MIREA, Moscow, Russia*

ANALYZING INTEGRATED SOLUTIONS FOR MONITORING AND MANAGEMENT OF INFOCOMMUNICATION NETWORKS AND IT ASSETS

13. M. Y. Orujova (*Senior Member, IEEE*), **S.R. Ismaylova** (*Senior Member, IEEE*)

B. G. Ibrahimov (*Senior Member, IEEE*)

Azerbaijan Technical University, Baku, Azerbaijan

RESEARCH INFORMATION SECURITY SYSTEM IN EVENT-BASED SECURITY AND RELIABILITY MANAGEMENT

14. Valentin G. Popov, Mikhail S. Stepanov, Sergey S. Stepanov, Victoria I. Korotkova
Moscow Technical University of Communications and Informatics, Moscow, Russia

Do Xuan Thu

University of Transport Technology, Hanoi, Vietnam

**CONSTRUCTION AND ANALYSIS OF A MODEL FOR SERVICING VOICE
REQUESTS AND FILES IN MODERN CONTACT CENTERS**

15. Andrey B. Semenov

*National Research Moscow State University of Civil Engineering (NRU MGSU),
Moscow, Russia*

Sergei A. Sidnev, Vladimir A. Tsarenko

Moscow Technical University of Communications and Informatics, Moscow, Russia

**ANALYSIS AND EVALUATION OF THE EFFECTIVENESS OF DATA CENTER
CREATION PROJECTS TAKING INTO ACCOUNT REAL OPTIONS**

16. Sergei A. Sidnev, Liudmila Y. Krasikova, Galina S. Artemeva, Vladimir A. Tsarenko

Moscow Technical University of Communications and Informatics, Moscow, Russia

**SELECTING THE OPTIMAL MODULATION FORMAT FOR TRANSPORT
FIBER-OPTIC COMMUNICATION LINES**

17. Pavel Slyadnikov, Natalia Toutova, Andrei Erokhin, Elena Frolova, Margarita Vanina

Moscow Technical University of Communications and Informatics, Moscow, Russia

MODELING OF BLOCKCHAIN SYSTEMS IN INTERNET OF THINGS NETWORKS

18. Alexey N. Terekhov, Alla S. Korchagina

Moscow Technical University of Communications and Informatics, Moscow, Russia

MODIFIED UNITARY DATA STORAGE METHOD

19. Aleksandr Troegubov, Sergey Stepanov, Elena Malikova

Moscow Technical University of Communications and Informatics, Moscow, Russia

Do Xuan Thu

University of Transport Technology, Hanoi, Vietnam

**MODELING OF MULTISERVICE TRAFFIC SERVICE PROCESS
IN A HIGH-THROUGHPUT SATELLITE NETWORK**

20. Pavel A. Vasilevskiy, Elena V. Bulgakova

Moscow Technical University of Communications and Informatics, Moscow, Russia

**EXPLORING THE USE OF MACHINE LEARNING TO IDENTIFY THREATS
IN POWERSHELL SCRIPTS**

March 12, 2025 (Wednesday)

**SECTION 5.
INTELLIGENT TRANSPORT SYSTEMS**

13-00 – 18-00

SECTION CHAIRMAN: M. V. Yashina, *Doctor of Technical Sciences, Member, IEEE
Moscow Automobile and Road Construction State
Technical University (MADI), Moscow, Russia*

1. Viktor S. Artemyev

Plekhanov Russian University of Economics, Moscow, Russia

Nataliya V. Mokrova

University of Science and Technology MISIS, Moscow, Russia

**DEVELOPMENT OF A METHOD FOR ASSESSING INDICATORS
OF DISCRETE CONTROL SYSTEMS**

2. Ivan Filianin (*Member, IEEE*), **Nikita Borisov**

ITMO University, St. Petersburg, Russia

Vladimir Bogatyrev

Saint-Petersburg State University of Aerospace Instrumentation St. Petersburg, Russia

**RESEARCH AND DEVELOPMENT OF KUBERNETES OPERATOR
FOR LIGHTWEIGHT MULTI-ACCESS EDGE COMPUTING PLATFORM
SIMULATOR**

3. D. V. Gadasin, S. A. Palibza, L. A. Tremasova, A. S. Zimin

Moscow Technical University of Communications and Informatics, Moscow, Russia

**APPLICATION OF THE GARCIA-WACHS ALGORITHM TO BUILD
A MINIMUM COST SEARCH TREE**

4. Alla G. Garibyan, Marina V. Yashina (*Member, IEEE*), **Marina A. Trapeznikova,**

Georgiy D. Bogatyrev, Alena I. Vasileva

Moscow Automobile and Road Construction State Technical University (MADI), Moscow, Russia

**CAPACITY EVALUATION OF REGULAR BUSLAEV NETWORKS
WITH ROUNDABOUTS**

5. Mikhail Gorodnichev

Moscow Technical University of Communications and Informatics, Moscow, Russia

**ON THE APPLICABILITY OF REINFORCEMENT LEARNING
IN THE TRAFFIC FLOW CONTROL PROBLEM**

6. Ekaterina A. Karelina, *The State University of Management, Moscow, Russia*
Petr I. Smirnov, *Institute of Mechanical Engineering, Energy and Transport Vologda State University, VOGU, Vologda, Russia*

Boris S. Subbotin, *Moscow Automobile and Road Construction State Technical University (MADI); The Kosygin State University of Russia, Moscow, Russia*

Nikolay V. Popov, Andrey V. Vasilyev

Moscow Automobile and Road Construction State Technical University (MADI), Moscow, Russia

**TRAFFIC FLOW FORECASTING TAKING INTO ACCOUNT
SPATIO-TEMPORAL DYNAMICS: MODERNIZATION OF EXISTING
APPROACHES BASED ON DATA FROM ITS DETECTORS**

**7. Kamil R. Kharrasov, Konstantin A. Kudriavtsev, Ilya V. Abyazov,
Mikhail G. Gorodnichev**

Moscow Technical University of Communications and Informatics, Moscow, Russia

**RESEARCH AND OPTIMIZATION OF THE ALGORITHM FOR IICENSE
PLATE RECOGNITION UNDER THE CONDITIONS OF EDGE
COMPUTATIONS**

8. N. G. Kuftinova, A. V. Ostroukh, C. B. Pronin, A. A. Podberezkin

Moscow Automobile and Road Construction State Technical University (MADI), Moscow, Russia

CREATING HYBRID COMPUTING ARCHITECTURES FOR DATA CENTERS

9. Viktor Lapin, Andrey Timchuk

Moscow Technical University of Communications and Informatics, Moscow, Russia

**DEVELOPMENT OF AN EFFECTIVE METHOD FOR DETECTING ABNORMAL
SITUATIONS IN TRANSPORT BASED ON DRIVER SPEECH ANALYSIS**

10. Alesya Moseva, Mikhail Gorodnichev, Marina Moseva, Kamil Kharrasov

Moscow Technical University of Communications and Informatics, Moscow, Russia

**ON THE AUTOMATED SELECTION OF NEURAL NETWORK ARCHITECTURES
IN THE TASK OF PATTERN RECOGNITION FOR INTELLIGENT
TRANSPORTATION SYSTEMS**

11. K. A. Panteleeva, I. S. Vakurin, S. V. Shevelev, D. V. Gadasin

Moscow Technical University of Communications and Informatics, Moscow, Russia

A MODEL FOR PREDICTING THE LOAD ON THE SERVICE

12. Pavel V. Plotnikov, Gleb I. Tambovtsev, Andrei G. Vladyko (*Member, IEEE*)

*The Bonch-Bruевич Saint-Petersburg State University of Telecommunications,
Saint Petersburg, Russia*

THE BALANCE MODEL FOR V2X SYSTEM WITH VARIABLE INFRASTRUCTURE

13. Ksenia Polyantseva, Sergei Gaponenko, Andrei Sergeev, Kamil Kharrasov

Moscow Technical University of Communications and Informatics, Moscow, Russia

**INTELLIGENT SYSTEM FOR DIAGNOSTICS AND DETECTION OF EXTERNAL
VEHICLE DAMAGES**

14. Petr. I. Smirnov

Institute of Mechanical Engineering, Energy and Transport Vologda State University, VOGU, Vologda, Russia

Boris S. Subbotin, Nikolay.V. Popov

Moscow Automobile and Road Construction State Technical University (MADI), Moscow, Russia

Ekaterina A. Karelina, Igor Y. Kashtanov

The State University of Management, Moscow, Russia

REFINEMENT OF THE TWO-FLUID MODEL APPLICATION FOR ENERGY CONSUMPTION ASSESSMENT AND TRAFFIC FLOW ANALYSIS IN URBAN TRANSPORT

15. Boris S. Subbotin

Moscow Automobile and Road Construction State Technical University (MADI), Moscow, Russia

Petr. I. Smirnov

Institute of Mechanical Engineering, Energy and Transport Vologda State University, VOGU, Vologda, Russia

Ekaterina A. Karelina, Nikolai V. Solovyov

The State University of Management, Moscow, Russia

Vera V. Silakova

Russian State Agrarian University-Moscow Agricultural Academy, Moscow, Russia

COMPARATIVE ANALYSIS OF TIMEGPT, TIME-LLM AND MSET MODELS AND METHODS FOR TRANSPORT TELEMATICS

16. Roman O. Sudorgin, Maxim G. Pletnev, Dmitry R. Bokarev, Igor Y. Kashtanov

State University of Management, Moscow, Russia

ANALYTICAL METHODS OF MULTICRITERIAL OPTIMIZATION IN LOGISTIC TRANSPORT SYSTEMS

17. L. A. Tremasova, E. L. Ustyanseva, D. V. Gadasin, D. D. Gadasin

Moscow Technical University of Communications and Informatics, Moscow, Russia

APPLICATIONS OF THE K-MEANS AND KOSARAYU METHOD FOR CLUSTERING SWITCHING DEVICES

18. Marina V. Yashina (Member, IEEE)

Moscow Automobile and Road Construction State Technical University (MADI);

Moscow Aviation Institute (Research University);

Moscow Technical University of Communications and informatics, Moscow, Russia

Kirill S. Korshunov

Moscow Automobile and Road Construction State Technical University (MADI), Moscow, Russia

Pavel G. Serov

Moscow Aviation Institute (National Research University) Moscow, Russia

Aleksandra F. Smyk, Nikita S. Lazarev

Moscow Automobile and Road Construction State Technical University (MADI), Moscow, Russia

TRAJECTORY MINING FOR VEHICLE SPEED CHARACTERISTICS USING TRAFFIC VIDEO-ANALYSIS

March 12, 2025 (Wednesday)

SECTION 6.

Digital signal processing in on-board radio systems

13-00 – 18-00

CHAIRMAN: Timofey Shevgunov, Ph.D., *Chair of MTT/ED/AES Moscow Chapter, Moscow Aviation Institute (National Research University), Moscow, Russia, Senior Member, IEEE*

1. D. N. Bezumnov, D. S. Chirov

Moscow Technical University of Communications and Informatics, Moscow, Russia

ON IMPROVING THE EFFICIENCY OF THE TECHNICAL VISION SYSTEM OF THE ROBOTICS COMPLEX

2. O. V. Brednev, A. V. Balobanov

Moscow Technical University of Communications and Informatics, Moscow, Russia

VIDEO STABILIZATION QUALITY ASSESSMENT METHOD BASED ON K-MEANS IN HSV COLOR SPACE

3. D. S. Chirov, N. D. Petrov

Moscow Technical University of Communications and Informatics, Moscow, Russia

FORECASTING OF RELIABILITY INDICATORS OF BASE STATIONS OF CELLULAR COMMUNICATION NETWORKS USING MACHINE LEARNING ALGORITHMS

4. Lev M. Kazadaev, Konstantin Yu. Ryumshin, Angela I. Sattarova

Moscow Technical University of Communications and Informatics, Moscow, Russia

INVESTIGATION OF USING FRANK SEQUENCES POSSIBILITY IN C-OCHDM

5. Igor V. Komarov, Svetlana F. Gorgadze

Moscow Technical University of Communications and Informatics, Moscow, Russia

MACHINE LEARNING ALGORITHMS BASED ON VARIATIONS OF THE LEAST SQUARES METHOD FOR POWER AMPLIFIER DISTORTION COMPENSATION

6. V. V. Kudryashov, A. V. Balobanov

Moscow Technical University of Communications and Informatics, Moscow, Russia

MEASUREMENT OF VIDEO CAMERA PARAMETERS FOR VIDEO RECORDING OF FAST MOVING OBJECTS

7. Evgeny M. Lobov, Anastasia D. Grigorieva, Vladimir O. Varlamov, Dmitriy N. Shubin

Moscow Technical University of Communications and Informatics, Moscow, Russia

EXPERIMENTAL RESEARCH OF THE ADAPTIVE NOISE SUPPRESSION ALGORITHM BASED ON THE DIGITAL FILTER BANK

8. P. S. Martyanov

Scientific and Technological Center of Unique instrumentation of the Russia Academy of Sciences (STC UI RAS), Moscow, Russia

SIMULATION OF ANALOG FILTER USING DIGITAL ELEMENT BASE

9. O. B. Popov, T. V. Chernysheva, K. V. Orlov, P. S. Sapronov

Moscow Technical University of Communications and Informatics, Moscow, Russia

FEATURES OF ADAPTIVE FILTERING OF SOUND BROADCASTING SIGNALS IN THE FREQUENCY DOMAIN

10. A. M. Potashnikov, I. V. Vlasuyk, V. V. Kudryashov

Moscow Technical University of Communications and Informatics, Moscow, Russia

A REFINED METHOD FOR SUBJECTIVE ASSESSMENT OF THE WARMTH AND COLDNESS OF COLORS

11. Konstantin Yu. Ryumshin, Alexey P. Zhuravlev, Angela I. Sattarova, Vladimir E. Rusanov, Lev M. Kazadaev

Moscow Technical University of Communications and Informatics, Moscow, Russia

DEVELOPMENT OF LORA COMMUNICATION SYSTEM GENERATOR SIMULATION MODEL

12. Timofey Shevgunov (*Senior Member, IEEE*)

Moscow Aviation Institute (National Research University), Moscow, Russia

THE DEVELOPMENT OF A RESPIRATION SIGNAL DETECTING ALGORITHM EXPLOITING CYCLOSTATIONARY PROPERTIES

13. Quan Trong The, Dinh Trung Duy

Posts and Telecommunications Institute of Technology, Hanoi, Vietnam

A SEPARATION OF SPEECH SOURCES BASED ON DUAL MVDR BEAMFORMER

14. Julia Timoschuk, Taoufik Ben Rejeb

Moscow Technical University of Communications and Informatics, Moscow, Russia

COMPARISON OF CODEBOOKS FOR NON-ORTHOGONAL MULTIPLE ACCESS SCMA

15. Zhanna Vavilova

Moscow Aviation Institute (National Research University), Moscow, Russia

APPLICATION OF LINEAR FILTERING TECHNIQUES TO THE DESIGN OF RATING SYSTEMS FOR MOBILITY SERVICES

16. Igor V. Vlasyuk, Gleb A. Voronkov

Moscow Technical University of Communications and Informatics, Moscow, Russia

**RESEARCH OF METHODS FOR MODELING USER ASSESSMENTS
OF 3D CONTENT FOR EXTENDED REALITY SYSTEMS**

17. Vladimir Yu. Volkov

Saint-Petersburg State Electrotechnical University (LETI);

Saint-Petersburg State University of Aerospace Instrumentation, Saint-Petersburg, Russia

MODELING OF RADAR SPECKLE IMAGES

18. Gleb A. Voronkov, Vsevolod Yu. Vinetsky, Dmitry A. Egorov

Moscow Technical University of Communications and Informatics, Moscow, Russia

**ERROR ANALYSIS OF GENERATING 3D MODELS OF OBJECTS USING
VARIOUS HARDWARE SYSTEMS**

19. Victoria S. Vovik, Andrey G. Vovik

Moscow Technical University of Communications and Informatics, Moscow, Russia

**ANALYSIS OF EXISTING ATTACKS ON THE DATA TRANSMISSION
CHANNEL BETWEEN THE UNMANNED AERIAL VEHICLES
AND THE CONTROL CENTER**

20. Khalil M. Yahia, Dmitry A. Klimov, Tammam Z. Dawood

Moscow Technical University of Communications and Informatics, Moscow, Russia

Ibrahim S. Wahbi

Damascus university, Damascus, Syria

**JOINT OPTIMIZATION OF RECONFIGURABLE INTELLIGENT SURFACE
PHASE SHIFTS AND POWER ALLOCATION IN LEO-NOMA SYSTEMS
USING SOFT ACTOR-CRITIC**

March 12, 2025 (Wednesday)
13-00 – 17-30

SECTION 7.
Electrical and electronic engineering pedagogy

SECTION CHAIRMAN: *Sergei L. Yablochnikov, Doctor of Pedagogical Sciences, Professor, National Research University, Moscow Power Engineering Institute; Plekhanov Russian University of Economics; National University of Science and Technology «MISIS», Moscow, Russia*

1. V. M. Antonova

Moscow Technical University of Communications and Informatics, Moscow, Russia; V.A. Kotelnikov Institute of Radio Engineering and Electronics of the Russian Academy of Sciences, Moscow, Russia

A. Y. Malikov, E. E. Malikova, M.A. Fartyshev

Moscow Technical University of Communications and Informatics, Moscow, Russia

APPLICATION OF VIRTUALIZATION AND CONTAINERIZATION TECHNOLOGIES IN IP TELEPHONY

2. Georgy Bulanov, Alexey Prokurovsky, Natalia Toutova, Iliya Andreev

Moscow Technical University of Communications and Informatics, Moscow, Russia

DISTRIBUTED COMPUTING NETWORK TECHNOLOGIES FOR EFFECTIVE ORGANIZATION OF ONLINE LEARNING

3. Irina A. Frank, Tatyana Y. Salutina, Galina P. Platunina

Moscow Technical University of Communications and Informatics, Moscow, Russia

EFFECTIVE METHODS OF ASSESSING STUDENTS' KNOWLEDGE IN THE FIELD OF ELECTRICAL ENGINEERING: TRADITIONAL AND INNOVATIVE APPROACHES

4. A. Y. Kudryashova, A. S. Adzhemov, N. E. Poborchaya

Moscow Technical University of Communication and Informatics, Moscow, Russia

CONDUCTING COMPETITIONS IN BUILDING FIBER-OPTIC CABLE NETWORKS AMONG STUDENTS OF A TECHNICAL UNIVERSITY

5. E. G. Kukharenko, A. M. Kukharenko

Moscow Technical University of Communications and Informatics, Moscow, Russia

METHODOLOGICAL SUPPORT FOR THE DEVELOPMENT OF PROFESSIONAL COMPETENCIES OF STUDENTS AND GRADUATES IN TELECOMMUNICATION SPECIALTIES IN THE FIELD OF PROJECT MANAGEMENT

6. Evgeny V. Kunts

Moscow Technical University of Communications and Informatics, Moscow, Russia

**CLASSROOM TECHNOLOGIES IN MODERN HIGHER EDUCATION
TRANSFORMATION OF THE TEACHER'S PLACE AND ROLE**

**7. Tatyana A. Kuzovkova, Alexander D. Kuzovkov, Olga I. Sharavova,
Ivan M. Sharavov**

Moscow Technical University of Communications and Informatics, Moscow, Russia

**THE IMPACT OF TECHNOLOGICAL PROGRESS ON THE COMPETENCIES
OF ELECTRONICS, RADIO ENGINEERING, COMMUNICATIONS
AND ICT SPECIALISTS**

8. Svetlana N. Maltseva

Moscow Technical University of Communications and Informatics, Moscow, Russia

Anna Y. Pavlova

Russian University of Transport (MIIT), Moscow, Russia

**ANALYZING THE POTENTIAL OF AI-POWERED WRITING EVALUATION
TOOLS FOR DEVELOPING STUDENTS' ANALYTICAL SKILLS**

9. Sergei A. Marinin, Nikita A. Mironov, Alexey V. Makarov

*Volga-Vyatka Branch of Moscow Technical University of Communications and Informatics,
Nizhniy Novgorod, Russia*

**DIGITAL EDUCATION OF THE FUTURE: THE DEVELOPMENT OF A CHATBOT
AS AN INNOVATIVE SOLUTION IN THE FIELD OF EDUCATION**

10. A. E. Mikenin, G. A. Prokurat, D. A. Krasikov, D. V. Hachatryan

Moscow Technical University of Communications and Informatics, Moscow, Russia

**MODERN APPROACH TO ORGANIZATION OF DIGITAL ELECTRONICS
CLASSES**

11. Galina P. Platunina, Tatyana Y. Salutina, Irina A. Frank

Moscow Technical University of Communications and Informatics, Moscow, Russia

**THE INFLUENCE OF ECONOMIC FACTORS ON THE CHOICE OF EDUCATIONAL
TRAJECTORIES IN THE FIELD OF ELECTRONIC ENGINEERING**

12. Alexey Prokurovsky, Natalia Toutova, Iliya Andreev

Moscow Technical University of Communications and Informatics, Moscow, Russia

**CONTENT DELIVERY NETWORK FOR E-LEARNING BASED
ON ENTERPRISE SERVICE BUS**

13. Tatyana Y. Salutina, Galina P. Platunina, Irina A. Frank

Moscow Technical University of Communication and Informatics, Moscow, Russia

**INTEGRATION OF FINANCIAL EDUCATION AND PROJECT MANAGEMENT
FOR STUDENTS STUDYING ELECTRICAL ENGINEERING AND ELECTRONIC
ENGINEERING**

14. Olga I. Sharavova, Tatyana A. Kuzovkova, Maria M. Sharavova

Moscow Technical University of Communications and Informatics, Moscow, Russia

ADAPTING THE COMPETENCIES OF SPECIALISTS IN THE FIELD OF ELECTRICAL ENGINEERING, COMMUNICATIONS AND INFORMATIZATION TO THE REQUIREMENTS OF SCIENTIFIC AND TECHNOLOGICAL DEVELOPMENT

15. S. A. Smirnov, A. V. Makarov, E. V. Savchenko

Volga-Vyatka Branch of Moscow Technical University of Communications and Informatics, Nizhniy Novgorod, Russia

ANALYSIS OF POSSIBILITIES AND DEVELOPMENT OF SOFTWARE NECESSARY FOR AUTOMATION OF THE PROCESS OF ASSESSMENT OF SCIENTIFIC AND CREATIVE POTENTIAL OF STUDENTS AS A FACTOR IN INCREASING THE EFFICIENCY OF THE EDUCATIONAL PROCESS

16. S. L. Yablochnikov

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North Ossetian State University named after Kosta Levanovich Khetagurov, Vladikavkaz, Russia

E. A. Avdeeva

Saint Petersburg Mining University, JSC “Central Design Bureau ‘Lazurit’, St. Petersburg, Russia

SIMULATION OF THE FUNCTIONING OF SELF-ADJUSTING SYSTEMS WITH ADDITIVE AND PARAMETRIC FEEDBACK

17. I. O. Yablochnikova

Plekhanov Russian University of Economics;

National University of Science and Technology «MISIS», Moscow, Russia

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D. B. Belinskaya

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EDUCATIONAL PROCESS MANAGEMENT AT IT-UNIVERSITIES