

TECHNICAL PROGRAMME





ZOOM links

Keynote

Session I, Section III: IoT technologies

Section V: IoT modeling

Section VIII: Signals and waveforms I

Section XI: Signals and waveforms II

Section XIV: Fiber issues

ID 87345786318

password 002880

Link: <https://us02web.zoom.us/j/87345786318?pwd=bGxLTWV0TjAzT0ZWMUxsQ0svUS_tCQT09>

Session II: Cellular networks,

Session IV: Applications and services

Session VI: Location and positioning

Session VII: Codes, Session IX: Mesh networks

Session XII: Theoretical aspects, Session XV: Materials in comms

ID 81370341008

password 677843

Link: <https://us02web.zoom.us/j/81370341008?pwd=cDM1a2txOWRidnQrYkVRb3c3L2h_nQT09>

Session X: Security issues

Session XIII: Economic and business implications

Section XVI: Other important topics in comms

ID 88397838492

password 724465

Link: <https://us02web.zoom.us/j/88397838492?pwd=R1pidndtWmFUN0tPeU1mMDIzb1_{Nz}UT09>

Keynote

Prof. Periklis Chatzimisios, International Hellenic University, Greece

Title: "Emerging Applications and Technologies for Internet of Things and 5G"



Abstract

The last few years we have experienced a massive reference and research on Internet of Things (IoT) that connects people, (Big) Data and things by employing Machine-to-Machine (M2M) communications. The obvious targets are to create new and unprecedented opportunities as well as to provide richer Quality of Experience (QoE) to citizens and communities. The talk will provide specific technical details and applications of IoT as well as their impact on enterprises and individuals by focusing on the hot areas of Industrial Internet of Things (IIoT), 5G communications, Tactile Internet, Smart Cities and Precision Agriculture. Along the talk, major research challenges and open issues will be identified and discussed, therefore making the presentation valuable and inspiring for academics and researchers.

Bio

Dr. Periklis Chatzimisios serves as Professor in the Department of Science and Technology of the International Hellenic University (Greece). Dr. Chatzimisios is/has been involved in several standardization and IEEE activities serving as a Member of IEEE ComSoc Education Services Board, Member of the Standards Development Board, Member of the IEEE ComSoc Standards Program Development Board and Industry Outreach Board under the IEEE Communication Society (ComSoc). He is the Chair of the Communications Chapter and Professional Activities for the IEEE Greece Section and also serves as the Chair of ComSoc Technical Committee on Information Infrastructure and Networking (TCIIN), the Vice Chair of ComSoc Technical Committee on Big Data (TCBD) and an active member of the IEEE Future Networks (5G) Initiative. He is the EiC for the IEEE Standards Education e-Magazine (eZine) and a member of the IEEE Standards Education Committee (SEC).

Wednesday, August 26, 2020

9:30 – 9:35 Opening

9:35 – 10:30 Keynote talk. Prof. Periklis Chatzimisios, International Hellenic University, Greece

10:30 – 11:00 Break

11:00 – 13:00

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<p>Section I: IoT technologies</p> <p>Chair: Nikolay Teslya (SPIIRAS, Russia)</p> <p><i>Identification of Abnormal Functioning of Devices of Cyber-physical Systems</i> Viktor Semenov (SPIIRAS); Mikhail Sukhoparov (SPbF AO «NPK «TRISTAN»); Ilya Lebedev (SPIIRAS)</p> <p><i>Energy-Aware Algorithm for LoRa Technology: Prototype Implementation</i> Abdukodir Khakimov (Peoples' Friendship University of Russia, Russia); Ammar Muthanna (State University of Telecommunications, Russia); Ibodullokhodzha Ibodulaev (National Research University Higher School of Economics, Russia); Mohammed Muthanna (Chongqing University of Posts and Telecommunications, China); Konstantin Samouylov and Mikhail Polovov (Peoples' Friendship University of Russia, Russia)</p> <p><i>Methods for reducing the amount of data transmitted and stored in IoT systems</i> Alexander Y Anufrienko (Higher School of Economics, Russia)</p> <p><i>Analysis of IDS Alert Correlation Techniques for Attacker Group Recognition in Distributed Systems</i> Artem Pavlov and Natalia Voloshina (ITMO University, Russia)</p> <p><i>Explaining Android Application Authorship Attribution Based on Source Code Analysis</i> Ivan Murenin (St. Petersburg State Electrotechnical University, Russia); Evgenia Novikova (Saint-Petersburg Institute for Informatics and Automation, Russia); Roman Ushakov (Saint Petersburg</p>	<p>Session II: Cellular networks</p> <p>Chair: Olga Galinina (TAU, Finland)</p> <p><i>The Method of Forming the Digital Clusters for Fifth and Beyond Telecommunication Networks Structure based on the Quality of Service</i> Alexander Paramonov (The Bonch-Bruевич Saint-Petersburg State University of Communication, Russia); Natalya Chistova (The Bonch-Bruевич Saint Petersburg State University of Telecommunications, Russia); Maria Makolkina (The Bonch-Bruевич Saint - Petersburg State University of Telecommunications, Russia); Andrey Koucheryavy (SPbSUT, Russia)</p> <p><i>Analyzing the Effectiveness of Dynamic Network Slicing Procedure in 5G Network by Queuing and Simulation Models</i> Irina Kochetkova, Anastasia Vlaskina, Sofia Burtseva and Valeria Savich (RUDN University, Russia); Jiri Hosek (Brno University of Technology, Czech Republic)</p> <p><i>Space Division Multiple Access Performance Evaluation in Ultra-Dense 5G Networks</i> Vadim Davydov (Saint-Petersburg state Polytechnical University, Russia); Grigoriy Fokin (The Bonch-Bruевич St. Petersburg State University of Telecommunications, Russia); Vitaly Lazarev (The Bonch-Bruевич Saint - Petersburg State University of Telecommunications, Russia); Sergey Makeev (Peter the Great Saint Petersburg Polytechnic University, Russia)</p> <p><i>Analysis of the Response Time Characteristics of the Fog Computing Enabled Real-Time Mobile Applications</i></p>

Electrotechnical University "LETI", Russia); Ivan Kholod (Saint Petersburg Electrotechnical University LETI, Russia)	<p>Eduard Sopin (RUDN University & Institute of Informatics Problems, FRC CSC RAS, Russia); Nikita Zolotous (Peoples Friendship University of Russia, Russia); Kirill Ageev (RUDN University, Russia); Sergey Shorgin (Institute of Informatics Problems FRC CSC RAS, Russia)</p> <p><i>Efficiency of collecting radiated RF energy for modern wireless technologies</i> Sviatoslav Iakimenko and Daria Ikonnikova (National Research University Higher School of Economics, Russia)</p>
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13:00 – 13:30 Break

13:30 – 15:30

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<p>Section III: IoT technologies</p> <p>Chair: Sergey Balandin (FRUCT, Finland)</p> <p><i>Information security state analysis of elements of Industry 4.0 devices in information systems</i> Mikhail Sukhoparov, Ilya Lebedev and Viktor Semenov (SPIIRAS, Russia)</p> <p><i>The state identification of Industry 4.0 mechatronic elements based on behavioral patterns</i> Mikhail Sukhoparov (AO "NPK &quot;TRISTAN&quot;); Viktor Semenov (SPIIRAS & ITMO University, Russia); Kseniya Salakhutdinova, Evelina Boitsova and Ilya Lebedev (SPIIRAS, Russia)</p> <p><i>Data Mining Algorithms Parallelization in the Framework of Agent-Oriented programming</i> Aleksey Malov (Motorola Solutions, Russia); Ivan Kholod (Saint Petersburg Electrotechnical University LETI, Russia); Sergey Rodionov (LETI, Russia); Evgenia Novikova (Saint-Petersburg Institute for Informatics and Automation, Russia)</p> <p><i>The IoT and Big Data in the logistics development. Crude oil transportation</i> Stepan Bakhaev (Peter the Great Saint Petersburg Polytechnic University, Russia); Alexandra Borremans (Peter the Great St. Petersburg Polytechnic University, Russia); Igor</p>	<p>Session IV: Applications and services</p> <p>Chair: Eduard Sopin (RUDN, Russia)</p> <p><i>BotSpot: Deep Learning Classification of Bot Accounts within Twitter</i> Christopher Brake (CSCAN, University of Plymouth, United Kingdom (Great Britain)); Stavros Shiaeles (University of Portsmouth, United Kingdom (Great Britain)); Gueltoum Bendiab (Beckley Point - Student Accommodation Address, United Kingdom (Great Britain) & Freres Mentouri, Constantine, Algeria); Nick Savage (University of Portsmouth, United Kingdom (Great Britain)); Konstantinos Limniotis (National and Kapodistrian University of Athens, Greece)</p> <p><i>Standardization of Road Quality Assessment by Developing Mobile Applications</i> Yury Klochkov (Peter the Great St. Petersburg Polytechnic University & Advanced Manufacturing Technologies Center of the National Technology Initiative, Russia); Antonina Glushkova (Samara University, Russia); Albina Gazizulina (Peter the Great St. Petersburg Polytechnic University, Russia); Egor Koldov (Samara University, Russia)</p> <p><i>Service-oriented technology architecture for value-based and personalized medicine</i> Igor Ilin (Peter the Great Saint-Petersburg Polytechnic University, Russia); Vadim Korablev and Anastasia Levina (Peter the Great Saint Petersburg Polytechnic University, Russia)</p>

<p>Ilin (Peter the Great Saint-Petersburg Polytechnic University, Russia)</p> <p><i>Availability of Emergency Power Supply for Voice Communications of Air Traffic Control System</i></p> <p>Igor Kabashkin (Transport and Telecommunication Institute, Latvia); Vadim Filippov (State Research Institute of Civil Aviation, Russia)</p>	<p><i>SoMIAP: Social media images analysis and prediction framework</i></p> <p>Yonghao Shi (CSCAN, University of Plymouth, United Kingdom (Great Britain)); Gueltoom Bendiab (Beckley Point - Student AccommodationAddress, United Kingdom (Great Britain) & Freres Mentouri, Constantine, Algeria); Stavros Shiaeles and Nick Savage (University of Portsmouth, United Kingdom (Great Britain))</p> <p><i>Modeling and investigation of the movement of the user of augmented reality service</i></p> <p>Maria Makolkina (The Bonch-Bruevich Saint - Petersburg State University of Telecommunications, Russia); Alexander Paramonov (The Bonch-Bruevich Saint-Petersburg State University of Communication, Russia)</p> <p><i>Audio Interval Retrieval using Convolutional Neural Networks</i></p> <p>Ievgeniia Kuzminykh (King's College London, United Kingdom (Great Britain) & Kharkiv National University of Radio Electronics, Ukraine); Dan Shevchuk (Blekinge Institute of Technology, Sweden); Stavros Shiaeles (University of Portsmouth, United Kingdom (Great Britain)); Bogdan Ghita (University of Plymouth & Centre for Security, Communications, and Network Research, United Kingdom (Great Britain))</p>
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15:30 – 16:00 Break

16:00 – 18:30

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<p>Section V: IoT modeling</p> <p>Chair: Anastaia Vybornova (SUT University, Russia)</p> <p><i>Modeling the NB-IoT Transmission Process with Intermittent Network Availability</i></p> <p>Nikita Stepanov (Saint Petersburg State University of Aerospace Instrumentation, Russia); Dmitri Moltchanov (Tampere Technology, Finland); Andrey Turlikov (Saint-Petersburg State University of Aerospace Instrumentation, Russia)</p>	<p>Session VI: Location and positioning</p> <p>Chair: Irina Kochetkova Gudkova (RUDN, Russia)</p> <p><i>Study of the accuracy of determining the location of radio emission sources with complex signals when using autocorrelation and matrix receivers in broadband tools for analyzing the electronic environment</i></p> <p>Alexey Podstrigaev (Saint Petersburg Electrotechnical University LETI, Russia); Vadim Davydov (Saint-Petersburg state Polytechnical University, Russia); Vladimir Likhachev (Zhukovsky-Gagarin Air Force Academy,</p>

Evaluation of routing protocols for multi-hop communication in LPWAN

Van Dai Pham (Bonch-Bruevich Saint-Petersburg State University of Telecommunications, Russia); Duc Tran Le (University of Danang, Vietnam); Ruslan Kirichek (The Bonch-Bruevich Saint - Petersburg State University of Telecommunications, Russia)

Deep Learning with Long Short-Term Memory for IoT traffic prediction

Ali R. Abdellah (The Bonch-Bruevich Saint Petersburg State University of Telecommunications, Russia); Andrey Koucheryavy (SPbSUT, Russia)

VANET traffic prediction using LSTM with deep neural network learning

Ali R. Abdellah (The Bonch-Bruevich Saint Petersburg State University of Telecommunications, Russia); Andrey Koucheryavy (SPbSUT, Russia)

Modelling Medical Devices with Honeypots

Jouni Ihanus (& Huld Oy, Finland); Tero Kokkonen (JAMK University of Applied Sciences, Finland)

High Density Internet of Things Network Analysis

Alexander Paramonov (The Bonch-Bruevich Saint-Petersburg State University of Communication, Russia); Evgeny Tonkikh (Radio Research and Development Institute, Russia); Andrey Koucheryavy (SPbSUT, Russia); Tatiana M Tatarnikova (Russian State Hydrometeorological University & State University of Aerospace Instrumentation, Russia)

Dynamic programming method for traffic distribution in LoRaWAN network

Mohammed Muthanna (Chongqing University of Posts and Telecommunications, China); Wang Ping (Chongqing University of Posts and Telecommunications, China); Min Wei (Chongqing University of Posts and Telecommunications, China); Waleed Al-mughalles and Ahsan Rafiq (Chongqing University of Posts and Telecommunications, China)

Russia); Nhan Nguyen Trong (Saint Petersburg Electrotechnical University LETI, Russia); Nikita Sergeevich Myazin (Peter the Great St. Petersburg Polytechnic University & Higher School of Applied Physics and Space Technologies, Russia)

Electromagnetic compatibility research of non-standard LTE-1800 TDD Base stations for Railway applications and Base stations LTE-1800 FDD

Valery Tikhvinskiy (Radio Research & Development Institute (NIIR) & Moscow Technical University of Communication and Informatisation (MTUCI), Russia); Mikhail Shelkovnikov and Sergey Terentyev (OJSC GlobalInformService (GIS), Russia)

Elimination of Carrier Frequency Offset of Local Oscillator to Improve Accuracy of GNSS Positioning

Igor Petrov (Peter the Great Saint-Petersburg Polytechnic University & Higher School of Applied Physics and Space Technologies, Russia); Aleksandr Gelgor (Peter the Great St. Petersburg Polytechnic University, Russia); Timur Lavrukhin (Peter the Great Saint-Petersburg Polytechnic University, Russia)

Modified direct positioning method in satellite geolocation

Pavel Kistanov (Ltd. Special Technology Center, Russia); Elizaveta Shcherbinina (Peter the Great Saint-Petersburg Polytechnic University, Russia); Alexander Titov and Oleg Tsarik (Ltd. Special Technology Center, Russia); Igor Tsikin (Peter the Great St. Petersburg Polytechnic University, Russia)

Session VII: Codes

Chair: Irina Kochetkova Gudkova (RUDN, Russia)

Offset Generation and Interlayer Network Architecture for 5G NR LDPC Parallel Layered Decoder with Variable Lifting Factor Support

Aleksei Krylov and Andrey Rashich (Peter the Great St. Petersburg Polytechnic University, Russia); Chao Zhang and Kewu Peng (Tsinghua University, China)

Bitstreams multiplex with Trellis-Coded Modulation and the Fixed Point LDPC

	<p><i>Decoding Procedure for Centralised Wireless Networks</i> Igor Pastushok (State University of Aerospace Instrumentation, Russia); Nikita A. Boikov (Saint Petersburg State University of Aerospace Instrumentation, Russia); Nikita Yankovskii (State University of Aerospace Instrumentation, Russia)</p> <p><i>About burst decoding for block-permutation LDPC codes</i> Andrei Ovchinnikov (St Petersburg State University of Aerospace Instrumentation, Russia); Anna Fominykh (Saint Petersburg State University of Aerospace Instrumentation, Russia)</p>
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Thursday, August 27, 2020

10:00 – 12:00

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<p>Section VIII: Signals and waveforms I</p> <p>Chair: Dmitry Tkachenko (IEEE Russia)</p> <p><i>Estimation of the possibility of PAPR reduction for optimal signals</i> Aleksandr V. Zhila, Anna S. Ovsyannikova and Sergey V. Zavjalov (Peter the Great St. Petersburg Polytechnic University, Russia)</p> <p><i>Study of Detection Characteristics in Recognition of Simple Radio Pulses and Signals with LFM and PSK in the Autocorrelation Receiver</i> Nhan Nguyen Trong and Alexey Podstrigaev (Saint Petersburg Electrotechnical University LETI, Russia); Vladimir Likhachev and</p>	<p>Session IX: Mesh networks</p> <p>Chair: Ammar Muthanna (SUT University, Russia)</p> <p><i>Detection and recognition of moving biological objects for autonomous vehicles using Intelligent Edge Computing/LoRaWAN mesh system</i> Artem Volkov (The Bonch-Bruevich State University of Telecommunication, Russia); Malik Al-Sveiti (St. Petersburg State University of Telecommunications, Russia); Ibrahim Elgendy (Harbin Institute of Technology, China); Ammar Muthanna (State University of Telecommunications, Russia)</p> <p><i>Method of Constructing Node Map in Wireless Mesh Sensor Network</i> Van Dai Pham and Ilya Grishin (Bonch-Bruevich Saint-</p>	<p>Session X: Security issues</p> <p>Chair: TBA</p> <p><i>Improvement of a Dactyloscopic Authentication Security Using Polarimetric Technique</i> Pavel Trubin, Aleksandr A Murashov and Dmitry Suntsov (Peter the Great St. Petersburg Polytechnic University (SPbPU), Russia); Elena Velichko (Peter the Great St. Petersburg Polytechnic University, Russia)</p> <p><i>Method of Comparison of Neural Network Resistance to Adversarial Attacks</i> Sergey V. Bezzateev (Saint-Petersburg Aerospace Instrumentation University & Saint Petersburg National Research University of Information Technologies, Mechanics and Optics, Russia)</p>

<p>Alexey Veselkov (Zhukovsky-Gagarin Air Force Academy, Russia); Vadim Davydov (Saint-Petersburg state Polytechnical University, Russia); Nikita Sergeevich Myazin (Peter the Great St. Petersburg Polytechnic University & Higher School of Applied Physics and Space Technologies, Russia); Sergey Makeev (Peter the Great Saint Petersburg Polytechnic University, Russia)</p> <p><i>Wideband Tunable Delay Line for Microwave Signals Based on Radiophotonic Components</i> Alexey Podstrigaev (Saint Petersburg Electrotechnical University LETI, Russia); Alexander Lukyanov and Alina Galichina (Scientific-Research Institute Vector, Russia); Alexander P. Lavrov and Mikhail V. Parfenov (Peter the Great St. Petersburg Polytechnic University, Russia)</p> <p><i>BER performance of SEFDM signals in LTE fading channels with imperfect channel knowledge</i> Valentin Salnikov, Andrey Rashich and Nguyen Viet Them (Peter the Great St. Petersburg Polytechnic University, Russia); Xue Wei (Harbin Engineering University, China)</p> <p><i>Sensitivity of Energy Spectrum Shape and BER to Variation of Parameters Used in Constraint on Correlation Coefficient during FTN Pulse Optimization</i> Anna S. Ovsyannikova, Sergey V. Zavjalov, Sergey B. Makarov and Ilya Lavrenyuk (Peter the Great St. Petersburg Polytechnic University, Russia)</p>	<p>Petersburg State University of Telecommunications, Russia); Darina Okuneva (The Bonch-Bruevich Saint-Petersburg State University of Communication, Russia); Ruslan Kirichek (The Bonch-Bruevich Saint - Petersburg State University of Telecommunications, Russia)</p> <p><i>Applying the Concept of Software-Defined Networking in Wireless Mesh Network</i> Ekaterina Kuznetsova, Yulia Avakyan and Van Dai Pham (Bonch-Bruevich Saint-Petersburg State University of Telecommunications, Russia); Ruslan Kirichek (The Bonch-Bruevich Saint - Petersburg State University of Telecommunications, Russia)</p> <p><i>Analytical Model for Software Defined Network Considering Memory Node for Routing Rules</i> Evgeny Mokrov (RUDN University, Russia); Dmitry Poluektov (Peoples' Friendship University of Russia, Russia); Egor Machnev (Peoples' Friendship University of Russia, Russia); Sergey Shorgin (Institute of Informatics Problems FRC CSC RAS, Russia); Abdukodir Khakimov (Peoples' Friendship University of Russia, Russia); Jiri Hosek (Brno University of Technology, Czech Republic)</p> <p><i>Secure MBR array codes in the presence of special type eavesdropper</i> Stanislav Kruglik (Skolkovo Institute of Science and Technology, Russia)</p>	<p><i>Comparative Analysis of Cryptographic Key Management Systems</i> Ievgeniia Kuzminykh (King's College London, United Kingdom (Great Britain) & Kharkiv National University of Radio Electronics, Ukraine); Bogdan Ghita (University of Plymouth & Centre for Security, Communications, and Network Research, United Kingdom (Great Britain)); Stavros Shiaeles (University of Portsmouth, United Kingdom (Great Britain))</p> <p><i>Detection of Anonymised Traffic: Tor as Case Study</i> Bruno Rafael Dantas, Paulo Carvalho and Solange Rito Lima (Centro Algoritmi, Universidade do Minho, Portugal); João Marco C. Silva (HASLab, INESC TEC & Universidade do Minho, Portugal)</p> <p><i>Polyhedra of Finite State Machines and their Use in the Identification Problem</i> Sergey Yu Melnikov and Konstantin Samouylov (Peoples' Friendship University of Russia, Russia)</p>
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12:00 – 12:30 Break

12:30 – 15:00

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<p>Section XI: Signals and waveforms II</p> <p>Chair: Roman Kovalchukov (TAU, Finland)</p> <p><i>Probability Distributions of Instantaneous Amplitude Values of Random Optimal FTN Signal Sequences with Controlled ISI</i> Ilya Lavrenyuk and Sergey B. Makarov (Peter the Great St. Petersburg Polytechnic University, Russia); Ge Dong (Tsinghua University, China); Boxiong Hu (Tsinghua University, Russia); Tatyana Kudryashova (Peter the Great St. Petersburg Polytechnic University, Russia)</p> <p><i>A method of finding optimal parameters of speckle noise reduction filters</i> Andrei Belov, Vitalii Pavlov and Anna Tuzova (Peter the Great St. Petersburg Polytechnic University, Russia)</p> <p><i>Performance Optimization of Communication System Cooperating with the MIMO Radar</i> Jerzy Martyna (Jagiellonian University, Poland)</p> <p><i>Performance of 5G SU-MIMO employing OFDM bandwidth and per-subcarrier precoding</i> Viacheslav Viacheslavovich Ivanov, Artem Medvedev, Irina Bondareva and Vladimir</p>	<p>Session XII: Theoretical aspects</p> <p>Chair: Roman Dunaytsev (SUT University, Russia)</p> <p><i>Evaluation of the packet transmission delay variation in the G/G/1 system</i> Igor Kartashevskiy, Marina Buranova and Dinara Ergasheva (Povolzhskiy State University of Telecommunications and Informatics, Russia)</p> <p><i>The Fourier Series Model for Predicting Sapflow Density Flux based on TreeTalker Monitoring System</i> Dmitry Efrosinin (Peoples' Friendship University of Russia, Russia & Johannes Kepler University Linz, Austria); Irina Kochetkova (RUDN University, Russia); Natalia Stepanova (Institute of Control Sciences Academician VA Trapeznikov, Russia); Alexey Yarovslavtsev (LAMP, Russian Timiryazev State Agrarian University, Russia); Konstantin Samouylov (Peoples' Friendship University of Russia, Russia); Riccardo Valentini (Tuscia University, Italy)</p> <p><i>A Jamming Latency Game with Incomplete Information on Network Parameters</i> Andrey Garnaev (WINLAB, Rutgers University, USA)</p> <p><i>Analytical Model of Early HARQ Feedback Prediction</i> Tatiana Rykova (Fraunhofer HHI, Germany); Barış Göktepe (Fraunhofer Heinrich Hertz</p>	<p>Session XIII: Economic and business implications</p> <p>Chair: Yevgeni Koucheryavy (TAU, Finland)</p> <p><i>Development of risk controlling mechanism and tools for agile projects in telecommunications</i> Sergei Grishunin (Higher School of Economics, Russia); Svetlana Suloeva (Peter the Great Saint-Petersburg Polytechnic University, Russia); Tatyana Nekrasova (Peter the Great St. Petersburg Polytechnic University, Russia); Ekaterina Burova (Peter the Great Saint-Petersburg Polytechnic University, Russia)</p> <p><i>Investment attractiveness of the telecommunications economic sector during the coronavirus pandemic</i> Valery Leventsov (Peter the Great St. Petersburg Polytechnic University, Russia); Vladimir Gluhov (Saint-Petersburg State Polytechnical University, Russia); Alexandr Leventcov (RU, Russia)</p> <p><i>Modern digital technologies and telecommunications mechanisms in the implementation of socio-economic policy at the local and regional level</i> Tatyana Nekrasova and Natalya Mukhanova (Peter the Great St. Petersburg Polytechnic University, Russia); Sergey Kretsny (Kuban State Technological University, Russia); Natalja Polyjanova (Belgorod National Research University, Russia)</p>

<p>Grigoriev (ITMO University, Russia)</p> <p><i>Noncoherent detection of optimal FTN signals with differential encoding</i> Sergey B. Makarov, Ilmur R. Ishkaev, Ilya Lavrenyuk, Anna S. Ovsyannikova and Sergey V. Zavjalov (Peter the Great St. Petersburg Polytechnic University, Russia)</p> <p><i>On application of hard-clipping and soft-clipping for SEFDM signal with optimal envelope</i> Dac Cu Nguyen, Sergey V. Zavjalov, Anna S. Ovsyannikova, Sergey V. Volvenko and Ekaterina Smirnova (Peter the Great St. Petersburg Polytechnic University, Russia); Canh Minh Nguyen (University of Transport and Communications, Vietnam)</p>	<p>Institute, Germany); Thomas Schierl and Cornelius Hellge (Fraunhofer HHI, Germany)</p> <p><i>Analytical Model for CSMA-Based MAC Protocol for Industrial IoT Applications</i> Alexey Tsarev (Peoples' Friendship University of Russia, Russia); Emil M. Khayrov (RUDN University, Russia); Ekaterina Medvedeva (Peoples' Friendship University of Russia, Russia); Yuliya Gaidamaka (Peoples' Friendship University of Russia (RUDN) & FRC Computer Science and Control RAS, Russia); Chiara Buratti (University of Bologna, Italy)</p> <p><i>Cesaro Sequences and Cesaro Hereditary Automata</i> Sergey Yu Melnikov and Konstantin Samouylov (Peoples' Friendship University of Russia, Russia)</p>	<p><i>The Concept of "Smart Cities": Prospects for the Telecommunications Business and the Current Trend in the Development of Modern Society</i> Pavel Arkin (Peter the Great St. Petersburg Polytechnic University, Russia); Ekaterina Abushova (Peter the Great Saint-Petersburg Polytechnic University, Russia); Viktoria Bondarenko and Nataliya Przdetskaya (Rostov state University of Economics, Russia)</p> <p><i>Telecommunications Techniques in the Healthcare Development: Foreign Experience and Russian Realities</i> Viktoria Bondarenko and Dmitri Kostoglodov (Rostov state University of Economics, Russia); Tatyana Nekrasova (Peter the Great St. Petersburg Polytechnic University, Russia)</p> <p><i>Building a Platform-Type Business Model to Form an Omnichannel Integration in the Telecommunications Industry</i> Irina Krasyuk and Valery Leventsov (Peter the Great St. Petersburg Polytechnic University, Russia); Maria Kolgan and Yulia Medvedeva (Don State Technical University, Russia)</p> <p><i>Transformation of online consumer behavior under the influence of the pandemic and the development of telecommunications</i> Olga Chkalova, Inna Bolshakova and Natalia Kopasovskaya (Lobachevsky State University of Nizhni Novgorod, Russia); Natalya Mukhanova (Peter the Great St. Petersburg Polytechnic University, Russia); Vladimir Gluhov (Saint-Petersburg State Polytechnical University, Russia)</p>
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15:00 – 15:30 Break

NEW2AN 2020	NEW2AN 2020	NEW2AN 2020
<p>Section XIV: Fiber issues</p> <p>Chair: Daria Ostrikova (RUDN, Russia)</p> <p><i>Fiber-optical communication line with a system for compensation of radiation-induced losses during the transmission of information</i> Diana S Dmitrieva and Valeria Pilipova (The Bonch-Bruevich Saint - Petersburg State University of Telecommunications, Russia); Roman Davydov (Peter the Great St. Petersburg Polytechnic University, Russia); Elena Andreeva (The Bonch-Bruevich Saint - Petersburg State University of Telecommunications, Russia); Vadim Davydov (Saint-Petersburg state Polytechnical University, Russia); Vasiliy Rud' (All-Russian Research Institute of Phytopathology, Russia)</p> <p><i>Dynamic Range Improvement of Broad-band Analog Fiber Optic Links with Special Lithium Niobate Integrated Optical Modulators</i> Alexey Petrov (Saint Petersburg State Polytechnical University, Russia); Mikhail Parfenov (Peter the Great Saint Petersburg Polytechnic University, Russia); Vladimir Lebedev, Igor Ilichev, Peter Agruzov and Aleksandr Tronev (Ioffe Institute, Russia); Aleksandr Shamrai (Ioffe Institute & Peter the Great Saint Petersburg Polytechnic University, Russia)</p>	<p>Section XV: Materials in comms</p> <p>Chair: Rustam Pirmagomedov (TAU, Finland)</p> <p><i>Self-Organized Biomolecular Films as A New Material for Nano-Telecommunication Devices</i> Maksim Baranov (Peter the Great St. Petersburg Polytechnic University, Russia); Elena Velichko (Peter the Great St. Petersburg Polytechnic University, Russia); Oleg Tsybin (Peter the Great Saint Petersburg Polytechnical University, Russia)</p> <p><i>Optical Loss Control in Lithium Niobate Waveguides via Direct Laser Modification of Covered Titanium Film</i> Aleksandr Tronev (Ioffe Institute, Russia); Mikhail Parfenov (Peter the Great Saint Petersburg Polytechnic University, Russia); Nikita Solomonov (Saint Petersburg Electrotechnical University LETI, Russia); Andrey Ionov and Sergey Bozhko (ISSP RAS, Russia); Igor Ilichev and Peter Agruzov (Ioffe Institute, Russia); Aleksandr Shamrai (Ioffe Institute & Peter the Great Saint Petersburg Polytechnic University, Russia)</p>	<p>Section XVI: Other important topics in comms</p> <p>Chair: Nikita Tafintsev (TAU, Finland)</p> <p><i>Analysis of Mixed Strategies for P2P Streaming Systems</i> Aminu Adamu (Umaru Musa Yar'adua University, Katsina, Nigeria); Anna Platonova (Peoples' Friendship University of Russia, Russia); Irina Yartseva (Peoples' Friendship University of Russia, Russia); Yuliya Gaidamaka (Peoples' Friendship University of Russia (RUDN) & FRC Computer Science and Control RAS, Russia)</p> <p><i>Simulating UAV's Movement for Servicing User Groups with a Reference Point in Wireless Networks</i> Emil M. Khayrov and Nikita Polyakov (RUDN University, Russia); Ekaterina Medvedeva (Peoples' Friendship University of Russia, Russia); Yuliya Gaidamaka (Peoples' Friendship University of Russia (RUDN) & FRC Computer Science and Control RAS, Russia); Jiri Pokorny and Jiri Hosek (Brno University of Technology, Czech Republic)</p> <p><i>Service-based EMF Monitoring in EMF RATEL system</i> Nikola Djuric (Faculty of Technical Sciences, University of Novi Sad, Serbia); Nikola Kavecian (Falcon-Tech, IT Consulting, Development, Serbia); Nenad Radosavljevic (Regulatory Agency for Electronic Communications and Postal Services, Serbia); Snezana Djuric (Institute BioSens, University of Novi Sad, Serbia)</p> <p><i>Interaction Between User and UAV with Unreliable Location Information</i></p>

<p><i>Reliability and lifetime estimations for field-aged optical cable</i> Vladimir Burdin (Povolzhskiy State University of Telecommunications and Informatics (PSUTI), Russia); Vladimir Andreev (Povolzhskiy State University of Telecommunication and Informatics (PSUTI), Russia); Anton Bourdine (PSUTI, JSC "Scientific Production Association State Optical Institute Named after Vavilov S.I."); Michael Dashkov and Anton Nizhgorodov (Povolzhskiy State University of Telecommunications and Informatics(PSUTI), Russia)</p> <p><i>Digital Twin-Based Research on Fiber Optic Current Sensor Behavior and Stability</i> Valentina Temkina, Andrei Medvedev and Alexey Mayzel (Peter the Great St. Petersburg Polytechnic University, Russia)</p>		<p>Gagik Papikyan and Evgeny Mokrov (RUDN University, Russia); Konstantin Samouylov (Peoples' Friendship University of Russia, Russia)</p>
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