



3rd IEEE International Conference on Advanced Information and Communication Technologies (AICT) - 2019

in partnership with



Lviv city
council



Conference Program

Lviv, Ukraine
July 2-6, 2019

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- IEEE MTT/ED/AP/CPMT/SSC Joint West Ukraine Chapter
- Lviv Polytechnic National University, Ukraine
- Korea University, South Korea
- Kharkiv National University of Radio Electronics, Ukraine

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CONFERENCE SECTIONS

Section ID	Section Title	Number of accepted papers
S1	Theoretical and Practical Aspects of Advanced Information and Communication Systems	36
S2	Software Defined Networking and Network Function Virtualization	9
S3	Internet of Things (IoT)	23
S4	Mobile Communication Networks	14
S5	Cybersecurity in ICT	13
ACCEPTED PAPERS, TOTAL		95
SUBMITTED PAPERS, TOTAL		120
ACCEPTANCE RATE		0,79

TIME LIMITS

Plenary session: up to 30 min	Regular sessions: up to 15 min
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PROGRAM AT A GLANCE

July 2 Tuesday	9:00-EOD	Day of Arrival
July 3 Wednesday	08:00-9:00	Registration
	9:00-9:30	Opening Remarks
	9:30-10:30	Keynote Session
	10:30-11:00	Coffee Break
	11:00-13:00	Plenary Session
	13:00-14:00	Lunch
	14:00-15:30	Regular Sessions
	15:30-16:30	Poster Session/Coffee Break
	16:30-18:00	Regular Sessions
	18:00-EOD	Conference Dinner
July 4 Thursday	09:00-10:30	Regular Sessions
	10:30-11:30	Poster Session/Coffee Break
	11:30-13:00	Regular Sessions
	13:00-14:00	Lunch
	14:00-15:30	Regular Sessions
	15:30-16:30	Poster Session/Coffee Break
	16:30-18:00	Regular Sessions
	18:00-EOD	Social and Entertainment Events
July 5 Friday	09:00-10:30	Regular Sessions
	10:30-11:30	Poster Session/Coffee Break
	11:30-13:00	Regular Sessions
	13:00-14:00	Lunch
	14:00-15:30	Regular Sessions
	15:30-16:30	Poster Session/Coffee Break
	16:30-18:00	Regular Sessions
	18:00-EOD	Social and Entertainment Events
July 6 Saturday	10:00-11:00	Conference Final Session

CONFERENCE TIMETABLE

Time	July 3 Wednesday		July 4 Thursday		July 5 Friday	
8.00	Registration		Registration		Registration	
9.00	Welcoming Remarks		S3	S4	S5	Cisco IoT Workshop
	Keynote Session					
10.00	Coffee Break		Poster Session/ Coffee Break		Poster Session/ Coffee Break	
11.00	Plenary Session		S3	S4	S5	Cisco IoT Workshop
12.00						
13.00	Lunch		Lunch		Lunch	
14.00	S1	S2	S3	S4	S5	Cisco IoT Workshop
15.00	Poster Session/ Coffee Break		Poster Session/ Coffee Break		Poster Session/ Coffee Break	
16.00	S1	S2	S3	S4	S5	Cisco IoT Workshop
17.00	Conference Dinner		Free Time		Free Time	
18.00	Conference Dinner		Free Time		Free Time	
19.00						
20.00						

CONFERENCE OPENING

Wednesday, July 3

9:00 – 9:30

Opening Remarks

1.	<i>Dmytro Fedasyuk, Vice-Rector of Lviv Polytechnic National University</i>
2.	<i>Andriy Pavliv, Head of Lviv Convention Bureau</i>
3.	<i>Mykhailo Andriychuk, Head of IEEE MTT/ED/AP/CPMT/SSC Joint West Ukraine Chapter</i>

KEYNOTE SESSION

Wednesday, July 3

9:30 – 10:30

Chair:

Prof. **Andriy Luntovskyy**, University of Cooperative Education

1.	<i>Minho Jo, Korea University</i> Blockchain in Industrial IoT
2.	<i>Oleksandr Karpin, Cypress Semiconductors</i> Capacitive Sensing and Wireless Connectivity for Automotive

PLENARY SESSION

Wednesday, July 3

11:00 – 13:00

Chair:

Prof. **Minho Jo**, Korea University

1.	<i>Andriy Luntovskyy and Mykhailo Klymash</i> Robotic Apps and Platforms: Mobility, Localization, Management and Security Aspects
2.	<i>Oleksandr Lemeshko, Maryna Yevdokymenko and Oleksandra Yeremenko</i> Fast ReRoute Model with VoIP Quality of Experience Protection
3.	<i>Marcus Hofmann, Jürgen Sachse and Jürgen Smettan</i> Dual Study In Informatics Means Clever Study!
4.	<i>Valentyn Faychuk, Orest Lavriv, Mykhailo Klymash, Olga Shpur and Viktoriia Zhebka</i> Investigation of the Bellman-Ford Algorithm Enhanced for Remote Execution
5.	<i>Jana Zausinová, Martin Zoričák, Vladimír Gazda, Gabriel Bugár and Juraj Gazda</i> An Agent-Based Model of Adaptive Pricing in HetNets
6.	<i>Ivan Demydov, Mykhailo Klymash, Najm Ahmad Baydoun and Andriy Branytskyy</i> To the Strategy Of Informational Impacts In Cyberspace By Omori's Law

S1: Theoretical and Practical Aspects of Advanced Information and Communication Systems

Wednesday, July 3

14.00 – 15.30

Chair:
Prof. Jürgen Smettan

ORAL SESSION

1.	<i>Iryna Spivak, Svitlana Krepych, Serhii Spivak and Oleksandr Fedorov</i> Approach to estimate the level of influence of motivation on the effectiveness of employees, depending on their needs
2.	<i>Vasyl Semerenko and Volodymyr Luzhetskyi</i> Automaton Presentations of Reed-Solomon Codes
3.	<i>Vladimir Barannik, Dmytro Havrylov, Valeriy Barannik and Anton Sorokun</i> Development Second and Third Phase of the Selective Frame Processing Method
4.	Roman Voliansky, Yurii Shramko, Oleksandr Sadovoi, Nina Volianska and Oleksiy Sinkevych Arduino-based Implementation of the Dual- channel Chaotic Generator
5.	<i>Andriy Peleschyshyn, Roman Korzh, Olha Trach and Mikola Tsiutsiura</i> Building of information activity management system of Higher Educational Establishment in the social environments of the Internet

Wednesday, July 3

15.30 – 16.30

POSTER SESSION

1.	<i>Viacheslav Tretiak, Dmitry Filgus, Oksana Stetsenko and Sergii Buchyk</i> Parallel computation method for fragmentation of distributed database data based on rank-based approach
2.	<i>Anatolii Merzlikin, Oleksandr Tsopa and Nikolay Ruzhentsev</i> Cumulative Distribution of Rain Rate and Rain Attenuation in Ukraine
3.	<i>Victor Krasnobayev, Alexandr Kuznetsov, Andrey Dyachenko and Irina Lokotkova</i> The Method of Single Errors Correction in the Residue Class
4.	<i>Alexandr Kuznetsov, Anastasiia Kiian, Vitalina Babenko, Oleksii Smirnov, Hanna Zhosan and Dmytro Prokopovych-Tkachenko</i> Soft Decoding Method for Turbo-Productive Codes
5.	<i>Bohdan Zhurakovskiy and Nataliia Tsopa</i> Assessment Technique And Selection Of Interconnecting Line Of Information Networks

6.	<i>Evgeniy Lavrov, Olga Lavrova, Nadiia Pasko and Nataliia Savina</i> Models for the description of man-machine interaction for the tasks of computer-aided assessment of the reliability of automated systems
7.	<i>Oleksiy Yanenko, Konstantyn Shevchenko and Oleksandra Golovchanska</i> Optoelectronic system with automated determination of maximum absorption frequencies
8.	Mykola Dolia, Vitaliy Lysenko, Natalia Pasichnyk, Oleksiy Opryshko, Dmytro Komarchuk, Volodymyr Mirosnyk, Artem Martysfei and Taras Lendiel Information Technology For Remote Evaluation Of After Effects Of Residues Of Herbicides On Winter Crop Rape
9.	Oleksandr Kliuiev, Oleh Uhrovetskyi, Ella Simakova-Yefremian, Mykhailo Mozhaiev and Oleksandr Mozhaiev Method Of Forensic Research on Image for Finding Touch Up on The Basis Of Noise Entropy
10.	Alexander Trunov Diagnostic of Inflammation and Choice of Therapy's Alternatives in Accordance with Several Standards
11.	Lesya Nikiyuk, Roman Tsaryov, Kateryna Lavreka and Kateryna Shulakova Method Of Optimum Synthesis Of Reconstructed Subscriber Access Network with using FTTC Technology
12.	Oleksandr Koval, Valeriy Kuzminykh, Serhii Otrokh and Vladyslav Kravchenko Optimization of Scenarios for Collecting Information Streaming Wide-Area Network
13.	Valerii Kozlovskyi, Roman Korzh, Svitlana Petrovska, Yurii Balaniuk, Yuliia Boiko and Ivan Yakoviv Low-frequency schemes of substitution of segments inhomogeneous transmission lines
14.	Lubov Berkman, Larysa Kriuchkova, Olga Tkachenko and Oksana Varfolomeeva Determination of criteria for choosing the best ways and indicators of service quality in infocommunication networks
15.	Vasyl Kychak, Volodymyr Tromsuk, Serhii Tsyryulnyk, Artem Metelitsa, Yaroslav Borodai and Vasyl Tkachuk Analysis and synthesis of codes of generators in Quartus II
16.	Andrii Hryvachevskyi, Sergiy Fabirovskyy, Ivan Prudyus and Jan Matuszewski Multi-criteria Informativeness Evaluation of Digital Images In Monitoring Systems
17.	<i>Aleksey Yanenko, Sergey Peregudov, Mikhail Prokofiev and Konstantin</i>

	<i>Shevchenko</i> Perspectives of the Using mm-Range Radiometry in Telecommunication Systems of Information Transmission
18.	<i>Evgeniy Lavrov, Olga Lavrova, Natalija Barchenko and Nataliia Savina</i> Models of the Dialogue “Human - Computer” for Ergonomic Support of E-Learning
19.	<i>Ivan Katerynychuk and Michael Strelbitsky</i> Model of information flows of the information system at the stage of modernization
20.	<i>Myroslava Yavorska, Mykhaylo Palamar, Mykhaylo Strembitskyi and Stepan Mashtalyar</i> Information support for the fractal antennas construction
21.	<i>Nataliya Suprun and Yana Red’ko</i> Flexible textile absorbers of electromagnetic radiation
22.	<i>Anatoliy Andrushchak, Volodymyr Adamiv, Oleg Yaremko and Taras Rosa</i> Research of Nanocomposite Materials for Telecommunication Networks

Wednesday, July 3

16.30 – 18.00

Chair:

Prof. Jürgen Smettan

ORAL SESSION

1.	Mykola Pasyeka, Vasyl Sheketa, Nadiia Pasioka, Svitlana Chupakhina and Ivanna Dronyuk System Analysis of Caching Requests on Network Computing Nodes
2.	Gerhard Luhn and Agnes Oszuszký Information holism – a new way to close the information gap
3.	Yuriy Shapovalov, Dariya Bachyk and Ksenia Chaban Determination of the Sensitivity of Linear Periodically-Time-Variable Circuits by the Frequency Symbolic Method
4.	Mykola Dyvak, Natalia Porplytsya and Yurii Maslyiak Computational complexity of structural identification method for interval discrete models
5.	Sergei Yelmanov, Olena Hranovska and Yuriy Romanyshyn Image Enhancement Technique based on Power-Law Transformation of Cumulative Distribution Function

S2: Software Defined Networking and Network Function Virtualization

Wednesday, July 3

14.00 – 18.00

Chair:

Prof. **Oleksandr Lemeshko**

ORAL SESSION

1.	<i>Nick Vinogradov and Alina Savchenko</i> Impact of network control system performance on efficiency of large corporate network
2.	<i>Irina Strelkovskaya, Irina Solovskaya and Anastasiya Makoganiuk</i> Predicting self-similar traffic using cubic B-splines
3.	<i>Yuliia Pyrih, Mykola Kaidan and Ihor Tchaikovskiy</i> Research of Genetic Algorithms for Increasing the Efficiency of Data Routing
4.	<i>Oleksandr Lemeshko, Oleksandra Yeremenko, Maryna Yevdokymenko, Batoul Sleiman, Ahmad M. Hailan and Amal Mersni</i> Computation Method of Disjoint Paths under Maximum Bandwidth Criterion
5.	<i>Saleem Iqbal, Adnan Ahmed, Muhammad Irshad and Imtiaz Ali Halepoto</i> Maintaining Information Consistency in Inter-domain Software Defined Networks
6.	<i>Olena Tykhonova, Olga Yavorska and Vasyl Berezovskiy</i> The max-flow problem statement on the three-pole open network graph

Wednesday, July 3

15.30 – 16.30

POSTER SESSION

1.	Yaroslav Krainyk, Olga Dvornik and Oleksii Krainyk Software-Defined Network Application-Aware Controller for Internet-of-Things
2.	<i>Oleksandr Lemeshko, Tetiana Lebedenko and Aymen Al-Dulaimi</i> Improvement of Method of Balanced Queue Management on Routers Interfaces of Telecommunication Networks

S3: Internet of Things (IoT)

Thursday, July 4

9.00 – 13.00Chair:
Dr. Mahmut Durgun**ORAL SESSION**

1.	<i>Dmytro Fedasyuk, Roman Holyaka and Tetyana Marusenkova</i> A Tester of the MEMS Accelerometers Operation Modes
2.	Anatolii Kargin and Tetyana Petrenko Knowledge Representation in Smart Rules Engine
3.	Oleksii Serheiev-Horchynskyi Measures of optimal digital filtering for different signal types in medical telecommunication systems
4.	Bohdan Rusyn, Oleksiy Lutsyk, Rostyslav Kosarevych and Yarema Varetsky Automated recognition of numeric display based on deep learning
5.	<i>Bohdan Shevchuk, Yuriy Brayko, Mykhaylo Geraimchuk, Orest Ivakhiv and Roman Velgan</i> Processing of input signals of wireless monitoring networks by means of subscriber systems

Thursday, July 4

10.30 – 11.30**POSTER SESSION**

1.	Sergey Toliupa, Ihor Tereikovskiy, Ivan Dychka, Liudmyla Tereikovska and Alexander Trush The Method of Using Production Rules in Neural Network Recognition of Emotions by Facial Geometry
2.	Yaroslav Krainyk, Yevhen Davydenko and Valentyn Tomas Configurable Control Node for Wireless Sensor Network
3.	Valerii Koval, Nadiia Kazakova, Dmytro Kalian, Dmytro Komarchuk, Vitaliy Lysenko and Oleksandr Samkov The use of advanced information and communication technologies to monitor the quality of synchronization signals of IoT terminal devices
4.	Roman Melnyk and Ruslan Tushnytskyy Piece-Wise Approximation of Distributed Cumulative Histogram Features for Face Classification
5.	<i>Valery Shestakov and Yuriy Danyk,</i> Methodology Of Situational Control System Synthesis

Thursday, July 4

14.00 – 18.00

Chair:
Dr. Levent Gokrem

ORAL SESSION

1.	<i>Victor Gorbachev, Ivan Vikulin, Anna Gorbacheva, Vika Krasova and Victor Litvinenko</i> Radiation resistant FET-based Temperature Sensor for End Devices of IoT
2.	<i>Mahmut Durgun and Levent Gokrem</i> Cloud-based adjustable and section led pattern controlled street light
3.	<i>Yeliz Durgun and İsa Karaman</i> Web of Things Based User-Friendly Pulse Width Modulation Dimmable Intelligent Digital Led Driver
4.	Levent Gokrem, Mahmut Durgun and Yeliz Durgun Indoor Location Control with Visible Light Communication
5.	<i>Olexander Belej, Natalia Nestor, Orest Polotai and Jan Sadeckii,</i> Features of Application of Data Transmission Protocols in Wireless Networks of Sensors

Thursday, July 4

15.30 – 16.30**POSTER SESSION**

1.	<i>Sergei Yelmanov, Olena Hranovska and Yuriy Romanyshyn</i> A New Approach to the Implementation of Histogram Equalization in Image Processing
2.	<i>Sergey Sveleba and Ivan Katerynychuk</i> The real time face recognition
3.	<i>Vadym Bakiko, Volodymyr Shvaichenko, Yuri Onikienko and Oleksii Pereverziev</i> The concept of integrating the Fashion Industry into the Entertainment Industry on the basis of the Internet of Things
4.	<i>Vasyl Lytvyn, Victoria Vysotska, Ivan Peleshchak, Roman Peleshchak, Ihor Kohut and Vladyslav Mykhailyshyn</i> Intelligent System of a Smart House
5.	<i>Stanislav Omelianenko, Yuriy Kondratenko, Galyna Kondratenko and Ievgen Sidenko</i> Advanced system of Planning and Optimization of Cargo Delivery and Its IoT Application

S4: Mobile Communication Networks

Thursday, July 4

9.00 – 13.00

Chair:

Prof. Ruslan Politanskyi

ORAL SESSION

1.	<i>Nikolay Vinogradov, Mikhailo Stepanov, Valerii Hladkykh, Oleksandr Toroshanko and Andrii Skrypnychenko</i> Eliminate Application Redundancy Using Local Processing Using Directional Diffusion With Mobile Agents
2.	<i>Roman Odarchenko, Jordi Gimenez, Yevgeniya Sulema, Swen Petersen and Baruch Altman</i> Multilink solution for 5G: Efficiency Experimental Studies
3.	<i>Dmytro Makoveyenko and Olena Osharovska</i> Electromagnetic Compatibility of 5G Mobile Communications and Ultra-Wideband Devices
4.	<i>Kostiantyn Sielivanov, Mykola Moskalets and Al-Vandavi Saif Ahmed Iskandar Ismael</i> A Method for Increasing Probability of Detecting Call Signals of Subscriber Stations in Mobile Communication Systems

Thursday, July 4

10.30 – 11.30

POSTER SESSION

1.	<i>Oleksandr Oksiiuk and Vadym Krotov</i> Method of Nodes Connectivity Management of Tactical Mobile Radio Networks
2.	<i>Oleksiy Polikarovskyy, Igor Gula and Lesya Karpova</i> Phase accumulator simulation for advanced digital frequency synthesizers
3.	<i>Orest Khamula, Svitlana Vasiuta, Nazar Soroka, Olha Sosnovska and Mykhailo Kliap</i> Interface management of mobile devices via electromyography
4.	<i>Igor Zelinsky, Myroslava Yavorska and Mykhaylo Palamar</i> Data procesing problem at Remote Measurements of Parabolic Antenna Dimensions
5.	<i>Olena Semenova, Andriy Semenov and Olha Voitsekhovska</i> Neuro-Fuzzy Controller for Handover Operation in 5G Heterogeneous Networks

Thursday, July 4

14.00 – 18.00

Chair:

Prof. Ruslan Politanskyi

ORAL SESSION

1.	<i>Ruslan Politanskyi and Mykhailo Klymash</i> Application Of Artificial Intelligence In Cognitive Radio For Planning Distribution Of Frequency Channels
2.	Alexandr Kuznetsov, Oleksii Smirnov, Diana Kovalchuk, Alexander Averchev, Mykola Pastukhov and Kateryna Kuznetsova Formation of Pseudorandom Sequences with Special Correlation Properties
3.	<i>Yulia Skoryk, Valeriy Bezruk, Victoria Vlasova and Yuriy Koltun</i> Multicriterial analysis and selection of mobile communication technologies of the fourth and fifth generation
4.	Andrii Zinchenko, Natalia Korolyuk, Elena Korshets and Vadym Slusar The method of open space selection of signals for RedCom systems

S5: Cybersecurity In ICT

July 5, Friday

09.00 – 14.00Chairs:
Prof. Serhii Toliupa**ORAL SESSION**

1.	<i>Ivan Obod, Iryna Svyd, Oleksandr Maltsev, Halyna Maistrenko, Oleh Zubkov and Ganna Zabolodko</i> Bandwidth Assessment of Cooperative Surveillance Systems
2.	<i>Vladimir Barannik, Vadym Fustii, Dmitry Barannik and Maksym Parkhomenko</i> Evaluation of effectiveness of masking methods of aerial photographs
3.	<i>Pavlo Gurzhiy, Oleksandr Yudin, Bogdan Gorodetsky and Yuriy Ryabukha</i> The Method of Adaptive Counteraction to Viral Attacks, Taking Into Account Their Masking in Infocommunication Systems
4.	<i>Tatyana Belikova, Oleksii Dovbenko, Albert Lekakh and Oleksandr Dodukh</i> Method of Increasing the Capacity of Information Threat Detection Filters in Modern Information and Communication Systems

July 5, Friday

09.00 – 14.00**POSTER SESSION**

1.	<i>Iryna Svyd, Ivan Obod, Oleksandr Maltsev, Ganna Zabolodko, Daria Pavlova and Halyna Maistrenko</i> Fusion of Airspace Surveillance Systems Data
2.	<i>Iryna Svyd, Ivan Obod, Oleksandr Maltsev, Oleksii Strelnitskiy, Oleh Zubkov and Ganna Zabolodko</i> Method of Increasing the Identification Friend or Foe Systems Information Security
3.	<i>Dmytro Chumachenko and Sergiy Yakovlev</i> Development of deterministic models of malicious software distribution in heterogeneous networks
4.	<i>Svitlana Popereshnyak</i> Analysis of pseudorandom small sequences using multidimensional statistics
5.	<i>Vasyl Lytvyn, Roman Peleshchak, Ivan Peleshchak and Victoria Vysotska</i> Information Encryption Based on the Synthesis of a Neural Network and AES Algorithm

July 5, Friday

14.00 – 18.00

Chairs:
Prof. Serhii Toliupa

ORAL SESSION

1.	<i>Lada Slipachuk, Serhii Toliupa and Volodymyr Nakonechnyi</i> The Process of the Critical Infrastructure Cyber Security Management using the Integrated System of the National Cyber Security Sector Management in Ukraine
2.	<i>Gennady Khalimov, Tendong Tetuh Simon, Albarghati Mohammed Adrees and Yevgen Kotukh</i> MST3 cryptosystem based on a small Ree groups
3.	<i>Mykola Kushnir, Anatolii Semenko and Grygorii Kosovan</i> Increasing the cryptosecurity of telecommunication systems with spread spectrum by using pseudorandom sequences based on two ergodic chaotic signals
4.	<i>Serhii Toliupa, Hanna Shvedova and Ivan Parkhomenko</i> Security And Regulatory Aspects Of The Critical Infrastructure Objects Functioning And Cyberpower Level Assesment

LOCATION

