

Third International Conference

Futuristic Trends in Networks and Computing Technologies (FTNCT-2020)

GMT+3 24h format

CONFERENCE PROGRAM

October 13

11:00 – 14:00 Test day. Connection to the conference, Frequently Asked Questions, presentations test.
Chair: **Dr. Yurii Zachinyaev**

October 14

8:45 Connection to the conference

9:00 **Greeting speech by Dr. Gennady Veselov, Honorary Chair, Head of Institute of Computer Technologies and Information Security**

9:15-9:55 **Keynote speech. Dr. Pradeep Kumar Singh. IoT: Internet of Vulnerable Things. Threat Architecture, Attack Surfaces, and Vulnerabilities in Internet of Things and Its Applications towards Smart Cities**

10:00-11:00 [261] Alexander Zakharov. Electronic Medical Records Data Analysis Technologies and Services for the Cardiovascular Diseases Risk Prediction.
[134] Ivan Linnik, Elena Linnik, Igor Grishin, Rena Timirgaleeva and Aleksander Tamargazin. Air Navigation: An Integrated Test Method for Airborne Objects' Identification Systems.
[177] Said Muratchaev and Alexey Volkov. Development of a Routing Protocol Based on Clustering in MANET.
[257] Sergei Petrenko, Alexander Petrenko, Krystina Makoveichuk and Alexander Olifirov. Development of a cyber-resistant platform for the internet of things based on dynamic control technology.
[16] Prahlad Bhadani, Kamakshi Puri, Ankur Choudhary, Arun Prakash Agrawal and Neha Agarwal. A Hybrid Metaheuristic To Solve Capacitated Vehicle Routing Problem.
Session chair: **Dr. Anton Pljonkin**

11:00-12:00 [23] Sergei Shalagin. Representation of the quantum Fourier transform based on a discrete model of a quantum-mechanical system.
[146] Victoria Bova Bova, Yury Kravchenko, Sergey Rodzin and Elmar Kuliev. Simulation of the semantic network of knowledge representation in intelligent assistant systems based on ontological approach.
[6] Sumit Kumar, Kanika Joshi, Shreya Jain and Nihar Ranjan Roy. Optimization of K- Nearest Neighbors for Classification.
[192] Artem S. Lebedev and Shamil G. Magomedov. Automatic parallelization of affine programs for distributed memory systems.
[151] Boris K. Lebedev and Oleg B. Lebedev. Bioinspired multi-memetic algorithm.
Session chair: **Dr. Anton Pljonkin**

12:00-13:00 [193] Sergey Kharchenko, Roman Meshcheryakov and Yaroslav Turovsky. Influence of signal preprocessing when highlighting steady-state visual evoked potentials based on a multivariate synchronization index.
[18] Kartik Aggarwal and Nihar Roy. Energy Conservation in IOT: A Survey.
[26] Ratima Raj Singh, Surbhi Vijh, Sumit Kumar and Nihar Ranjan Roy. Analysis of Histopathological Images using Machine Learning Techniques.
[43] Udai Bhan Trivedi and Priti Mishra. Accelerating Stochastic Gradient Descent by Minibatching, Learning Rate Annealing and Momentum.
[147] Anton Pljonkin, Pradeep Kumar Singh, Sandeep Joshi and Lilia Sabantina. The study of synchronization in quantum key distribution system.
Session chair: **Dr. Ilona Kursitys**

13:00-13:30 Rest and **Discussion club**
Chair: **Dr. Ilona Kursitys**

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13:30 -14:05	Keynote speech. Dr. Prof. Valery Vyatkin. On cyber-physical engineering of industrial automation systems
14:10-15:00	<p>[255] María Martín Marín, Juan José Domínguez Jiménez, Francisco Palomo Lozano and Inmaculada Medina Buló. Application of Genetic Algorithms to the Test Suite Cases Minimization.</p> <p>[47] Gururaj H L, Suhas K C and Goutham B. Medchain: Securing Electronic Medical Records with a Peer to Peer Networks and Distributed File System.</p> <p>[58] Veerawali Behal and Ramandeep Singh. An Ensemble Approach of Multi-Objective Differential Evolution Based Benzene Detection.</p> <p>[137] Sarita Mishra, Manjusha Pandey, Siddharth S. Rautaray and Mahendra K. Gourisaria. A Proposal For Early Detection Of Heart Disease Using A Classification Model.</p> <p>[148] Hetvi Shah and Keyur Rana. A Deep Learning Approach for Autonomous Navigation of UAV.</p> <p>Session chair: Dr. Ilona Kursity</p>
15:00-16:00	<p>[184] Sergey Sizov, Tatiana Drovosekova and Ivan Pershin. Application of machine learning methods in modeling hydrolithospheric processes.</p> <p>[21] Vjacheslav Zakharov, Sergei Shalagin and Bulat Eminov. Representation of autonomous probabilistic automata by characteristic minimal polynomials over a finite field.</p> <p>[61] Garima Vijh, Dr Richa Sharma and Dr Swati Agrawal. The Heartfelt and Thoughtful Rulers of the World: AI Implementation in HR.</p> <p>[63] Yash Kaushik, Muskaan Dixit, Nikhil Sharma and Monika Garg. Feature Selection using Ensemble techniques.</p> <p>[197] Mahvish Bijli and Neerendra Kumar. Autonomous Navigation of Mobile Robot With Obstacle Avoidance: A review.</p> <p>Session chair: Dr. Yurii Zachinyaev</p>
16:00-17:00	<p>[272] Alexander Basan, Elena Basan, Maria Lapina and Vitalii Lapin. Behavior-Based Assessment of Trust in a Cyber-Physical System.</p> <p>[145] Alexandr Pchelkin, Natalia Gusarova, Natalia Dobrenko and Alexandra Vatyán. Mobile Healthcare Service for Self-Organization in Older Populations During a Pandemic.</p> <p>[188] Alexey Busygin and Maxim Kalinin. Criterion of blockchain vulnerability to majority attack based on hashing power distribution assessment.</p> <p>[140] Alexander Bozhenyuk, Margarita Knyazeva, Olesiya Kosenko and Evgeny Kosenko. Analysis of Using the Fuzzy Interval Apparatus for Applied Tasks.</p> <p>[253] Andrey Iskhakov, Anastasia Iskhakova, Valentin Okhapkin and Elena Okhapkina. Constructing of Semantically Dependent Patterns Based on SpaCy and StanfordNLP Libraries.</p> <p>Session chair: Dr. Yurii Zachinyaev</p>
17:00-18:00	<p>Organizing committee remark. Discussion club. End of Day 1</p> <p>Chair: Dr. Yurii Zachinyaev</p>

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CONFERENCE PROGRAM

October 15

8:45 Connection to the conference

9:00-9:35 Keynote speech. **Dr. Maheshkumar H. Kolekar. Machine Learning and Deep Learning Techniques for Abnormal Human Activity Recognition**

9:45-11:00 [232] Wan Azani Wan Mustafa and Mohd Helmy Abd Wahab. Automatic Counting of Palm Oil Tree Using Satellite Aerial Imagery.
[201] Alexander Bozhenyuk and Kirill Morev. Influence of Membership Function Type on the Accuracy of Video Tracking Algorithm.
[224] Ivan Perchin, Anatol Malkov and Irina Pomelyayko. Design of a Distributed Debit Management Network of Operating Wells of Deposits of the CMW Region.
[269] Nikolai Fomin and Roman Meshcheryakov. Modelling smart city cyber-physical water supply systems: vulnerabilities, threats and risks.
[218] Valentina Kuznetsova. The Fuzzy Approach for Clustering Borrowers of Microfinance Organizations.
Session chair: **Dr. Evgeniya Gerasimenko**

11:00-12:00 [240] Vlada Zhernova and Alexey Minbaleev. The formation of legal measures to counter information security incidents in the use and application of cyber-physical systems.
[72] Madhavi Latha Challa and Soujanya K.L.S. Secure IoT Framework through FSIE approach.
[99] Manpreet Singh and Jitender Kumar Chhabra. Software Fault Prediction using Machine Learning Models and Comparative Analysis.
[102] Ch Leela Kumari, Dr. Vikram Kumar Kamboj and Dr.Sarbjeet Kaur Bath. Problem Formulation for Multi-Area Economic Load Dispatch Problem considering Real power and Tie-Line Constraints.
[270] Shamil Magomedov. Software for analyzing security for healthcare organizations.
Session chair: **Dr. Evgeniya Gerasimenko**

12:00-13:00 [110] Loveleen Gaur, Gurinder Singh and Vernika Agarwal. Leveraging Artificial Intelligence tools to combat the COVID-19 Crisis.
[115] Loveleen Gaur, Govind Agarwal and Ankur Bist. COVID-19 REAL-TIME IMPACT ANALYSIS INDIA vs. the USA.
[116] Shivani Sehgal, Aman Ganesh and Vikram Kumar Kamboj. A Cost Effective Memetic Optimal approach for Solution of Economic Load Dispatch Problem in Realistic Power System.
[105] Stanislav Belyakov, Stanislav Karpov and Eldar Zalilov. Detecting fraudulent transactions using a machine learning algorithm.
[119] Ravi Prakash Varshney and Dilip Kumar Sharma. Cold Start in Function as a Service: A systematic study, analysis and evaluation.
Session chair: **Dr. Evgeniya Gerasimenko**

13:00-13:30 Rest and **Discussion club**
Chair: **Dr. Evgeniya Gerasimenko**

13:30 – 14:05 Keynote speech. **Dr. Vivek Kumar Sehgal. Neuromorphic Stochastic Modeling of COVID-19 Pandemic**

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| 14:10-15:00 | <p>[139] Svetlana Kolesnikova, Vyacheslav Avramyonok and Alina Bogdanova. Forecasting Nonstationary Time Series Based on the Use of Kernel Regression for Control Problems.</p> <p>[172] Shagun Verma and Neerendra Kumar. Path Planning for Autonomous Robot Navigation: Present Approaches.</p> <p>[191] Sneha Raina, Abha Khandelwal, Saloni Gupta and Alka Leekha. Brain Tumor Segmentation Using Unet.</p> <p>[212] Andrey E. Ampliev. Probabilistic characteristics of a two-channel detector with two inertial single-photon photoemission devices and an electronic adder.</p> <p>[86] Alexey Mogilev and Victor Kureichik. Modified genetic algorithm for solving the resource constrained project scheduling problem.</p> <p>Session chair: Dr. Alexey Tselykh</p> |
| 15:00-16:00 | <p>[194] Elena Jharko, Ekaterina Abdulova and Andrey Iskhakov. Unmanned Vehicles: Safety Management Systems and Safety Functions.</p> <p>[169] Elena Volkova, Said Muratchaev and Alexey Volkov. Development of a Automated Environmental Monitoring System with Forecasting.</p> <p>[164] Artem Ryndin, Ekaterina Pakulova and Gennady Veselov. Multimodal interaction: taxonomy, exchange formats.</p> <p>[239] Dmitry Zaporozhets, Vladimir Kureichik and Vladimir Kureichik Jr. The Hybrid Approach for the Partitioning of VLSI Circuits.</p> <p>[39] Dmitry Zaporozhets, Yury Kravchenko, Elmar Kuliev, Ilona Kursitys and Natalia Lyz. Identification of implicit threats based on analysis of user activity in the Internet space</p> <p>Session chair: Dr. Alexey Tselykh</p> |
| 16:00-17:00 | <p>[1] Viktor Potapov, Sergey Gushanskiy and Alexander Gorbunov. Development Quantum Algorithms, Systems and Prevention or Elimination Quantum Types of Errors.</p> <p>[241] Denis Makhov. Method of Increase In Stability Of Management By Functional Parameters Of The Spatial Distributed Radio Engineering Systems In The Robotic Complexes Based On The Fuzzy Sets.</p> <p>[273] Viktoriya Taran. Analysis of the Activity of Complex Natural Processes with Catastrophic Consequences Using the Bayesian Belief Network.</p> <p>[264] Sunil Mankotia and Manu Sood. An Efficient Authentication Scheme for Mobile Cloud Computing using a Key Server.</p> <p>[42] Ivian Laobel Castellano Betancourt, Nemury Silega Martínez, Olga Yarisbel Rojas Grass, Manuel Noguera and Osmar Capote Vázquez. Exploiting an ontology-based solution to study code smells.</p> <p>Session chair: Dr. Elena Basan</p> |
| 17:00-18:00 | <p>Organizing committee remark. Discussion club. End of Day 2</p> <p>Chair: Dr. Elena Basan</p> |

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CONFERENCE PROGRAM

October 16

8:45 Connection to the conference

9:00-9:35 Keynote speech. **Prof. Dr. Sergey Kulik. Quantum cryptography through atmospheric and space communication channels**

9:45-11:00 [196] Tatiana Kosachenko, Danil Dudkin, Anton Konev and Alexander Sharamok. Threat Model for Trusted Sensory Information Collection and Processing Platform.
[165] Kirill Ponomarev and Alexander Zakharov. Framework for processing medical data and secure machine learning in Internet of medical things.
[204] Liliya A. Demidova, Nailiya S. Asfandiyarova, Natalya V. Doroshina, Olga V. Dashkevich and Ekaterina I. Suchkova. An approach to the medical-type data multiobjective analysis.
[238] Maksimova Elena and Baranov Vladimir. Predicting destructive malicious impacts on the subject of critical information infrastructure.
[245] Mark Mamchenko and Rinat Galin. Human-Robot Collaboration in the Society of the Future: a Survey on the Challenges and the Barriers.
Session chair: **Dr. Anton Pljonkin**

11:00-12:00 [168] Antonio Hernández Dominguez and Walter Baluja García. Updated analysis of detection methods for phishing attacks.
[144] Edwin Geovanny Flores Castro and Sang Guun Yoo. A Smart Waste Management System based on LoRaWAN.
[180] Oksana Lukmanova and Anatoly Horev. Modeling the Acoustoelectric Effect in a Telephone Using COMSOL Multiphysics.
[252] Aleksey Rogachev and Gennadiy Atamanov. Analysis of socio-political content of internet resources based on hybrid neural network technologies.
[254] Anastasia Iskhakova, Olga Shumskaya and Andrey Iskhakov. Protection of signals in the video stream of a mobile robotic group agent.
Session chair: **Dr. Yurii Zachinyayev**

12:00-13:00 [73] Leandro Tabares Martín, Nemury Silega Martínez and Marc Gyssens. Query Reverse Engineering in the context of the Semantic Web: a state-of-the-art.
[222] Prajna P. Parida, Mahendra K Gourisaria, Manjusha Pandey and Siddharth S. Rautaray. Hybrid Movie Recommender System - A Proposed Model.
[230] Veeranna Gatate and Dr. Jayashree Agarkhed. Energy and Spectrum-aware Cluster-based Routing in Cognitive Radio Sensor Networks.
[248] Srinidhi N N, Dharamendra Chouhan, Savitha A N, Shreyas J and Dilip Kumar S M. Maximization of IoT Network Lifetime Using Efficient Clustering Technique.
[93] Harsha Sri Kanakavalli, Vinod Babu P and V. A. Sankar Ponnappalli. Design of U-Shaped Multiline Microstrip Patch Antenna for Advanced Wireless Applications.
Session chair: **Dr. Yurii Zachinyayev**

13:00 – 13:30 Organizing committee remark. **Discussion club.** End of conference
Chair: **Dr. Yurii Zachinyayev**