

Thursday, 17th September 2020

online presentation - 15 min, incl. discussion

09³⁰-13⁰⁰ Conference Opening and 1st Online Session

09:30 **Conference Opening**

Section [A]: “Information Technologies” (reports with first index “A”)

Software Technologies and Programming

09:45

[A01]* Recruitment Software Tools in Enhancing Human Resources Management Efficiency

Teodora Lazarova

VUZF University (Bulgaria)

Digital Signal Processing and Applications

10:00

[A02] A Method for Synthesis of Nearly Ideal Phase Manipulated Signals

Mihail Iliev¹, Borislav Bedzhev², Monika Bedzheva³, Plamen Yanakiev³

¹ University of Ruse, ² NMU “V. Levski”, ³ Konstantin Preslavsky University of Shumen (Bulgaria)

10:15

[A03] Genetic Algorithm for Synthesis of Binary Signals with Optimal Autocorrelation

Mihail Iliev¹, Nikolay Nikolov², Miroslav Dimitrov³, Borislav Bedzhev⁴

¹ University of Ruse, ² State Agency of National Security, ³Bulgarian Academy of Sciences, ⁴ NMU “V. Levski” (Bulgaria)

10:30

[A04] Application of Images Segmentation for Evaluation Structure of White Brined Cheese

Atanaska Bosakova-Ardenska, Peter Panayotov, Petya Boyanova, Evelina Pashova

University of Food Technologies, Plovdiv (Bulgaria)

Database Management Systems and Information Systems

10:45

[A05]* HISTEX (HISTory EXerciser): An Overview

Dimitrios Liarokapis¹, Elizabeth O’Neil², Patrick O’Neil²

¹ Department of Informatics & Telecommunications, University of Ioannina (Greece)
² Computer Science Department, University of Massachusetts Boston (USA)

11:00

[A06] Testing Concurrency in Database Still Matters

Dimitrios Liarokapis¹, Elizabeth O’Neil², Patrick O’Neil²

¹ Department of Informatics & Telecommunications, University of Ioannina (Greece)
² Computer Science Department, University of Massachusetts Boston (USA)

Computational Social Science

11:15

[A07] Multiobjective Forecasting Model Based on the Interval Discrete Type-2 Fuzzy Sets and Genetic Algorithm

Liliya Anatolievna Demidova¹, Maksim Anatolievich Stepanov²

¹ Russian Technological University – MIREA, Moscow (Russian Federation)
² Ryazan State Radio Engineering University (Russian Federation)

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11:30

[A08] Approach to the Analysis of the Multidimensional Time Series Based on the UMAP Algorithm in the Problems of the Complex Systems Proactive Maintenance

Liliya Anatolievna Demidova¹, Maksim Anatolievich Stepanov²

¹ Russian Technological University – MIREA, Moscow (Russian Federation)

² Ryazan State Radio Engineering University (Russian Federation)

Hypermedia, Multimedia and Social Media

11:45

[A09] A Sample Teaching Design of ‘Water Conductivity’ Unit

Anna Thysiadou, Sofoclis Christoforidis

International Hellenic University, Kavala (Greece)

Visualization Methods and Techniques

12:00

[A10] Monitoring Real Time the Arachthos River (Greece) Using a Web GIS Platform

Petros Karvelis, Dimitris Salmas and Chrysostomos Stylios

University of Ioannina – Campus of Arta (Greece)

Augmented and Virtual Reality

12:15

[A11] Building a Virtual Reality Fire Environment based on Fire Dynamic Simulator

Mpesiana Tzani¹, Jeries Besharat², Vlasis Charalampous¹, Chrysostomos Stylios^{1,2}

¹ University Campus of of Patras, ² University of Ioannina (Greece)

Health Informatics

12:30

[A12]* REBA Workplace Ergonomics using Kinect

Gabriela Guadalupe Reyes-Zárata, Israel García Cavazos

Faculty of Engineering and Science, Tecnológico de Monterrey (México)

14⁰⁰-16⁰⁰ 2nd Online Session

Section [B]: “Information Security” (reports with first index “B”)

Security Policy, Methods and Tools

14:00

[B01] A Reliable Authentication Method for the Internet of Things Devices

Arslan Gasanovich Mustafaev, Abdulhamid Yahayevich Buchaev

Dagestan State University of National Economy (Russian Federation)

14:15

[B02] Measuring the Optimal Information Security Complexity for Blockchain Operations

Veselin Monev

New Bulgarian University (Bulgaria, Switzerland)

14:30

[B03] Defining and Applying Information Security Goals for Blockchain Technology

Veselin Monev

New Bulgarian University (Bulgaria, Switzerland)

14:45

[B04] Organisational Information Security Maturity Assessment Based on ISO 27001 and ISO 27002

Veselin Monev

New Bulgarian University (Bulgaria, Switzerland)

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Section [C]: “Networking and Communication Technologies” (reports with first index “C”)

Cloud Computing (Cloud Services and Applications)

15:00

[C01]* **How to Develop Cloud Computing Strategies in Wholesale Technology**

Andreas Pescholl

Haustechnik Handels-GmbH, Treuen (Germany)

Mobile Cloud Computing

15:15

[C02] **EHealth Communications at the Network Edge**

Ivaylo Atanasov, Aleksandar Nametkov, Evelina Pencheva

Technical University of Sofia (Bulgaria)

15:30

[C03] **Edge Based Mission Critical Session Control**

Evelina Pencheva, Denitsa Velkova, Ivaylo Atanasov

Technical University of Sofia (Bulgaria)

Internet of Things

15:45

[C04] **Some Security Problems and Aspects of the Industrial Internet of Things**

Georgi Tsochev

Technical University of Sofia (Bulgaria)

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09³⁰-13⁰⁰ 3rd Online Session

Section [D]: “Intelligent Systems and Applications” (reports with first index “D”)

Intelligent and Agent Systems

09:30

[D01] Regularization Methods for Neural Network Models and Logistic Regression Models in the Problem of Classifying Industrial Products into Homogeneous Batches

Vladimir Nikolaevich Krutikov¹, Guzel Sharipzhanovna Shkaberina², Elena Mikhailovna Tovbis², Lev Alexandrovich Kazakovtsev²

¹ Kemerovo State University, ² Reshetnev Siberian State University of Science and Technology (Russian Federation)

09:45

[D02] Search Algorithms with Randomized Variable Neighborhoods for Solving Series of Clustering Problems

Ilnar Nasyrov¹, Mikhail Gudyma¹, Lev Kazakovtsev^{1,2}, Dmitry Stashkov³

¹ Reshetnev Siberian State University of Science and Technology (Russian Federation),

² Siberian Federal University, ³JSC "SINETIC" (Russian Federation)

10:00

[D03] Information System Supporting the Management of a Flooding Crisis in the City of Prague

Leon J. M. Rothkrantz, Siska Fitriane

Delft University of Technology (The Netherlands)

10:15

[D04] AmbiNet Modelling of Spatial Aspects of Things

Stanimir Stoyanov, Todorka Glushkova, Asya Stoyanova-Doycheva, Emil Doychev

University of Plovdiv “Paisii Hilendarski”, Plovdiv (Bulgaria)

10:30

[D05]* Deep Neural Networks in Collective Robotics Control

Vanya Dimitrova Markova, Ventseslav Kirilov Shopov

Institute of Robotics - Bulgarian Academy of Sciences, Plovdiv (Bulgaria)

10:45

[D06] Deep Learning Approach for Identification of Non-linear Dynamic Systems

Vanya Dimitrova Markova, Ventseslav Kirilov Shopov

Institute of Robotics - Bulgarian Academy of Sciences, Plovdiv (Bulgaria)

11:00

[D07]* Path-planning for an Autonomous Mobile Robot with Chaotic Behaviour

Ventseslav Kirilov Shopov, Vanya Dimitrova Markova

Institute of Robotics - Bulgarian Academy of Sciences, Plovdiv (Bulgaria)

11:15

[D08] Deep Reinforcement Learning Approach for Building of Autonomous Robots Formations

Vanya Dimitrova Markova, Ventseslav Kirilov Shopov

Institute of Robotics - Bulgarian Academy of Sciences, Plovdiv (Bulgaria)

11:30

[D09]* Artificial Intelligence in Renewable Energy Systems Based on Smart Energy House

Saiful Islam, Lukasz Rojek, Michael Hartmann, Goran Rafajlovski

SRH Berlin University of Applied Sciences, Berlin (Germany)

11:45

[D10] Experimental Framework and Graphical User Interface for Research in Bioinformatics: GRAY – Gene Rapid Analysis

Desislava Ivanova, Boris Nenchevski
 Technical University of Sofia (Bulgaria)

12:00

[D11]* Sentiment Analysis with Instagram Data

Pinar Kirci, Elanur Gulbak
 Bursa Uludag University & Istanbul University-Cerrahpaşa (Turkey)

Ontology and Semantic Web

12:15

[D12] Assessing Ontology Alignment Quality – Analysis and Recommendations

Tatyana Ivanova
 Technical University of Sofia (Bulgaria)

12:30

[D13] Extending Ontology Alignment Evaluation Data Sets for Evaluation of Bulgarian Language – Labelled Ontology Alignment

Tatyana Ivanova
 Technical University of Sofia (Bulgaria)

14⁰⁰-16³⁰ 4th Online Session
Section [E]: “Technologies for System Design & Investigation” (reports with first index “E”)

Automation of System Design and Research

14:00

[E01] Mathematical Modelling of a DC-DC Boost Converter with Index Matrices

Nikolay L. Hinov¹, Polyana V. Gocheva¹, Valeri P. Gochev²
¹ Technical University of Sofia, ² University of Telecommunication and Posts (Bulgaria)

14:15

[E02] Index Matrices Based Modelling of a DC-DC Buck Converter with PID Controller and GUI on It

Nikolay L. Hinov¹, Polyana V. Gocheva¹, Valeri P. Gochev²
¹ Technical University of Sofia, ² University of Telecommunication and Posts (Bulgaria)

14:30

[E03]* Remote Access of a Greenhouse Automation

Pinar Kirci, Hakan Igdeli
 Bursa Uludag University & Istanbul University-Cerrahpaşa (Turkey)

Computer Architecture and Performance Evaluation

14:45

[E04] Performance Evaluation of Delta Networks Operating via Cut-Through Switching under Hotspot Traffic

Eleftherios Stergiou, Glavas Evripides, Spiridoula Margariti
 University of Ioannina – Campus of Arta (Greece)

Computer Modelling and System Investigation

15:00

[E05] Functional Organization and Evaluation of Access Management System with Heterogeneous Resources

Radi Romansky, Irina Noninska
 Technical University of Sofia (Bulgaria)

15:15

[E06] Some Analysis of the Timing Parameters in Real-time Embedded Systems*Iliya Georgiev, Ivo Georgiev*Metro State University of Denver (USA) *Testing, Diagnostic and System Reliability**Testing, Diagnostic and System Reliability*

15:30

[E07]* Power Substations Reliability Evaluation Using Fuzzy Set Theory*Atanas Iliev, Natasha Dimishkowska*

Ss. Cyril and Methodius University in Skopje (North Macedonia)

Power Systems – Automation and Control

15:45

[E08] Calculation of Starting and Breaking Times of Induction Motor Electric Drives for Different Mechanical Loads*Mihail Digalovski¹, Goran Rafajlovski²*¹ Faculty of Electrical Engineering and IT – Skopje (North Macedonia)² SRH University Berlin (Germany)

16:00

[E09]* Unit Commitment of Distributed Energy Resources in Distribution Networks Using the Dynamic Programming Method*Natasha Dimishkowska, Atanas Iliev, Dimitar Dimitrov*

Ss. Cyril and Methodius University in Skopje (North Macedonia)

Section [F]: “Technological Aspects of Privacy” (reports with first index “F”)*Privacy and Personal Data Protection*

16:15

[F01] The Science of Design as a Methodology for Building Personal Information Management System*Tzanko Tzolov*

Member of the Commission for Personal Data Protection (Bulgaria)

16:30 **Conference closing****Remark:** Reports with index [xxx]* will be published in the Proceedings of the 34th International Conference on Information Technologies, ISSN 1314-1023.