

**Institute of Information and Communication Technologies
Bulgarian Academy of Sciences**

**John Atanasoff Society of Automatics and Informatics,
Bulgaria**

**Big Data, Knowledge and Control Systems Engineering -
BdKCSE'2021**

SCIENTIFIC PROGRAMME

28 October 2021

Plenary Stream & Stream 1

https://teams.microsoft.com/l/meetup-join/19%3a3QOd6bdJxmEvAyQhRlvq7h1nbt58_xwOIzh9YVOAwc1%40thread.tacv2/1634733755646?context=%7b%22Tid%22%3a%22cbd33b96-6764-481f-bafe-8e10ee67155b%22%2c%22Oid%22%3a%220452567b-a712-4fd5-8b48-b8f2edc5b948%22%7d

9:00-9:10 Opening ceremony

Plenary Session

Chair of Session: **Prof. Lyubka Doukovska**

9:10-9:55 Guy De Tré, Ghent University: *“Handling large collections of textual documents: challenges, solutions and perspectives”*

9:55-10:40 Alexander Gegov, University of Portsmouth: *“Recent Developments in Artificial Intelligence”*

Session 1 “Big Data Infrastructure”

Chair of Session: **Assoc. Prof. Svetozar Ilchev**

10:40-11:00 Ntebaleng Tutubala, Topside Mathonsi: *“A Hybrid Framework to Improve Data Security in Cloud Computing”*

11:00-11:20 Iliyan Petrov: *“Combined criteria weighting in MCDM: AHP in Blocks with Traditional Entropy and Novel Hierarchy in TOPSIS Evaluation of Cloud Services”*

11:20-11:40 Gergana Mateeva, Petar Tomov, Dimitar Parvanov, Plamen Petrov, Georgi Kostadinov, Todor Balabanov: *“Some Capabilities of Android OS for Distributed Computing”*

11:40-12:00 Veronika Ivanova, Ani Boneva, Plamen Vasilev, Stoyan Ivanov, Svetla Lekova: *“Augmented Reality based Training of Surgical Staff to Operate a Laparoscopic Instrument”*

12:00-13:00 Lunch

Stream I

Session 2 *“Big Data Applications”*

Chair of Session: **Assoc. Prof. Tatyana Ivanova**

13:00-13:20 Tatyana Ivanova, Valentina Terzieva, Katia Todorova: *“An Agent-oriented Architecture for Strategy-based Personalized e-learning”*

13:20-13:40 Valentina Terzieva, Katia Todorova, Tatyana Ivanova: *“Conceptual Model for Intelligent Education System and the Need of Big Data Analytics”*

13:40-14:00 Malinka Ivanova, Ani Boneva, Svetozar Ilchev: *“Learning Performance Facilitation in a Sensor-Based Intelligent Classroom”*

14:00-14:20 Daniela Orozova, Ivan Popchev: *“Data Analytics Approach in Virtual Educational Space”*

Session 3 *“Knowledge and Data Management”*

Chair of Session: **Assoc. Prof. Veselina Bureva**

14:00-14:20 Andriana Ivanova: *“Feed-Forward Neural Network for Graphical Symbol Recognition in Additive Noise Environment”*

14:20-14:40 Ivan Naydenov, Ilko Adamov: *“Clustering of Non-annotated Data”*

14:40-15:00 Neyko Neykov, Svetlana Stefanova: *“State of Art in Collaborative Ontology Development”*

15:00-15:20 Min Yang, LV Yiliang: *“Knowledge Sharing and Supply Chain Value Co-creation Taking Dynamic Capability into Account”*

15:20-15:40 Veselina Bureva, Sotir Sotirov, Evdokia Sotirova: *“Index Matrix Representation of MapReduce Algorithm”*

Session 4 *“Informatics and operations research”*

Chair of Session: **Senior Assist. Prof. Iliyan Petrov**

15:40-16:00 Iliyan Petrov: *“Methodology advances in Information Theory: enlarged entropy, innovative hierarchy”*

16:20-16:40 Toddor Velev: “*Heuristic Essentials for Modeling and Optimization of a Platform for Automation and Management of Standardized Information Security Management Systems*”

16:40-17:00 Veneta Yosifova, Dimitar Karastoyanov: “*Implementing Solar Tiles in Stock Farms for Increasing the Energy Efficiency*”

17:00-17:20 Elena Paunova-Hubenova, Elisaveta Trichkova-Kashamova: “*Smart Solutions for Control and Management in Livestock Farms*”

17:20-17:40 Milen Todorov, Gergana Avramova-Todorova, Sotir Sotirov: “*Generalized Network Model for Career Guidance Using Emotional Intelligence, Self-assessment and Attitudes Toward the Employer*”

Stream II

https://teams.microsoft.com/l/meetup-join/19%3a3QOd6bdJxmEvAyQhRlvq7h1nbtd58_xwOIzh9YVOAwc1%40thread.tacv2/1634731908520?context=%7b%22Tid%22%3a%22cbd33b96-6764-481f-bafe-8e10ee67155b%22%2c%22Oid%22%3a%22404308do-3432-4aa4-8ad8-6c8aof24ad00%22%7d

Session 5 “Smart crop production”

Chair of Session: **Prof. Vladimir Monov**

13:00-13:20 Stanimir Stoyanov, Jordan Todorov, Ivan Stoyanov, Veneta Tabakova-Komsalova, Lyubka Doukovska, Atanas Dukovski: “*ZEMELA – An Intelligent Agriculture Platform*”

13:20-13:40 Emil Doychev, Atanas Terziyski, Pepa Atanasova, Olga Rahneva, Vanya Ivanova, Asya Stoyanova-Doycheva: “*A Regional Data Center for Intelligent Agriculture*”

13:40-14:00 Veneta Tabakova-Komsalova, Lyubka Doukovska, Ivan Stoyanov, Jordan Todorov, Stanimir Stoyanov, Zornica Radeva: “*ViSMod – An Environment for Modeling of Scenarios and Processes in Intelligent Agriculture*”

14:00-14:20 Vasil Sgurev: “*Logical Operations in Complex Multivalued Hierarchical Logic with One Real and Two Imaginary Logical Structures*”

14:20-14:40 Ivan Popchev, Irina Radeva, Veneta Velichkova “*The Impact of Blockchain on Internal Audit*”

14:40-15:00 Irina Krasteva, Todorka Glushkova, Asya Stoyanova-Doycheva, Nevena Moraliyska, Lyubka Doukovska, Irina Radeva: “*Blockchain Based Approach to Supply Chain Modeling in a Smart Farming System*”

15:00-15:20 Evgeni Valchev, Pencho Malinov, Todorka Glushkova, Vasil Nikolov, Lyubka Doukovska, Vladimir Monov: *“Modeling of a System for Intelligent Animal Husbandry”*

Session 6 *“System analysis, decision analysis and decision support”*

Chair of Session: **Assoc. Prof. Boriana Vatchova**

15:20-15:40 Boriana Vatchova, Yordanka Boneva, Alexander Gegov: *“Heuristic Fuzzy Control of Traffic Junctions in Urban Areas”*

15:40-16:00 Margarita Terziyska, Zhelyazko Terziyski, Yancho Todorov: *“A Long-Short Term Memory Network for Chaotic Time Series Prediction”*

16:00-16:20 Ivan Gaidarski, Pavlin Kutinchev: *“An Analysis of the Domain of Information Security Systems”*

16:20-16:40 Stanislav Dimitrov: *“Application of Forecast Methods in Animal Husbandry”*

16:40-17:00 Nikolay Valov, Tsvetelina Mladenova, Irena Valova: *“IoT and Big Data in Animal Farming”*

18:00 – 19:00 Panel discussion

19:00 Closing ceremony