

IEEE INTERNATIONAL CONFERENCE AUTOMATICS AND INFORMATICS'2026 (ICAI'26),

08 - 10 October 2026, VARNA (Technical University – Varna)

<http://icai-conf.org>

PROGRAM – ONLINE

THE GIVEN TIME IS ACCORDING TO THE BULGARIAN TIME ZONE - SOFIA UTC+3 HOURS

Thursday, October 8th

Stream 1 (Conference Hall NUK)

09:00 – 09:20 WELCOME AND OPENING CEREMONY

Stream 1 (Conference Hall NUK)

09:20 - 10:50 PLENARY SESSION (PS)

Chair: Kosta Boshnakov

1.The Hybrid Intelligence Scenario as a Potential Partnership between Humans and Artificial General Intelligence (AGI)



Arthur Kordon
Kordon Consulting LLC

2.Industrial AI: Unlocking the Next Level of Engineering Productivity



Tomasz Hofler
Siemens

Stream 2 Online (Room B)	Stream 3 Online (Room C)	Stream 4 Online (Room D)
11:00 - 12:30 SESSION B11: Text Processing Chair: Stanislav Penchev	11:00 - 12:30 SESSION C11: Digital Identity, Authentication and Trusted Records Chair: Aydan Haka	11:00 - 12:30 SESSION D11: Electrical Machines, Power Systems and Thermal Processes Chair: Michail Petrov
1. Performance Comparison of Data Structures for Dictionary Lookup in Morphologically Rich Languages, Nikola Vukotić (0926) 2. Grammar-Motivated Annotation Changes in a Serbian Web Corpus: Annotation Quality and Its Cost to Part-of-Speech Taggers, Nikola Vukotić (6002) 3. Parallel Grammar and Spelling Errors Detection, Dragana Petkova, Ilkem Kivanch and Vladimir Zdraveski (5421) 4. Uncertainty-Guided Active Learning for Multilingual Sentiment Analysis of Tourism Reviews, Aslanbek Murzakhmetov, Mukhan Murotboyev, Arseniy Bapanov, Maxatbek Satymbekov and Nurbol Beisov (1698)	1. Towards Trustworthy and Interoperable Digital Credential Ecosystems: A Structured Literature Review and Conceptual Synthesis of Verifiable Digital Credentials in the Context of eIDAS 2.0, Arbnor Halili, Mariana Atanasova and Eliza Stefanova (5151) 2. Electronic Identification Framework for Digital Academic Repository Systems in Higher Education, Simeon Arnaudov and Boris Stoykov (2716) 3. Graph Neural Network-Based Continuous Keystroke Authentication for Critical Information Infrastructure, Anna Pyrkova, Nurassyl Kerimbayev and Nazymgul Odanova (5268) 4. Tamper-Evident Compliance Records for EU OSS VAT: An HMAC-Chained Implementation of the Article 63c Ten-Year Record, Marieta Marinova (2014)	1. Comparative Analysis of Surge Arrester Modelling in Switching Transient Studies of Medium Voltage Capacitor Banks, Nisar Basha A and Mahiban Lindsay N (1049) 2. A Hybrid Analytical-Numerical Approach for Investigating the Temperature Distribution in a Variable-Frequency fed Induction Motor, Marin Todorov, Maik Streblau and Marin Marinov (2383) 3. Two linear induction motor drives with a flexible connection between the motors, Bojidar Markov (5055) 4. Design of an Algorithm for Control the Power of Evaporative Condensers in a Cooling System, Antoniy Petrov, Albena Taneva and Michail Petrov (7213)
12:30 – 13:30 LUNCH BREAK		

13:30 - 15:00 SESSION B12: Perception, Autonomous Systems and Robotics Chair: Sevil Ahmed-Shieva	13:30 - 15:00 SESSION C12: Compilers, Software Testing and Source-Code Analysis Chair: Ivaylo Penev	13:30 - 15:00 SESSION D12: Dynamic Modelling, Data Assimilation and Forecasting Chair: Javanshir Mammadov
1. Towards Intelligent Hybrid Systems for 3D Reconstruction of Cultural Heritage: Challenges, Current Methods, and Future Directions, Nikol Manolova, Alexander Penev and Asya Stoyanova-Doycheva (4362) 2. A Declarative Architecture for Perceptual Data Structuring and Anchoring in Autonomous Mobile Robotics, Radoslav Vasilev, Stefan Chivarov, Maya Staikova and Nayden Chivarov (9788) 3. An Explainable Multimodal Framework for Driving-Safety Event Prediction and Grounded Explanation, Karno Sarker (9575) 4. Algorithm for Adaptive Leader Selection in a Drone Swarm, Ivan Garvanov, Magdalena Garvanova, Daniela Borissova, Denislav Kanev, Zdravko Yankov and Evgeni Vasilev (8754)	1. MCLUAC: An Extensible Lua 5.4 Compiler with Token and AST-Level Plugin Points, Georgi Petkov and Martin Vassilev (3180) 2. MutaScore: LLM-Guided, Budget-Aware Mutant Prioritization for End-to-End Web Testing, Mahendra Vardhan Amilineni (4558) 3. Ablation Study of a Hybrid Source-Code Plagiarism Detection Model: Quantifying the Contribution of Individual Components, Daniel Damyanov (1302) 4. Beyond Token Matching: A Controlled-Corpus Study of Graph and Embedding Signals for Detecting Similar and AI-Generated Code, Daniel Damyanov (8094)	1. Development of the architecture of an automated system for monitoring and modeling the process of optimal water consumption, Javanshir Mammadov, Khavar Kerimova and Gulnara Abbasova (0102) 2. Data Assimilation and Probabilistic Water-Level Forecasting in an Open Channel Using EnKF and GPR, Aslanbek Murzakhmetov, Gaukhar Borankulova, Aigul Tungatarova, Samat Bekbolatov, Bakhyt Yeraliyeva, Saltanat Dulatbayeva and Balzhan Turarova (5145) 3. Mamdani Fuzzy Control and Reduced-Order Modeling of Power Supply Fluctuations in the Central Power System of the Karabakh Region of Azerbaijan, Nurali Yusifbayli, Javanshir Mammadov, Huseygulu Guliyev, Lala Najafova and Roya Narimanova (4830) 4. Interlinking Housing Markets and Household Credit: A Dynamic Model of Cyclical Interactions and Long-Term Forecasting, Reepalkumar Patel (2699)

15:00 - 16:30 SESSION B13: LLM Systems: Retrieval and Model Selection Chair: Ioannis Patias	15:00 - 16:30 SESSION C13: Software Architecture Chair: Ivaylo Penev	15:00 - 16:30 SESSION D13: Optimization and Network Flow Models Chair: Nikola Nikolov
1. CostCompressRAG: Cost-Aware Context Compression for Enterprise Retrieval-Augmented Generation, Sunil Kumar Paidi (2088) 2. Retrieval Quorum: Consensus-Based Evidence Selection for Trustworthy Enterprise RAG, Sai Chaitanya Kumar Paidi (4802) 3. Learning-Based Query Routing with Latency and Cost Constraints in Distributed Search Systems, Sunil Kumar Paidi (9855) 4. Handling Uncertainty in Large Language Model Selection for Public Administration: A Fuzzy Logic Decision Framework, Ioannis Patias (5248)	1. Understanding Software Architecture Evolution: An Analytical Perspective from Monolithic Systems to AI-Oriented Architectures, Hristo Hristov (6562) 2. Serverless React Architectures: A Quantitative Analysis of Scalability, Latency, and Cost Trade-Off, Rand Kouatly and Aiswarya Sajeev (7185) 3. A Layered Architecture for Automated Web Data Extraction on the .NET Platform, Berkant Ismet (4218) 4. Design and Evaluation of a Git-Oriented DVCS Core in Rust, Nicusor Dumitru Sami Barbut-Dica and Mirel Cosulschi (4615) 5. A Rule-Based Algorithm for Software Architecture Recommendation from Requirements Specifications, Nina Asenovska and Asya Stoyanova-Doycheva (7889)	1. Generalized Nonlinear Genomic Network Flow, Draga Toncheva and Vassil Sgurev (0307) 2. Nonlinear Network Flow with Nonlinear Flow Functions, Vassil Sgurev and Draga Toncheva (3508) 3. Management of Building Evacuation through Minimum-Cost Maximum-Flow Optimization, Vassil Sgurev, Lyubka Doukovska and Georgi Tsopanov (8483) 4. A Hybrid Knapsack and Timed-Automata Approach to Energy-Constrained Operation Scheduling, Yordan Belev, Tsvetelina Ivanova and Idilia Batchkova (3816)
16:30 – 17:00 BREAK		

17:00 - 18:30 SESSION B14: Image Processing and Classification Chair: Ivan Grigorov	17:00 - 18:30 SESSION C14: Quantum, Reversible and Memristive Computing Chair: Valeri Mladenov	
1. Multi-Part Plant Disease Detection Using Deep Learning: A Comparative Evaluation of CNN Architectures, Muhammad Hussain Rana, Leong Jo Ee and Muhammad Ehsan Rana (7181) 2. Optimized MobileNetV2 Architecture for Fine-Grained Food Image Classification, Klaus Caka, Usman Akhtar, M. Kamran Asif, Ahmed Hassan, Meerah Karunanithi and Zeeshan Ali (9439) 3. FLACS: Transfer Learning for Facial Skin Type Classification: A Comparative Study of MobileNetV2 and EfficientNetB0, Sri Sandhya Velicheti, Manasa Boyina and Sri Bala Ayyappa Swamy Bezawada (3519) 4. Embedded Implementation of a Segmentation-Guided Flying Pixel Correction Algorithm for Time-of-Flight Images on Raspberry Pi 5, Alexander Lyubenov and Stefan Ivanov (1508)	1. Comparative Analysis of Classical and Quantum Support Vector Machines for Large Hadron Collider Data Classification, Sofia Domracheva, Alexander Penev and Stefan Stavrev (1675) 2. Reversible Peres-Gate Architecture for Two-Input Multiplexers and Cascaded Realization of Three-Variable Boolean Functions, Adriana Borodzhieva (2987) 3. Reversible Implementation of Binary Subtractors Using Fredkin Gates: Logisim-Based Design and Educational Methodology, Adriana Borodzhieva (4963) 4. Logic Gates and Circuits with Memristive Elements, Stoyan Kirilov, Georgi Tsenov, Ivan Trushev and Valeri Mladenov (8309)	

Friday, October 9th

Stream 2 Online (Room B)	Stream 3 Online (Room C)	Stream 4 Online (Room D)
09:00 - 10:30 SESSION B21: Machine Vision Chair: Nikolay Stoimenov	09:00 - 10:30 SESSION C21: Gamification and Learning Analytics Chair: Ventsislav Nikolov	09:00 - 10:30 SESSION D21: Neural Models and Self-Organization Chair: Angel Marchev Jr
1. SDefect-VLM: A Vision–Language Framework for Industrial Surface Defect Detection and Maintenance Advisory, Md Zahidul Islam (0589) 2. A Low-Cost Machine Vision Approach for Real-Time Measurement and Classification of Industrial Parts, Mihail Zagorski, Veselin Marinov, Hristo Karamishev and Radoslav Miltchev (2967) 3. Analysis of Object Detection Stability for Camera-Based Product Monitoring under Different Visual Conditions, Tsvetislava Lavchieva and Delyan Genkov (7333) 4. Non-destructive Inspection of Aircraft Fastener Joints X-Ray Computed Tomography, Miglena Kyoseva, Nikolay Stoimenov, Peter Panev, Martin Tsvetkov and Svetlana Trifonova (7287)	1. A Conceptual Framework for Human-Centered AI Learning Analytics in Gamified Industry 5.0 Education, Neviana Krasteva and Teodor Daskalov (0315) 2. Gamified Incentives and Intrinsic Motivation under Cognitive Overload in a Simulation-Based Study of Engagement and Decision Quality, Neviana Krasteva, Tsvetan Davidkov and Aleksey Potebnya (4573) 3. Explainable Artificial Intelligence for Modeling Invisible Academic Work in Gamified Higher Education Environments, Neviana Krasteva (6671) 4. Comparison of Researcher-Selected Models and Automated Model Selection for Student Dropout Prediction, Neli Arabadzhieva-Kalcheva, Maya Todorova, Ivo Rakitin, Evgeniya Rakitina-Qureshi, Antoaneta Ivanova-Dimitrova and Milen Angelov (3467)	1. Different Neural Network models, Georgi Markov, Lyubka Doukovska and Momchil Kiranov (5573) 2. Initial Steps toward Developing a Python Library for Integral Neurons, Emil Hadzhikolev, Kostadin Yotov, Sergey Kubinski and Stanka Hadzhikoleva (8683) 3. Self-Organization in Complex Systems with Evidence from a Multi-Species Particle Simulation, Angel Marchev Jr. (6086) 4. Partificial Life - Particle Simulation Studying Self-organization, Angel Marchev Jr. (8751)

10:30 - 12:00 SESSION B22: Agent-Based and Agentic AI Systems Chair: Plamen Vasilev	10:30 - 12:00 SESSION C22: Digital Technologies in Business, Services and Careers Chair: Stanimir Stoyanov	10:30 - 12:00 SESSION D22: AI Technologies in Photovoltaic Systems Chair: Daniela Borissova
1. A Layered Conceptual Architecture for LLM-Based Agentic Systems, Miglena Stoyanova (4352) 2. A Model-Driven Framework for Agentic AI-Enabled Lean Six Sigma Quality Management, Kalina Garkova, Plamen Vasilev and Daniela Gocheva (2694) 3. Local AI Architecture for an Agent-Assisted Platform, Milen Sotirov and Valentina Petrova (2253) 4. Designing context-driven multi-agent system for corporate training, Lilyana Rusenova and Elena Somova (6091)	1. Experimental evaluation of an AI-based career guidance system, Veneta Tabakova-Komsalova, Evgenia Temelkova, Vaska Baklarova, Ivan Stoyanov and Stanimir Stoyanov (6035) 2. Heterogeneity Among Auditors in Digital Technology Adoption: A Latent Class Analysis, Ilva Isa and Lule Basha (2875) 3. Measuring Store-Level Operational Efficiency: Computational Validation of Weighting Coefficients and a Multidimensional Index Based on MDA, Vasil Marchev (8046) 4. Potential innovations for transport and passenger services in the Sofia metro, Mirena Todorova, Zlatin Trendafilov and Vilina Velyova (8392)	1. False-Negative Behavior in Thermal-Only CNN-Based Photovoltaic Inspection Under Homogeneous Soiling, Antonio Karaganov (2191) 2. XGBoost–LSTM hybrid framework for fault detection and predictive maintenance of photovoltaic systems, Gabriela-Valentina Olteanu, Ioana Făgărășan, Cristina Nechiforov and Marius Dobrea (5993) 3. Digital-Twin-Informed Machine Learning for Virtual Sensing of Silicon Stress in Photovoltaic Modules, Antonio Karaganov (7705) 4. Entropy-Integrated Decision-Making Model for Photovoltaic Panel Selection, Daniela Borissova, Rossen Mikhov, Gabriela Garvanova-Petkova, Zornitsa Dimitrova, Nesho Garvanov and Vasil Dimitrov (8433)

12:00 - 13:30 SESSION B23: Clinical Prediction and Physiological Signal Analysis Chair: Veneta Aleksieva	12:00 - 13:30 SESSION C23: Generative AI and Ethics in Education Chair: Vladimir Jotsov	12:00 - 13:30 SESSION D23: Parallel and Concurrent Computing Chair: Delyan Genkov
1. An Intelligent Machine Learning Framework for Automated HIV Drug Resistance Prediction and Clinical Decision Support, Pranjali Vaidya, Ktv Reddy, Praful Kamble, Anushka Gopale, Tanmay Barai and Trunal Barai (6286) 2. Evaluation of Audio Features for Noisy Phonocardiogram-Based Heart Sound Classification, Rand Kouatly and Cherry Blossom Garcia (7488) 3. Classification of Physiological States at Rest and During Extreme Gaming in Virtual Reality Using Machine Learning, Penio Lebamovski and Evgeniya Gospodinova (7538) 4. Q-Sepsis: A Lightweight Explainable Quantum Ensemble for Edge-Deployed Sepsis Prediction, Gulshan Katankar, Brajesh Nandan, Arpit Sharma, Saravanan Parthasarathy, Vaishnavi Jayaraman and Selvakumar Ramachandran (1756)	1. A Multi-Dimensional Framework for Evaluating Ethical and Pedagogical Dimensions of Artificial Intelligence Integration in Educational Environments, Zhanat Umirzakova, Dana Sakypova, Vladimir Jotsov, Nurassyl Kerimbayev, Raushan Medeuova, Sanimgul Sambayeva and Gulmira Yemzharova (4521) 2. Intelligent Educational Ecosystems of Generative AI: Genesis Learning Model, Nurassyl Kerimbayev, Anna Pyrkova, Rustam Shadiev, Radoslav Yoshinov, Vladimir Jotsov, Zhanbota Menlibay, Aliya Akramova and Vitaly Tsahelny (7852) 3. A scalable AI-assisted pedagogical model for web design practical courses: empirical validation across diverse university cohorts, Maya Stoeva (0160) 4. A Simulated Multi-Agent Workflow for Differentiated Learning Materials: Design and Pilot Evaluation, Vyara Dukova (0554)	1. Scalable Parallel Framework for Recommendation Systems based on User–Item Interaction Graphs, Borjan Dimeski and Vladimir Zdraveski (8610) 2. Researching the parallel operation of computers in a local area network for rendering in Blender, Hristo Kilifarev, Tsvetislava Lavchieva, Delyan Genkov and Miroslav Slavov (8110) 3. Parallel Floyd Warshall Algorithm for Physical and Social Distance between Cities, Jovan Davaliev, Dimitar Peshevski, Dimitar Trajanov and Vladimir Zdraveski (3351) 4. Semantic Differential Debugging of Multithreaded Programs, Martin Vassilev and Alexander Penev (5827)
13:30 – 14:30 LUNCH BREAK		

14:30 - 16:00 SESSION B24: Anomaly Detection in Telemetry Chair: Lala Bekirova	14:30 - 16:00 SESSION C24: Learning Platforms and Educational Robotics Chair: Mariyana Todorova	14:30 - 16:00 SESSION D24: Control, Signal Processing and Electronic Chair: Vesela Karlova-Sergieva
1. SENTIS: A Deterministic Anomaly Detection Model Topping the Numenta Anomaly Benchmark, Mahammad Yusifov and Lala Bekirova (0162) 2. Anatomy of a Streaming Anomaly Detector: Channel Ablation, Model Reduction and Cross-Benchmark Adaptation of SENTIS, Mahammad Yusifov (9538) 3. RADWIN: Robust Drift-Aware Anomaly Detection for IoT Telemetry Streams at the Edge, Marian Ileana, Pavel Petrov, Vassil Milev and Miroslav Dechev (0289) 4. AROS-S: A Lightweight Onboard Anomaly Detector for Satellite Telemetry, Zlatimir Petrov (9545)	1. A Reference Architecture for Orchestrating Cognitive Services in Intelligent Learning Platforms, Asya Toskova and Borislav Toskov (2396) 2. Web-based platform for didactic interaction in pedagogical student practice, Lilyana Petkova and Vasilisa Valeova (3014) 3. Educational Robotics: A Systematic Review of Technologies, Pedagogical Practices, and Learning Outcomes (2020–2025), Rustam Shadiey, Shugyla Nurserik, Aruzhan Kaldybai, Aierke Nurgali, Nurassyl Kerimbayev, Shakhzada Abdugani, Gulnaz Knyazkhan, Altynshash Bekezhanova, Gulnaz Salgarayeva and Altynshash Bekezhanova (5358) 4. Evaluating Accessibility Evidence in Corporate Learning Systems to Support Inclusive Employment, Radostina Tsvetkova and Lyubka Doukovska (8481)	1. Adaptive FOPID controller with dynamic integral order for DC motor control, Boris Grasiani, Vesela Karlova-Sergieva and Nina Nikolova (8720) 2. Hall-Effect Sensor Data Processing for Contactless Lever Position Estimation Using Artificial Neural Networks, Ventsislav Simonov and Tanya Titova (7410) 3. Coupling-Matrix Synthesis of X-Band CMOS Lumped-Element Filters with Unit-Capacitor Design Freedom for Calibration-Aware Design, Marin Nedelchev and Jordan Kechev (7383) 4. Increasing the nonlinearity of Boolean functions by adaptive wavelet spectrum modification, Alla Levina and Nikita Panchenko (6574)

Saturday, October 10th

Stream 2 Online (Room B)	Stream 3 Online (Room C)	Stream 4 Online (Room D)
09:00 - 10:30 SESSION B31: Deep Learning for Medical Imaging and Clinical Tests Chair: Idilia Batchkova	09:00 - 10:30 SESSION C31: Governance, Standards and Responsible AI Adoption Chair: Sevinch Gulsechen	09:00 - 10:30 SESSION D31: Edge-Cloud, Networking and IoT Data Architectures Chair: Veneta Aleksieva
Persistent Homology Meets Deep Learning for Crohn's Disease Lesion Classification, Abbass Rammal, Nadine Chreim, Abbass Harb and Mageda Sharafeddin (4101) Real-Time Brain Tumor Detection and Patient Understanding Using Computer Vision, Derrick Mirindi, Frederic Mirindi and David Sinkhonde (5922) Optimizing Clinical Decision Support: Deep Learning Architectures for Brain Tumor Classification, Klaus Caka, Usman Akhtar, Meerah Karunanithi, M. Kamran Asif, Ahmed Hassan and Zeeshan Ali (7285) Multilingual AI-Powered Medical Report Summarization with Symptom Localization, Aarushi Singh, Nilofer Shaikh, Ritesh Jadhav, Prathamesh Surve and Shan Faiz (4318)	AI Adoption in Sensitive Data Environments: Expert Insights from Healthcare and Public Administration, Stefanie Filipczyk and Katia Rasheva-Yordanova (0757) A Governance-Oriented Framework for Privacy-Preserving AI Adoption in Regulated Information Systems, Stefanie Filipczyk and Katia Rasheva-Yordanova (7955) The Adaptive Layered Standardization Model: A Formal and Simulation-Based Approach to Overcoming Standardization Debt in an Era of Exponential Technological Change, Miroslav Mitev (8149) The European Cybersecurity Skills Framework as a Basis for Establishing the Cybersecurity Profession and Developing Competence-based Educational Models, Miroslav Mitev and Yassen Tanev (0180)	Applying A-MAPSS to an Elixir-Based IoT Sensor Data Processing Platform, Hristo Hristov and Dimitrichka Nikolaeva (7836) Towards Low-Latency Networking: A Hybrid Cloud-Edge Architectural Perspective, Mohammad Al Rawajbeh (4254) Connection and Abstraction Modules for Software Defined Network with Different Controllers, Delyan Genkov, Miroslav Slavov and Hristo Kilifarev (1085) Measuring What Gets Lost: An Empirical Comparison of CRDT-Based and Conventional State Synchronization for Digital Twins, Petar Chakalov and Svetoslav Enkov (5080)

10:30 - 12:00 SESSION B32: Speech, Voice and Interaction Technologies Chair: Tzvetomir Vassilev	10:30 - 12:00 SESSION C32: Secure Deployment, Data Protection and Digital Forensics Chair: Plamen Vasilev	10:30 - 12:00 SESSION D32: LPWAN and IoT Sensing Networks Chair: Grisha Spasov
1. A Modular Software Framework for Reproducible Multi-Factor Evaluation of Automatic Speech Recognition Systems, Hasan Gyulyustan and Svetoslav Enkov (4336) 2. Unified Multilingual Web-Based Framework for Bidirectional Speech–Text Conversion Using Intelligent Processing Technologies, Maksat Churiyev, Maral Geldiyeva, Tzvetomir Vassilev, Gadam Akmyradov, Oguljan Akmyradova and Ayna Nurmyradova (2462) 3. Toward Voice-Oriented Architectural Styles: A Conceptual Framework for AI-Driven Conversational Systems, Hristo Hristov (9136) 4. The Influence of User-Friendly Interface Design on Technology Acceptance and Continuance Intention in Digital Editing Applications, Yohanes Philip Subekti, Ahmad Sultan Pahlevi and Yanti Tjong (2146)	1. Origin side penetration testing and remediation framework for Cloudflare fronted self-hosted LLM deployment, Tsvetomir Bogdanov, Nayden Chivarov and Stefan Chivarov (0270) 2. Detection engine constraints and pattern portability across five cloud Data Loss Prevention platforms, Tsvetomir Bogdanov (7940) 3. Comparison of Machine Learning Models at Analysis of Image Files in Digital Forensics, Veselina Vukova and Malinka Ivanova (7763) 4. Security Aspects in Multi-tiered Architectural Frameworks for Intelligent Internet of Things Systems, Andon Nenov, Ivaylo Atanasov, Maria Nenova and Georgi Iliev (4702)	1. Simulation study of the applicability of LoRaWAN IoT in an air parameter measurement system, Grisha Spasov (0959) 2. W-Mesh: a Duty-Cycled LoRa Mesh Extension for Windowed Buffered Telemetry, Nikolay Milovanov (1831) 3. IoT LPWAN as the Monitoring and Diagnosis Layer of Smart Water Networks (SWN), Nikolay Milovanov (6106) 4. An AI-driven predictive humidity control architecture for smart greenhouses using distributed LoRaWAN sensor networks in arid climates, Palvan Kalandarov, Shakhnoza Ubaydullayeva and Mariela Alexandrova (8084)

12:00 - 13:30 SESSION B33: Knowledge Representation, Management and Ontologies Chair: Stanislav Penchev	12:00 - 13:30 SESSION C33: Intelligent Assessment and Accreditation Platforms Chair: Todorka Glushkova	12:00 - 13:30 SESSION D33: Materials, Sensors and Manufacturing Technologies Chair: Stefan Ivanov
1. Integrating Artificial Intelligence into Knowledge Management Systems: Trends, Challenges and Future Prospects, Kiril Luchkov and Nadya Velinova-Sokolova (1712) 2. A conceptual framework for using artificial intelligence in digitalization and effective knowledge management, Kiril Luchkov and Nadya Velinova-Sokolova (0428) 3. Protected Plants in Bulgaria: Ontology, Passport Descriptor Pattern and Integration with the GeneBank Ontology, Sebiha Madanska, Asya Stoyanova-Doycheva and Zornica Radeva (3447) 4. Formal, Mathematical, and Computational Interpretation of the “Tree of Life” Motif in Bulgarian Embroidery via Prolog and SVG, Tanya Srebrev, Veneta Tabakova-Komsalova, Stanimir Stoyanov, Srebrin Srebrev, Ivan Stoyanov and Sebiha Madanska (6524)	1. A local human-in-the-loop system for AI-assisted assessment, Milen Sotirov and Dilyana Dimitrova (2532) 2. Intelligent Programme Accreditation Platform, Milen Sotirov, Valentina Petrova and Donika Nikolova-Sotirova (2811) 3. Formal Modeling of an Automated Student Assignment Assessment System Using the Calculus of Context-Aware Ambients, Konstantin Rusev, Todorka Glushkova and Angel Georgiev (7135) 4. Layered-Modular Conceptual Model of a Digital University Information Ecosystem, Vassil Milev, Miroslav Dechev, Marian Ileana, Pavel Petrov and Filipp Safronov (6786)	1. Experimental Validation of a Simulation-Based Methodology for Quality Improvement in Transparent Polymer Components, Todor Todorov, Georgi Todorov and Mario Semkov (2377) 2. Static Structural Analysis of a 3D-Printed PLA Lattice Structure under Multiple Loading Conditions, Vasil Lozanov, Nayden Chivarov and Albena Daskalova (4272) 3. Integrated Automated System for Extraction and Assembly of Injection-Molded Protective Eyewear, Todor Todorov, Yavor Sofronov, Todor Gavrilov and Mario Semkov (9381) 4. Multilayer TiO₂-SiO₂-ZnO Humidity Sensing Element Prepared via a Sol-Gel Method, Stefan Ivanov, Nedyu Nedev, Stephan Kozhukharov, Zvezditsa Nenova, Georgi Avdeev and Toshko Nenov (5034)
13:30 – 14:30 LUNCH BREAK		

14:30 - 16:30 SESSION B34: Enterprise and Industrial Systems: Security, Reliability and Operations Chair: Plamen Vasilev	14:30 - 16:30 SESSION C34: Energy and Context-Aware Smart Environments Chair: Georgi Mihalev	
1. Extension of Conventional Cybersecurity Risk Assessment for ERP–SCADA Integration, Hristo Hristov and Stela Kostadinova (1552) 2. Design of an ERP–SCADA NIS2 Readiness Framework for Industrial IoT Environments, Hristo Hristov (2226) 3. Fault Injection-Based Timing Robustness Analysis of a Siemens S7-1500V Virtual PLC Runtime, Yavuz Şişkolu, Gökem Inci and Gökşen Örnekci (2340) 4. A Framework for Integration of Cybersecurity into Project Management Office, Angel Angelov, Daniela Borissova, Ivan Blagoev, Magdalena Garvanova and Ivan Garvanov (9258) 5. Predictive Failure Detection in Oracle SOA and Oracle EBS Ecosystems Using Artificial Intelligence and AIOps, Nagireddy Vasipally (0647)	1. Cross-Dataset Consensus Anomaly Detection in Smart Building Energy and Environmental Sensor Streams, Dharmik Champaneri and Shan Faiz (0347) 2. Ontology-Based Energy Monitoring and Context-Aware Anomaly Interpretation Using Hybrid Analytics, Polina Kesova, Tsvetelina Ivanova, Yordan Belev and Idilia Batchkova (8647) 3. Adaptive IoT Controller for Pellet Boilers, Stanimir Yordanov, Georgi Mihalev, Stefan Ivanov and Hristina Stoycheva (5479) 4. Detecting Anomalies in Household Behaviour as an Early Health Signal: A Review and Decision-Support Framework for Unobtrusive Monitoring of Older Adults, Ivo Gergov and Adelina Aleksieva-Petrova (4531)	
17:00 – 17:15 CLOSING CEREMONY		